

NATIONAL ENERGY BOARD

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

AND IN THE MATTER OF THE *Canadian Environmental Assessment Act, 2012*, S.C., c. 19, s. 52, (“CEAA 2012”) 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 (“CPCN”) and other related approvals pursuant to Part III of the NEB Act.

TRANS MOUNTAIN REPLY ARGUMENT
February 17, 2016

To: The Secretary
National Energy Board
517 – 10th Avenue S.W.
Calgary, AB T2R 0A8

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1 **TRANS MOUNTAIN REPLY ARGUMENT OUTLINE**

2 **1. INTRODUCTION**

3 Trans Mountain has applied (the “Application”) to the National Energy Board (“NEB” or “Board”)
4 pursuant to section 52 of the NEB Act for a CPCN and related approvals for the Trans Mountain
5 Expansion Project (the “Project” or “TMEP”). Pursuant to NEB Procedural Direction No. 18,
6 Trans Mountain’s revised final argument was filed on December 15, 2015 (“Final Argument”).¹

¹ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)).

- 7 Written argument was filed by over 80 intervenors² and certain intervenors also provided oral
8 summary argument.³ Trans Mountain makes this reply submission in response.

² Exhibit C5-4-1 - Alberta Federation of Labour - AFL Written final argument (January 12, 2016) ([A4X4F3](#)); Exhibit C15-9-1 - Asini Wachi Nehiyawak Traditional Band - Final Argument (January 11, 2016) ([A4X3V5](#)); Exhibit C24-19-2 - BC Nature and Nature Canada - Written Argument-in-Chief (January 12, 2016) ([A4X5A0](#)); Exhibit C25-5-1 - BC Wildlife Federation - BCWF WAIC FINAL (January 12, 2016) ([A4X4T5](#)); Exhibit C33-14-1 - Board of Friends of Ecological Reserves - Written Argument-in-Chief FINAL Jan 12 (January 12, 2016) ([A4X4W3](#)); Exhibit C37-8-2 - BP Canada Energy Group ULC - Written Argument (January 12, 2016) ([A4X4D2](#)); Exhibit C38-3-1 - British Columbia Hydro and Power Authority - Comments on Draft Conditions (September 3, 2015) ([A4T1H3](#)); Exhibit C41-13-2 - Burnaby Residents Opposing Kinder Morgan Expansion - BROKE Written Argument-in-Chief (January 12, 2016) ([A4X4Z7](#)); Exhibit C48-4-1 - Canadian Association of Petroleum Producers - CAPP Written Argument (January 12, 2016) ([A4X4A9](#)); Exhibit C49-3-2 - Canadian Natural Resources, Canadian Oil Sands, Cenovus, Devon, Husky Oil, Imperial Oil, Statoil, Suncor, Tesoro and Total - Final Argument (January 12, 2016) ([A4X4C6](#)); Exhibit C47-7-2 - C.G.L.A.P. - Written Argument In - Chief (January 12, 2016) ([A4X5U1](#)); Exhibit C400-13 - Cheam and Chawathil First Nations - Written Argument (January 12, 2016) ([A4X5K4](#)); Exhibit C68-21-1 - Local Government Joint Submission Final Argument (January 12, 2016) ([A4X5F4](#)); Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)); Exhibit C70-5-2 - City of Coquitlam - Written Argument-in-Chief (January 12, 2016) ([A4X4U1](#)); Exhibit C345-8-2 - The City of Edmonton - Written Argument (January 12, 2016) ([A4X5C5](#)); Exhibit C72-10-1 - City of New Westminster - Comments to NEB on Draft Conditions (August 20, 2015) ([A4X5S2](#)); Exhibit C73-10-1 - City of North Vancouver Final Written Argument in Chief (January 11, 2016) ([A4X3V3](#)); Exhibit C74-18-2 - City of Port Moody - Final Argument (January 12, 2016) ([A4X4G3](#)); Exhibit C76-18-2 - City of Surrey - Written Argument in Chief (January 12, 2016) ([A4X4K9](#)); Exhibit C77-61 - City of Vancouver - Written Argument (January 12, 2016) ([A75082](#)); Exhibit C78-21-2 - Coldwater Indian Band - Final Argument (January 12, 2016) ([A4X5J8](#)); Exhibit C84-6-2 - Corporation of the City of Victoria - Written Argument (January 12, 2016) ([A4X4C9](#)); Exhibit C86-33-1 - Cowichan Tribes - Cowichan Written Argument (January 12, 2016) ([A4X5E2](#)); Exhibit C97-9-2 - Fisheries and Oceans Canada and the Canadian Coast Guard - Written Argument-in-Chief (January 12, 2016) ([A4X4F6](#)); Exhibit C108-6-2 - Ditidaht First Nation - Final Argument (January 12, 2016) ([A4X4T8](#)); Exhibit C106-11-1 - District of North Vancouver - Final Argument (January 12, 2016) ([A4X4U9](#)); Exhibit C107-14 - District of West Vancouver - Final Argument in Chief (January 11, 2016) ([A4X3Y6](#)); Exhibit C117-3 - Edmonton Chamber of Commerce - Submission (January 11, 2016) ([A4X3U9](#)); Exhibit C131-8-2 - Environment Canada - Environment and Climate Change Canada Written Argument-in-Chief (January 11, 2016) ([A4X3X1](#)); Exhibit C123-6-1 - Esquimalt Nation - Final Argument (January 12, 2016) ([A4X4A2](#)); Exhibit C124-9-1 - David Farmer - Final Argument in Chief (January 12, 2016) ([A4X5T0](#)); Exhibit C411-5-1 - First Nations of Maa-nulth Treaty Society - Final Argument (January 11, 2016) ([A4X4A0](#)); Exhibit C135-12-1 - Friends of the Earth US - Written Argument in Chief (January 12, 2015) ([A4X5F2](#)); Exhibit C137-3-1 - Barbara Gard - NEB Argument in Chief (January 12, 2016) ([A4X4A4](#)); Exhibit C138-8-1 - Georgia Strait Alliance - Written Argument-in-Chief (January 8, 2016) ([A4X3R0](#)); Exhibit C142-2-2 - Government of Alberta - Final Argument (January 12, 2016) ([A4X4G6](#)); Exhibit C405-5-1 - The Graduate Student Society at Simon Fraser University - Final Argument (January 12, 2016) ([A4X4I3](#)); Exhibit C143-8-1 - Grasslands Conservation Council of BC - Amended Final Argument (January 11, 2016) ([A4X3X8](#)); Exhibit C187-20-2 - Katzie First Nation - Final Argument (January 12, 2016) ([A4X4E4](#)); Exhibit C198-19 - Kwantlen First Nation - Written Argument (January 12, 2016) ([A4X4H7](#)); Exhibit C199-2 - Kwikwetlem First Nation - Final Written Argument (January 12, 2016) ([A4X5I3](#)); Exhibit C214-40-1 - Living Oceans Society and Raincoast Conservation Foundation - Final Argument (January 12, 2016) ([A4X5C0](#)); Exhibit C217-9-2 - Lower Nicola Indian Band - TMEP Closing Arguments (January 12, 2016) ([A4X5T8](#)); Exhibit C219-13-1 - Lyackson First Nation - Written Submissions (January 12, 2016) ([A4X5K1](#)); Exhibit C231-3 - Métis Nation British Columbia - MMBC Draft Conditions Letter (January 12, 2016) ([A4X5V9](#)); Exhibit C232-9-1 - Metis Nation of Alberta Gunn Metis Local 55 - GML 55 Final Argument (January 11, 2016) ([A4X3Z6](#)); Exhibit C234-23-2 - Metro Vancouver - Written Argument (January 12, 2016) ([A4X4W0](#)); Exhibit C246-9 - Musqueam Indian Band - Written Argument (January 11, 2016) ([A4X3U3](#)); Exhibit C249-17-2 - Natural Resources Canada - Written Argument in Chief (January 11, 2016) ([A4X3Y1](#)); Exhibit C258-14-2 - Nooaitch Indian Band - Argument in Chief Final (January 12, 2016) ([A4X5J5](#)); Exhibit C259-17-2 - North Shore NOPE - Final Written Argument (January 12, 2016) ([A4X4Y4](#)); Exhibit C266-2-1 - Okanagan

9 Trans Mountain has responded to common themes that emerged from intervenor written and oral
10 argument as well as certain specific issues. Trans Mountain does not respond to every point or
11 position with which it disagrees in the thousands of pages of intervenor evidence. To be clear,
12 Trans Mountain's silence on any matter does not indicate acceptance or endorsement of any
13 particular position. Trans Mountain continues to rely on the evidentiary record established to date,
14 including its Application, reply evidence filed on August 20, 2015⁴ ("Reply Evidence"),

Nation Alliance - Letter to NEB re ONA Adopting Upper Nicola Bands Final Written Submissions (January 12, 2016) ([A4X5V7](#)); Exhibit C267-10-2 - Adam Olsen - Final Written Argument (January 11, 2016) ([A4X3Z1](#)); Exhibit C269-28-1 - Pacheedaht First Nation - LT RK to NEB re comments on NEB draft conditions (January 12, 2016) ([A4X4G0](#)); Exhibit C277-6-1 - Pauquachin First Nation - Final Argument (January 12, 2016) ([A4X4F8](#)); Exhibit C288-36-1 - Pro Information Pro Environment United People Network - Written Submissions (Pipeup) (January 12, 2016) ([A4X5A8](#)); Exhibit C-289-13-2 - Province of BC - Final Argument (January 11, 2016) ([A4X3T3](#)); Exhibit C301-21-2 - Salmon River Enhancement Society - Written Argument Evidence (January 12, 2016) ([A4X5V2](#)); Exhibit C308-8-1 - Scia'new First Nation - Final Argument (January 11, 2016) ([A4X3Z8](#)); Exhibit C310-6-1 - Shackan Indian Band - Written Argument (January 12, 2016) ([A4X5E4](#)); Exhibit C311-6-1 - Masanobu Shoji - Final Argument (January 12, 2016) ([A4X4C1](#)); Exhibit C405-5-1 - Simon Fraser Student Society - Final Argument (January 12, 2016) ([A4X4K6](#)); Exhibit C404-12-2 - Simon Fraser University - Final Argument (January 4, 2016) ([A4X2V3](#)); Exhibit C318-5 - Snuneymuxw First Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4Z4](#)); Exhibit C319-40 - Squamish Nation - Final Argument (January 12, 2016) ([A75108](#)); Exhibit C325-18 - Stk'emlupsemc te Secwepemc - Written Argument (January 12, 2016) ([A4X4T2](#)); Exhibit C326-18-2 - Stó:lō Collective - Final Argument (January 11, 2016) ([A4X5T3](#)); Exhibit C329-3-1 - Strata NW313 - Final Argument (January 12, 2016) ([A4X5S8](#)); Exhibit C330-22-2 - Stz'uminus First Nation - Final Argument (January 12, 2016) ([A4X5I8](#)); Exhibit C333-9-2 - Sunchild First Nation - Argument (January 12, 2016) ([A4X5K7](#)); Exhibit C336-11-2 - Swinomish, Tulalip, Suquamish, and Lummi Indian Nations - US Tribes Final Written Argument (January 12, 2016) ([A4X4I0](#)); Exhibit C340-17-1 - Calvin Taplay - Written Argument-in-Chief (January 12, 2016) ([A4X5J1](#)); Exhibit C353-12-2 - Transport Canada - Written Argument-in-Chief (January 11, 2016) ([A4X3X6](#)); Exhibit C354-14-2 - Tsartlip First Nation - Argument in Chief Final (January 12, 2016) ([A4X5I1](#)); Exhibit C355-38-1 - Tsawout First Nation - Final Written Submissions (January 12, 2016) ([A4X5W3](#)); Exhibit C356-14-2 - Tsawwassen First Nation - Final Argument (January 12, 2016) ([A4X5L0](#)); Exhibit C358-30-2 - Tsleil-Waututh Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4V2](#)); Exhibit C359-9-2 - T'Sou-ke Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4W6](#)); Exhibit C362-7-2 - Unifor - Final Argument (January 11, 2016) ([A4X3T9](#)); Exhibit C363-42-1 - Upper Nicola Band - Final Written Submissions (January 12, 2016) ([A4X5V5](#)); Exhibit C365-11-2 - Vancouver Port Authority - VFPA Final Written Argument-in-Chief (January 11, 2016) ([A4X3Y4](#)); Exhibit C376-18-2 - Washington State Department of Ecology - Written Argument In Chief (January 12, 2016) ([A4X4Y1](#)); Exhibit C378-6-1 - The WaterWealth Project - Final Argument (January 12, 2016) ([A4X5I5](#)); Exhibit C379-11-1 - Andrew Weaver - Written Argument-in-Chief (January 8, 2016) ([A4X3L0](#)); Exhibit C381-6-1 - Wembley Estate Strata Council - NEB Written Presentation Submission (January 11, 2016) ([A4X3V7](#)); Exhibit C394-6-2 - Yarrow Ecovillage - Argument-in-Chief to NEB (January 12, 2016) ([A4X5R7](#)).

³ Hearing transcripts Vol. 26 - 39 (January 19, 2016 - February 5, 2016) ([A4X7C5](#), [A4X7G2](#), [A4X7K0](#), [A4X7Q9](#), [A4X7R6](#), [A4X7W0](#), [A4X8C7](#), [A4X8G0](#), [A4X8Q2](#), [A4X9I9](#), [A4X9Z2](#), [A4Y0D3](#), [A4Y0G9](#), [A4Y0I8](#)).

⁴ Exhibit B417 to B418 - Trans Mountain Reply Evidence (August 20, 2015) ([A72224](#), [A72225](#)).

15 replacement evidence filed on September 25, 2015⁵ (“Replacement Evidence”) and Final
16 Argument.

17 **1.1 General Comments on Intervenor Argument**

18 Most of the relevant issues raised by intervenors in argument were directly addressed over the
19 course of this proceeding in Final Argument or evidence, which were often not considered by the
20 intervenor.⁶ This is apparent by the sheer lack of reference to Final Argument and evidence in
21 many intervenors’ argument. Certain intervenors repeated their evidence as argument, in some
22 cases verbatim.⁷ This is in direct conflict with the Board’s Procedural Direction No. 14 wherein
23 the Board stated “final argument is your opportunity to express your views and opinions about the
24 Project after you have considered the evidence filed on the hearing record by Trans Mountain and
25 all intervenors.”⁸

26 In certain cases intervenors inappropriately attempted to introduce new evidence through argument
27 (both written and oral), contrary to the Board’s explicit directions.⁹ For example, in oral argument
28 the City of Vancouver quoted extensively from the NEB’s Canada’s Energy Future 2016 report,
29 released in January 2016, well after evidentiary deadlines. This is an inappropriate introduction of

⁵ Exhibit B427 - Trans Mountain Pipeline ULC - Evidence to Replace the Direct Evidence Prepared by Mr. Steven Kelly for the Project (September 25, 2015) ([A72774](#)).

⁶ Refer to Section 4.3 of this reply.

⁷ Exhibit C41-13-2 - Burnaby Residents Opposing Kinder Morgan Expansion - BROKE Written Argument-in-Chief (January 12, 2016) ([A4X4Z7](#)); Exhibit C288-30-1 - Pro Information Pro Environment United People Network - Supplemental Written Evidence Erratum (December 2, 2015) ([A4W1K6](#)).

⁸ Exhibit A179 - National Energy Board - Procedural Direction No. 14 - Guidance for preparing Written Argument-in-Chief (June 12, 2015) ([A70664](#)).

⁹ Hearing transcript Vol. 30 (January 23, 2016) ([A4X7R6](#)); Exhibit C124-9-1 - David Farmer - Final Argument in Chief (January 12, 2016) ([A4X5T0](#)), 18-23; Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 93; Exhibit C135-12-1 - Friends of the Earth US - Written Argument in Chief (January 12, 2016) ([A4X5F2](#)), 7.

30 new evidence by the City of Vancouver.¹⁰ Trans Mountain submits that such new evidence ought
31 to be disregarded by the Board.

32 **1.2 The NEB's Process**

33 Contrary to intervenors' assertions, the information provided by Trans Mountain in this proceeding
34 is comprehensive and ensures the NEB has sufficient information to make a recommendation
35 regarding the Project. Trans Mountain's Final Argument details how the Project has undergone
36 one of the most extensive processes in NEB history in the more than two years since the
37 Application was filed.¹¹ As discussed below, the Board's process is fair and consistent with the
38 principles of natural justice.¹²

39 Oral Cross-Examination

40 Several intervenors submitted that appropriate testing of the evidence through oral cross-
41 examination was required and that the Information Request ("IR") process was not an adequate
42 substitute to cross-examination.¹³ In argument, BC Nature and Nature Canada requested that the
43 hearing be stopped and oral cross-examination ordered. Trans Mountain directly addressed

¹⁰ Hearing transcript Vol 39 (February 5, 2016) ([A4Y0I8](#)) at lines 20373-20375.

¹¹ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 11-20.

¹² Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 14.

¹³ Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)); Exhibit C288-36-1 - Pro Information Pro Environment United People Network - Written Submissions (Pipeup) (January 12 2016) ([A4X5A8](#)); Exhibit C78-21-2 - Coldwater Indian Band - Final Written Argument (January 12, 2016) ([A4X5J8](#)); Exhibit C123-6-1 - Esquimalt Nation - Final Argument (January 12, 2016) ([A4X4A2](#)); Exhibit C411-5-1 - Maanulth Treaty Society - Final Argument (January 12, 2016) ([A4X4A0](#)); Exhibit C277-6-1 - Pauquachin First Nation - Final Argument (January 12, 2016) ([A4X4F8](#)); Exhibit C308-8-1 - Scia'new First Nation - Final Argument (January 11, 2016) ([A4X3Z8](#)); Exhibit C330-22-2 - Stz'uminus First Nation - Final Argument (January 12, 2016) ([A4X5I8](#)); Exhibit C326-18-2 - Stó:lō Collective - Final Argument (January 11, 2016) ([A4X5T3](#)); Exhibit C246-9-1 - Musqueam Indian Band - Written Argument (January 11, 2016) ([A4X3U3](#)); Exhibit C355-38-1 - Tsawout First Nation - Final Written Submissions (January 12, 2016) ([A4X5W3](#)); Exhibit C405-5-1 - The Graduate Student Society at Simon Fraser University - Final Argument (January 12, 2016) ([A4X4I3](#)); Exhibit C405-5-1 - Simon Fraser Student Society - Final Argument (January 12, 2016) ([A4X4K6](#)).

44 concerns regarding the fairness of the Board’s process, including oral cross-examination, in Final
45 Argument.¹⁴

46 Over eight months ago, the Board considered and denied a motion in Ruling No. 14 requesting
47 oral cross-examination. The Board directly addressed concerns regarding the rigour of its process
48 and confirmed that its review of the Application will be no less rigorous compared to past
49 assessments.¹⁵ BC Nature and Nature Canada’s request to stop the hearing disrespects the process
50 set out by the Board. The intervenors failed to file a notice of motion for a Board decision
51 “separately from any other correspondence”,¹⁶ contrary to the Hearing Order. Trans Mountain
52 submits that BC Nature and Nature Canada’s request is not properly before the Board, is without
53 basis and should be denied.

54 Participant Funding

55 Several intervenors raised concerns regarding the adequacy of the Participant Funding Program.¹⁷
56 The NEB’s Funding Review Committee was established to review applications for participant
57 funding. The Funding Review Committee is independent of Trans Mountain and the Board’s

¹⁴ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 13.

¹⁵ Exhibit A32-1 - National Energy Board - Ruling No. 14 - Notices of motion from Ms. Robyn Allan and Ms. Elizabeth May to include cross-examination of witnesses - Trans Mountain Project (June 12, 2015) ([A3W5J1](#)), 3.

¹⁶ Exhibit A15-3 - National Energy Board - Hearing Order OH-001-2014 (April 3, 2014) ([A3V6I2](#)), 16.

¹⁷ See e.g. Exhibit C198-19-1 - Kwantlen First Nation - Written Argument (January 12, 2016) ([A4X4H7](#)); Exhibit C3-16 - Adams Lake Indian Band - Written Argument (January 11, 2016) ([A4X3Y8](#)); Exhibit C123-6-1 - Esquimalt Nation - Final Argument (January 12, 2016) ([A4X4A2](#)); Exhibit C411-5-1 - Maa-nulth Treaty Society - Final Argument (January 12, 2016) ([A4X4A0](#)); Exhibit C405-5-1 - The Graduate Student Society at Simon Fraser University - Final Argument (January 12, 2016) ([A4X4I3](#)); Exhibit C405-5-1 - Simon Fraser Student Society - Final Argument (January 12, 2016) ([A4X4K6](#)); Exhibit C277-6-1 - Pauquachin First Nation - Final Argument (January 12, 2016) ([A4X4F8](#)); Exhibit C308-8-1 - Scia'new First Nation - Final Argument (January 11, 2016) ([A4X3Z8](#)); Exhibit C330-22-2 - Stz'uminus First Nation - Final Argument (January 12, 2016) ([A4X5I8](#)); Exhibit C355-38-1 - Tsawout First Nation - Final Written Submissions (January 12, 2016) ([A4X5W3](#)); Exhibit C232-9-1 - Metis Nation of Alberta Gunn Metis Local 55 - Final Argument (January 11, 2016) ([A4X3Z6](#)).

58 regulatory process for the Project.¹⁸ In *Smith v Canada (Attorney General)*,¹⁹ the Federal Court
59 denied a judicial review application of the NEB Funding Review Committee decision. The Court
60 was of the view that the Funding Review Committee has discretion in allocating funds and is
61 entitled to deny requests that are unreasonable. The Board and Federal Court have both confirmed
62 that any intervenor concerns regarding the participant funding program are separate from this
63 hearing process.

64 List of Issues

65 Intervenors raised concerns regarding the NEB's refusal to consider environmental and socio-
66 economic effects of upstream activities and downstream uses, including greenhouse gas emissions
67 and the effects on climate change.²⁰

68 As detailed in Final Argument, it is reasonable for the Board to give consideration to its jurisdiction
69 when assessing the Project and its impacts.²¹ The Hearing Order included the precise list of issues
70 that the Board intended to consider.²² The Board specifically stated that it did not intend to consider
71 the "environmental and socio-economic effects associated with upstream activities, the

¹⁸ Exhibit A133-1 - National Energy Board - Ruling No. 51 - Requests to establish new deadline for additional information requests to Trans Mountain for intervenors receiving late participant funding decisions (January 30, 2015) ([A65615](#)).

¹⁹ 2015 FC 1105.

²⁰ Exhibit C123-6-1 - Esquimalt Nation - Final Argument (January 12, 2016) ([A4X4A2](#)); Exhibit C411-5-1 - Maa-nulth Treaty Society - Final Argument (January 12, 2016) ([A4X4A0](#)); Exhibit C405-5-1 - The Graduate Student Society at Simon Fraser University - Final Argument (January 12, 2016) ([A4X4I3](#)); Exhibit C405-5-1 - Simon Fraser Student Society - Final Argument (January 12, 2016) ([A4X4K6](#)); Exhibit C308-8-1 - Scia'new First Nation - Final Argument (January 11, 2016) ([A4X3Z8](#)); Exhibit C355-38-1 - Tsawout First Nation - Final Written Submissions (January 12, 2016) ([A4X5W3](#)); Exhibit C232-9-1 - Metis Nation of Alberta Gunn Metis Local 55 - Final Argument (January 11, 2016) ([A4X3Z6](#)); Exhibit C363-42-1 - Upper Nicola Band - Final Written Submissions (January 12, 2016) ([A4X5V5](#)); Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 6-7; Exhibit C138-8-1 - Georgia Strait Alliance - Written Argument-in-Chief (January 8, 2016) ([A4X3R0](#)), 8; Exhibit C234-23-2 - Metro Vancouver - Written Argument (January 12, 2016) ([A4X4W0](#)); Exhibit C356-14-2 - Tsawwassen First Nation - Final Argument (January 12, 2016) ([A4X5L0](#)), 12-13.

²¹ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 20.

²² Exhibit A15-3 - National Energy Board - Hearing Order OH-001-2014 (April 3, 2014) ([A3V6I2](#)), 20.

72 development of oil sands or the downstream use of the oil transported by the pipeline.”²³ The
73 Federal Court of Appeal has refused leave to hear two appeals alleging that the NEB erred in law
74 or jurisdiction by refusing to consider the environmental and socio-economic effects of upstream
75 and downstream activities associated with the TMEP.²⁴ NEB Draft Conditions Nos. 106 and 107
76 are intended to ensure that, should the Project proceed, the greenhouse gas emissions associated
77 with the Project are recorded and offset.²⁵ Based on scrutiny in the NEB’s process and by the
78 Federal Court of Appeal, it is clear that Board’s List of Issues fairly and reasonably focuses on the
79 matters that have a sufficiently direct connection with the Project and are within the Board’s
80 statutory mandate.²⁶

81 IR Process

82 Intervenors raised concerns regarding the IR process and the denial of most intervenors’ motions
83 asking the NEB to compel full and adequate responses to IRs.²⁷

84 The record demonstrates that this process fairly provided all parties with numerous, adequate
85 opportunities to test Trans Mountain’s evidence. All intervenors and the Board had multiple
86 opportunities to vigorously test Trans Mountain’s evidence by asking IRs, as detailed in Final
87 Argument.²⁸ The Board asked Trans Mountain more than 400 questions. The intervenors in turn

²³ Exhibit A15-3 - National Energy Board - Hearing Order OH-001-2014 (April 3, 2014) ([A3V6I2](#)), 18.

²⁴ *City of Vancouver v National Energy Board and Trans Mountain Pipeline ULC* (October 16, 2014), Ottawa, 14-A-55 (FCA); *LD Danny Harvey v National Energy Board and Trans Mountain Pipeline ULC* (October 24, 2014), Ottawa, 14-A-59 (FCA).

²⁵ Exhibit A199 - National Energy Board - Procedural Direction No. 17 - Draft conditions for comment (August 12, 2015) ([A4S1G2](#)), 41-42.

²⁶ *Forest Ethics Advocacy Association v Canada (National Energy Board)*, 2014 FCA 245 at paras 67-69.

²⁷ Exhibit C411-5-1 - Maa-nulth Treaty Society - Final Argument (January 11, 2016) ([A4X4A0](#)); Exhibit C356-14-2 - Tsawwassen First Nation - Final Argument (January 12, 2016) ([A4X5L0](#)); Exhibit C355-38-1 - Tsawout First Nation - Final Written Submissions (January 12, 2016) ([A4X5W3](#)), 85.

²⁸ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 19.

88 asked more than 17,000 questions.²⁹ The Board fairly considered IR motions and required
89 additional responses from Trans Mountain as necessary if the Board's test for compelling a further
90 and better response was satisfied.³⁰ In numerous cases, Trans Mountain provided additional
91 information to the intervenor as a result of the motion process. Some intervenors were satisfied
92 with the additional information received. The Board noted when Trans Mountain's responses to
93 such motions were full and adequate.³¹

94 *Trans Mountain's Evidence*

95 Some intervenors commented that Trans Mountain has provided insufficient evidence to the
96 NEB.³² These concerns included the amount of reply evidence and lack of sur-reply opportunities
97 for intervenors. These concerns are unwarranted.

²⁹ Exhibit A18-1 - Letter and Information Request No. 1 to Trans Mountain Pipeline ULC (April 15, 2014) ([A3V8V6](#)); Exhibit A82-1 - Letter to Trans Mountain - NEB Round 2 Information Requests Requiring Full and Adequate Responses (September 26, 2014) ([A4C4I9](#)); Exhibit A127-1 - Letter and Information Request No. 3 to Trans Mountain Pipeline ULC (January 9, 2015) ([A4G4L5](#)); Exhibit A144-1 - Letter and Information Request No. 4 to Trans Mountain Pipeline ULC (March 20, 2015) ([A4J8Z2](#)); Exhibit A157-1 - Letter and Information Request No. 5 to Trans Mountain Pipeline ULC (April 29, 2014) ([A4K9C6](#)); Exhibit A107-1 - Follow-up information request to Trans Mountain regarding new preferred corridor studies (November 24, 2014) ([A4F2K3](#)); Exhibit A121-1 - Letter and Information Request to Trans Mountain regarding the TERMPOL report and outstanding filings (December 17, 2014) ([A4G1O2](#)); Exhibit A189-1 - Letter and Information Request Round 6 to Trans Mountain (July 15, 2015) ([A4R4W1](#)); Exhibit A223-1 - Letter and Information Request on Trans Mountain's replacement evidence (October 20, 2015) ([A4U5C9](#)).

³⁰ Exhibit A155-3 - National Energy Board - Appendix 1 (April 27, 2015) ([A4K8G4](#)).

³¹ Exhibit A81-1 - National Energy Board - Ruling No. 33 (September 26, 2014) ([A4C4H5](#)); Exhibit A93-1 - National Energy Board - Erratum to Ruling No. 33 (October 14, 2014) ([A4D1Y8](#)); Exhibit A155-1 - National Energy Board - Ruling No. 63 (April 27, 2015) ([A4K8G2](#)); Exhibit A163-1 - National Energy Board - Ruling No. 69 (May 8, 2015) ([A4L1U5](#)); Exhibit 171-1 - Erratum to Ruling No. 67 (May 28, 2015) ([A4Q2I8](#)); Exhibit A173-1 - National Energy Board - Ruling No. 74 (May 28, 2015) ([A4Q2U5](#)); Exhibit A228-1 - National Energy Board - Ruling No. 99 (November 17, 2015) ([A4V5K8](#));

³² Exhibit C41-13-2 - Burnaby Residents Opposing Kinder Morgan Expansion - BROKE Written Argument-in-Chief (January 12, 2016) ([A4X4Z7](#)); Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)); Exhibit C74-18-2 - City of Port Moody - Final Argument (January 12, 2016) ([A4X4G3](#)); Exhibit C107-14-1 - District of West Vancouver - Final Argument in Chief (January 11, 2016) ([A4X3Y6](#)); Exhibit C214-40-1 - Living Oceans Society and Raincoast Conservation Foundation - Final Argument (January 12, 2016) ([A4X5C0](#)); Exhibit C234-23-2 - Metro Vancouver - Written Argument (January 12, 2016) ([A4X4W0](#)); Exhibit C404-12-2 - Simon Fraser University - Final Argument (January 4, 2016) ([A4X2V3](#)), 7; Exhibit C363-42-1 - Upper Nicola Band - Final Written Submissions (January 12, 2016) ([A4X5V5](#)); Exhibit C24-19-2 - BC Nature and Nature Canada - Written Argument-in-Chief (January 12, 2016) ([A4X5A0](#)); Exhibit C-289-13-2 - Province of BC - Final Argument (January 11, 2016) ([A4X3T3](#)), paras 66-83.

98 Trans Mountain provided comprehensive and sufficient information in the Application and
99 subsequent filings that ensures the NEB has sufficient information to make a recommendation
100 regarding the Project. After more than three months of review, the Application was deemed
101 complete by the NEB on April 2, 2014, which determination means that there is enough
102 information in the Application to allow for participants to engage in a public hearing.³³ The Board
103 was satisfied that Trans Mountain's Reply Evidence complied with the Board's direction and that
104 the intervenors failed to satisfy the Board that the Reply Evidence was improper. As a result, the
105 Board denied motions to strike reply evidence. The Board also provided the intervenors with the
106 opportunity to ask IRs on the Reply Evidence.³⁴ Trans Mountain has submitted extensive evidence
107 on all aspects of the Project, has responded to thousands of IRs and has done its best to comply
108 with the Filing Manual and the Board's directions on procedure throughout this hearing. The Panel
109 has sufficient information to make a recommendation on the Project.

110 Revised Final Argument

111 Stó:lō Collective ("Stó:lō") argued that the revised Final Argument submitted by Trans Mountain
112 went beyond the Replacement Evidence and that any additional evidence must be struck.³⁵
113 Stó:lō's position is without merit. On August 21, 2015 the Board announced its decision, on its
114 own motion, to strike evidence prepared by or under the direction of Mr. Steven Kelly and remove
115 it from the hearing record.³⁶ Trans Mountain filed its Replacement Evidence on September 25,

³³ Exhibit A016 - National Energy Board - Letter to Trans Mountain Pipeline ULC - Application for the Trans Mountain Expansion Project - Completeness Determination and Legislated Time Limit (April 3, 2014) ([A59502](#)).

³⁴ Exhibit A22-1 - National Energy Board - Ruling No. 96 (October 8, 2015) ([A4U2A4](#)).

³⁵ Exhibit C326-18-2 - Stó:lō Collective - Final Argument (January 11, 2016) ([A4X5T3](#)).

³⁶ Exhibit A208-1 - National Energy Board - Striking of evidence prepared by or under the direction of Mr. Steven J. Kelly and postponement of oral summary argument in Calgary and Burnaby (August 21, 2015) ([A4S8Y8](#)).

116 2015 to replace the evidence stricken by the Board.³⁷ Two IR processes followed for Reply
117 Evidence and Replacement Evidence. The Board directed Trans Mountain to indicate where
118 changes have been made in Final Argument.³⁸ Trans Mountain complied with the Board's
119 direction and filed its revised Final Argument on December 15, 2015, with a blackline version
120 showing all changes made.³⁹ Trans Mountain's revisions incorporated the evidence and IR
121 responses required by the Board, as well as consequential changes. Stó:lō's unreasonable request
122 to strike Trans Mountain's Final Argument should be denied since it is without basis and is
123 imbedded in argument—contrary to the Hearing Order.

124 Potential Changes to NEB's Process

125 The City of Burnaby ("Burnaby") argued that the NEB's process is broken and needs to be
126 restructured. Other intervenors asserted a lack of public confidence in the NEB's hearing process.⁴⁰
127 Under the NEB Act, it is up to Parliament, not the Board, to make substantive amendments such
128 as altering the Board's jurisdiction. An administrative tribunal has no authority to alter a provision
129 of the statute prescribing a particular process requirement, unless it is empowered to do so by the
130 statute.⁴¹ The facts, and the extensive record, demonstrate that the Board's process has been fair
131 and broadly inclusive. As an administrative tribunal, the NEB's role is to implement the process

³⁷ Exhibit B427 - Trans Mountain Pipeline ULC - Evidence to Replace the Direct Evidence Prepared by Mr. Steven Kelly for the Project (September 25, 2015) ([A72774](#)).

³⁸ Exhibit A217-1 - National Energy Board - Procedural Direction No. 18 (September 24, 2015) ([A4T5R5](#)).

³⁹ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 20.

⁴⁰ Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 3; Exhibit C123-6-1 - Esquimalt Nation - Final Argument (January 12, 2016) ([A4X4A2](#)); Exhibit C411-5-1 - Maa-nulth Treaty Society - Final Argument (January 12, 2016) ([A4X4A0](#)); Exhibit C246-9-1 - Musqueam Indian Band - Written Argument (January 11, 2016) ([A4X3U3](#)); Exhibit C277-6-1 - Pauquachin First Nation - Final Argument (January 12, 2016) ([A4X4F8](#)); Exhibit C308-8-1 - Scia'new First Nation - Final Argument (January 11, 2016) ([A4X3Z8](#)); Exhibit C258-14-2 - Nooaitch Indian Band - Argument in Chief Final (January 12, 2016) ([A4X5J5](#)); Exhibit C310-6 - Shackan Indian Band - Written summary argument ([A75107](#)).

⁴¹ *Upper Lakes Shipping Ltd v Sheehan et al*, [1979] 1 SCR 902.

132 prescribed in its home-statute with regard to the principles of fairness and natural justice.
133 Intervenors argued for a fundamental change to the NEB Act that is not within the jurisdiction of
134 the NEB to make and would require amendments by Parliament.

135 **1.3 Draft Conditions**

136 The Board released proposed draft conditions on August 12, 2015 and December 11, 2015
137 (collectively, the “Draft Conditions”) for review and comment by all participants,⁴² and Trans
138 Mountain provided detailed comments in response.⁴³ Many of the intervenors that filed written
139 argument provided comments on the Draft Conditions and some proposed new conditions that they
140 submit should be included, should a certificate be granted. Trans Mountain has responded to the
141 intervenor’s comments on the Draft Conditions in Appendix “A” and addressed the additional
142 conditions proposed by intervenors in Appendix “B”.

143 A number of the intervenors criticized the Board’s Draft Conditions as being inadequate and
144 lacking sufficient detail.⁴⁴ In their view, requirements to file documents, plans and reports after
145 approval or operation of the TMEP defers important issues without adequate scrutiny.⁴⁵

⁴² Exhibit A199-3 - National Energy Board - Procedural Direction No. 17 - Draft Conditions for Comment - Appendix A (August 12, 2015) ([A4S1G2](#)); Exhibit A237-3 - National Energy Board - Letter - Five Additional Draft Conditions for Comment - Appendix A (December 11, 2015) ([A4W4K5](#)).

⁴³ Exhibit B417-5 - Trans Mountain Pipeline ULC - Trans Mountain Reply Evidence, Appendix 1A - Comments on Updated Conditions (August 20, 2015) ([A4S7F2](#)); Exhibit B444-2 - Trans Mountain Revised Final Argument (Clean) (December 15, 2015) ([A4W6L8](#)), 34-42; Exhibit B444-6 - Trans Mountain Pipeline ULC - Appendix B - Comments on Additional Draft Conditions (December 15, 2015) ([A4W6Q2](#)).

⁴⁴ See e.g. Exhibit C70-5 - City of Coquitlam - Written Argument-in-Chief (January 12, 2016) ([A4X4U1](#)), 41; Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 16; Exhibit C319-40-2 - Squamish Nation - Final Argument (January 12, 2016) ([A4X5E7](#)), para 312; Exhibit C246-9-1 - Musqueam Indian Band - Written Argument (January 11, 2016) ([A4X3U3](#)), 6; Exhibit C199-2-1 - Kwikwetlem First Nation - Final Written Argument (January 12, 2016) ([A75112](#)), paras 48-49.

⁴⁵ Exhibit C70-5 - City of Coquitlam - Written Argument-in-Chief (January 12, 2016) ([A4X4U1](#)), 41; Exhibit C246-9-1 - Musqueam Indian Band - Written Argument (January 11, 2016) ([A4X3U3](#)), 6; Exhibit C78-21-2 - Coldwater Indian Band - Final Written Argument (January 12, 2016) ([A4X5J8](#)), para 134; Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 16; Exhibit C138-8-1 - Georgia Strait Alliance - Final Argument (January 8, 2016) ([A4X3R0](#)), 19; Exhibit C199-2-1 - Kwikwetlem First Nation - Final Written

146 Trans Mountain submits that the intervenors have unfairly characterized the Draft Conditions,
147 which ensure lifecycle regulation and address all aspects of the Project, including potential risks
148 and impacts associated with the pipeline, the terminals and related activities and facilities. The
149 Draft Conditions further bind Trans Mountain to all of the commitments it has made in the
150 Application and throughout the regulatory process, many of which address specific concerns raised
151 by intervenors.⁴⁶ The main purpose of conditions is “to mitigate the risks and effects posed by a
152 project so that it is designed, constructed, and operated in a safe manner that protects human health
153 and the environment.”⁴⁷ In other words, all of the evidence and argument before the Board,
154 including intervenor comments on conditions, will inform its ultimate recommendations on what
155 mitigation measures are necessary to impose through certificate conditions. In Trans Mountain’s
156 view, this process allows for significant input by stakeholders into the content of the conditions,
157 consistent with regulatory practice.⁴⁸ Considering extensive intervenor feedback on the Draft
158 Conditions is consistent with the principles of natural justice and is procedurally fair.

159 **1.4 Organization of this Reply**

160 The subsequent sections of this reply are organized to respond to intervenor argument as follows:

Argument (January 12, 2016) ([A75112](#)), para 48; Exhibit C288-36-1 - Pro Information Pro Environment United People Network - Written Submissions (Pipeup) (January 12, 2016) ([A4X5A8](#)), 34-46.

⁴⁶ See NEB Draft Conditions 2, 8; Exhibit A199 - National Energy Board - Procedural Direction No. 17 - Draft conditions for comment (August 12, 2015) ([A4S1G2](#)).

⁴⁷ Exhibit A199-1 - National Energy Board - Procedural Direction No. 17 (August 12, 2015) ([A4S1G0](#)), 2.

⁴⁸ See e.g. Joint Review Panel Report on the Enbridge Northern Gateway Project - Volume 2 (December 19, 2013) ([A3S7C6](#)); NEB - Reasons for Decision - TransCanada Keystone Pipeline GP Ltd. - OH-1-2009 (March 2010); NEB - Reasons for Decision - Enbridge Pipelines Inc. - OH-4-2007 (February 2008); NEB - Reasons for Decision - NOVA Gas Transmission Ltd - GH-2-2011 (February 2012).

161 **2. Legal Framework** – reply regarding the comprehensive regulatory framework to assess
162 whether the Project is in the Canadian public interest, including the NEB Act and the CEAA 2012
163 legislative regimes;

164 **3. Project Design** – reply regarding the pipeline and facilities engineering design, routing,
165 landowner engagement, construction and operation of the Project;

166 **4. Environmental and Socio-Economic Assessment (“ESA”)** – reply regarding the
167 potential effects the Project may have on people and the environment, the effect of the environment
168 on the Project and how these effects have influenced mitigation, engineering, design and safety of
169 the Project;

170 **5. Emergency Response** – reply to intervenor argument regarding the system that Trans
171 Mountain has implemented to prevent and respond to emergencies;

172 **6. Aboriginal** – reply regarding Trans Mountain’s engagement with Aboriginal groups and
173 the Crown’s legal duty to consult and if necessary accommodate Aboriginal groups;

174 **7. Economics** – reply regarding the potential economic effects the Project may have on
175 individuals, communities, regions and nationally.

176 **2. LEGAL FRAMEWORK**

177 Trans Mountain provided a comprehensive overview of the legal framework that governs the
178 Board's recommendation in Section 2 of Final Argument. This section replies to intervenor
179 concerns regarding the legal framework for the Board's review of the Project. Legal issues related
180 to Aboriginal rights and title and the Crown's duty to consult are addressed in Section 6 –
181 Aboriginal of this reply, including related public interest arguments.

182 **2.1 Determining the Canadian Public Interest**

183 A number of intervenors proposed modifications or made submissions regarding the Board's
184 public interest recommendation. Trans Mountain responds to each of the common issues below.

185 **2.1.1 The National Interest**

186 Burnaby argued that the Board must assess the “national interest” from a citizen-focused
187 perspective because “it is no longer appropriate, in the 21st century, to pretend that this is a national
188 project that has broad political approval and objectives.”⁴⁹ North Shore No Pipeline Expansion
189 Society (“NSNOPE”) argued that the Board is actually faced with competing regional interests, as
190 opposed to local and national interests.⁵⁰

191 NSNOPE's argument that the Board's mandate is to consider the competing regional interests
192 rather than the national interest defies logic. The NEB's Strategic Plan confirms that the role of
193 the Board is to consider the national interest.⁵¹ The NEB was created in the 1950s as an expert
194 tribunal to deal with the highly technical issues associated with pipeline development and to

⁴⁹ Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 3-4.

⁵⁰ Exhibit C259-17-2 - North Shore NOPE - Final Written Argument (January 12, 2016) ([A4X4Y4](#)), 1; Hearing transcript Vol. 33 (January 27, 2016) ([A4X8G0](#)) at lines 17711-17713.

⁵¹ National Energy Board, “Strategic Plan”, (April 16, 2015) online: < <http://www.nerb-one.gc.ca/bts/whwr/gvrnnc/strtcpln-eng.html?pedisable=true>>.

195 depoliticize that development.⁵² The NEB is intended to be the arbiter of what is in fact, in the
196 interest of all Canadians. To follow the suggestion that local interests outweigh what is the “public
197 good” undermines the very principles upon which this country was founded, that gave jurisdiction
198 over interprovincial and international works to the federal government to ensure—in the clearest
199 terms—that the national interest was considered over local interests. The national interest is a
200 consideration in the Board’s public interest recommendation, as confirmed by Board guidance and
201 precedent. The Board’s definition of the public interest is inclusive of all Canadians and refers to
202 a balance of economic, environmental and social considerations that changes as society’s values
203 and preferences evolve over time.⁵³ The Northern Gateway Joint Review Panel (“JRP”)
204 emphasized that “inclusive of all Canadians” does not only mean those located in physical
205 proximity to the project.⁵⁴

206 Recently, the British Columbia (“B.C.”) Supreme Court in *Coastal First Nations v British*
207 *Columbia (Environment)* distinguished Northern Gateway from other national projects because of
208 disproportionate impacts.⁵⁵ With respect, whether an interprovincial work or undertaking
209 physically crosses a single provincial border or the entire country is irrelevant to whether a project
210 is in the national interest or subject to federal regulation. The Supreme Court of Canada specifically
211 confirmed the Federal Parliament’s exclusive jurisdiction for the existing Trans Mountain Pipeline
212 (“TMPL”) in 1954:

⁵² *House of Commons Debates*, 22nd Parl, 5th Sess, Vol 1 (11 February 1957) at 1159 (Right Hon John Diefenbaker).

⁵³ National Energy Board, “Strategic Plan”, (April 16, 2015) online: <<http://www.neb-one.gc.ca/bts/whwr/gvrnnc/strtcpln-eng.html?pedisable=true>>.

⁵⁴ Joint Review Panel Report on the Enbridge Northern Gateway Project - Volume 2 (December 19, 2013) ([A3S7C6](#)), 8.

⁵⁵ *Coastal First Nations v British Columbia (Environment)*, 2016 BCSC 34 at para 53.

213 The line here extends from a point in Alberta to Burnaby in British
214 Columbia. That it is a work and undertaking within the exclusive
215 jurisdiction of Parliament is now past controversy.⁵⁶

216 The Project provides a multiplicity of benefits to Canada, including: a multi-billion dollar
217 investment in Canadian infrastructure; a boost to Canada’s GDP by approximately \$22 billion;
218 123,000 person-years of employment; improved market access; and identifiable social and
219 environmental benefits.⁵⁷ These national benefits are in the public interest. Currently, Canadian
220 production is priced at a significant discount to world market prices. As a result, federal and
221 provincial governments receive less value for Canadian resources due to lower royalties and other
222 payments to government—which means less value for Canadians. In the 1970s, it was determined
223 to be in the national interest to expand Interprovincial Pipe Line Ltd.’s pipeline to reach markets
224 in the east due to severe price shortages.⁵⁸ Today, severe price discounts on Canadian production
225 are a national concern that is relevant to the Board’s public interest recommendation. It is
226 imperative that new and willing markets be found and accessed for Canada’s petroleum
227 resources.⁵⁹

228 Strata NW313 hypothesized that if “what is best for Canada, overall” was determined on the basis
229 of a one-person-one-vote, the result would be a denial of the Project.⁶⁰ This hypothesis is absurd.
230 As detailed above, producing and obtaining market access for our resources is fundamental to the
231 Canadian economy. Federal and provincial governments have established comprehensive
232 regulatory regimes over the last sixty years to ensure that the production and transportation of

⁵⁶ *Campbell-Bennett v Comstock Midwestern Ltd.*, [1954] SCR 207 at 214; see also *Westcoast Energy Inc v National Energy Board*, [1998] 1 SCR 322.

⁵⁷ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)).

⁵⁸ NEB - NEB Report to Governor in Council - Interprovincial Pipe Line Ltd. - OH-1-74 (1974).

⁵⁹ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 75.

⁶⁰ Exhibit C329-3-1 - Strata NW313 - Final Argument (January 12, 2016) ([A4X5S8](#)), 19.

233 Canadian resources occurs in a safe and environmentally responsible manner. These regulatory
234 regimes include laws that all proponents must comply with, such as the NEB Act and the CEAA
235 2012. In the event of disagreement regarding the application of the relevant laws to the undertaking
236 of a project, such as the TMEP, there is a rigorous legal process to be followed that is fair to all
237 parties and consistent with the principles of natural justice. Unlike a referendum, the Board's
238 ability to make a public interest recommendation is limited to the facts that are established to its
239 satisfaction through the regulatory process, and must proceed in compliance with the principles of
240 natural justice.⁶¹ The Board's process is focused on considering evidence from the applicant and
241 parties who are directly affected or have relevant information or expertise.⁶² The Board has
242 discharged this mandate through a rigorous multi-year process. To discard this comprehensive
243 legal and regulatory regime in favour of a referendum is illogical and inconsistent with the
244 intention of Parliament and past precedent.

245 **2.1.2 Project Need**

246 NSNOPE stated that the core element of the public interest test is something that shows that the
247 Project meets a pressing national need for additional pipeline capacity.⁶³ Burnaby stated that the
248 Application is in Trans Mountain's own commercial interest, not necessarily that of the Canadian
249 public or even Canada's oil industry.⁶⁴

250 Burnaby's bald assertion that the Application is not in the interest of the Canadian public, or
251 Canada's oil industry, is directly contradicted by the evidence. Burnaby is attempting to speak on

⁶¹ NEB - NEB Report - NOVA Gas Transmission Ltd - GH-001-2014 (April 2015), 8.

⁶² NEB - Reasons for Decision - Northstar Energy Corporation - GH-1-98 (May 1998), 27.

⁶³ Exhibit C259-17-2 - North Shore NOPE - Final Written Argument (January 12, 2016) ([A4X4Y4](#)), 52; Hearing transcript Vol. 33 (January 27, 2016) ([A4X8G0](#)) at line 17727.

⁶⁴ Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 3-4.

252 behalf of the Canadian oil industry without considering the strong evidence of industry support for
253 the Project in this proceeding. Put another way, if the Project was not in the industry's best interest
254 one would expect there to be little commercial support from shippers (among the most
255 sophisticated in the world), which is not the case for the TMEP. Trans Mountain demonstrated
256 strong industry support for the Project by executing 13 long-term firm service contracts with well
257 capitalized and knowledgeable companies and by obtaining NEB approval for its tolling
258 methodology in Decision RH-001-2012.⁶⁵

259 There is no doubt as to the need for the Project. Refer to Section 7 – Economic of this reply for
260 further responses regarding the market demand for the Project.

261 **2.1.3 Regulation of Marine Shipping**

262 Cowichan Tribes submitted that, as part of its public interest assessment, the NEB must assess the
263 current state of marine shipping regulation and emergency response preparedness and determine
264 whether it is adequate.⁶⁶

265 The NEB does not regulate marine shipping in Canada or internationally and has no jurisdiction
266 to make such a determination. The Board's review is limited to "[t]he potential environmental and
267 socio-economic effects of marine shipping activities that would result from the proposed Project,
268 including the potential effects of accidents or malfunctions that may occur."⁶⁷ Marine shipping on
269 Canada's West Coast is overseen and regulated under the *Canada Shipping Act, 2001*⁶⁸ and
270 *Canada Marine Act*⁶⁹ by a variety of federal and international authorities such as Port Metro

⁶⁵ NEB - Reasons for Decision - Trans Mountain Pipeline ULC - RH-001-2012 (May 2013), 6.

⁶⁶ Exhibit C86-33-1 - Cowichan Tribes - Cowichan Written Argument (January 12, 2016) ([A4X5E2](#)), 6.

⁶⁷ Exhibit A15-3 - National Energy Board - Hearing Order OH-001-2014 (April 3, 2014) ([A3V6I2](#)), 18.

⁶⁸ SC 2001, c 26.

⁶⁹ SC 1998, c 10.

271 Vancouver (“PMV”), the Pacific Pilotage Authority, the Canadian Coast Guard, Transport Canada
272 and the International Maritime Organization. Trans Mountain has described how third party marine
273 shipping is the responsibility of these expert regulators and that the Board is entitled to, and should,
274 rely on that expertise.⁷⁰ In Trans Mountain’s view, it is inappropriate and legally incorrect for the
275 Board to impose conditions or make conclusions related to matters under the jurisdiction of other
276 competent authorities.⁷¹

277 **2.1.4 Social Licence**

278 Intervenors stated that the NEB should not recommend that the TMEP is in the public interest
279 without first ensuring that the Project has “social licence” from individuals, communities and the
280 broader Canadian public.⁷² It is argued that social licence is an essential requirement to obtain
281 regulatory approval in a democratic society.⁷³ Salmon River Enhancement Society asserted that
282 Trans Mountain must redress for “historical damage” in order to obtain the appropriate “social
283 licence” to construct the TMEP.⁷⁴ This assertion is wrong for the reasons set out below.

284 The Canadian Association of Petroleum Producers (“CAPP”) correctly describes how Parliament’s
285 way of addressing differing views vis-à-vis interprovincial pipeline projects is the institutional

⁷⁰ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 61-64.

⁷¹ *Grand Trunk Pacific Railway v Fort William Landowners*, [1912] AC 224 (PC) at paras 5-6 (QL); *ATCO Gas & Pipelines Ltd. v Alberta (Energy & Utilities Board)*, 2006 SCC 4 at para 92, per Binnie J. (dissenting) citing *C.U.P.E. v. Ontario (Minister of Labour)*, 2003 SCC 29; see also *Whitbread v Walley*, [1990] 3 SCR 1273 at para 27 (QL) where the Supreme Court of Canada states that maritime law needs to be subject to a uniform legal regime.

⁷² Exhibit C340-17-1 - Calvin Taplay - Written Argument-in-Chief (January 12, 2016) ([A4X5J1](#)), 3; Exhibit C69-61-2 - City of Burnaby - Final Argument (January 16, 2016) ([A4X4I6](#)), 1-2, 9, 18; Exhibit C288-36-1 - Pro Information Pro Environment United People Network - Written Submissions (Pipeup) (January 12, 2016) ([A4X5A8](#)); Exhibit C301-21-2 - Salmon River Enhancement Society - Written Argument Evidence (January 12, 2016) ([A4X5V2](#)), sections 1.4, 2.3, 2.7.

⁷³ Exhibit C288-36-1 - Pro Information Pro Environment United People Network - Written Submissions (Pipeup) (January 12, 2016) ([A4X5A8](#)), para 26.

⁷⁴ Exhibit C301-21-2 - Salmon River Enhancement Society - Written Argument Evidence (January 12, 2016) ([A4X5V2](#)), sections 1.4, 2.3, 2.7.

286 arrangement it has established under the NEB Act and the CEAA 2012.⁷⁵ As part of this
287 arrangement, the NEB is to have regard for the social context of the particular case and balance it
288 against other factors and considerations to evaluate what is in the public interest.⁷⁶

289 Throughout its 60 year operating history, Trans Mountain has worked hard to understand the social
290 and cultural fabric of the communities in which it operates. The importance of building and
291 maintaining trust and working with communities in a sincere and honest manner has been, and
292 remains, fundamental to Trans Mountain's past, present and future initiatives.

293 Trans Mountain specifically addressed its understanding of social licence in its evidence.⁷⁷ It
294 remains a fact that reasonable people can, and do, disagree.⁷⁸ Where there is disagreement, the
295 Board must recommend whether, under all the circumstances, the Project is in the public interest,
296 and this recommendation encompasses the concept of social licence. As stated above, Parliament
297 has created laws and established a complex regulatory to consider whether a proposed project is
298 in the public interest. This proceeding is representative of this fact. The evidence filed by
299 intervenors and commenters with the Board has revealed that differing opinions, beliefs and
300 perceptions exist within and between the communities affected by the Project. This process is fair
301 to all parties and should be followed. Ultimately the Project is assessed under a robust statutory

⁷⁵ Exhibit C48-4-1 - Canadian Association of Petroleum Producers - CAPP Written Argument (January 12, 2016) ([A4X4A9](#)), 7.

⁷⁶ Joint Review Panel Report for the Enbridge Northern Gateway Project - Volume 2 (December 19, 2013) ([A3S7C6](#)), 9-10; NEB - NOVA Gas Transmission Ltd - OH-001-2014 (April 2015), 102; NEB - Reasons for Decision - TransCanada Keystone Pipeline GP Ltd. - OH-1-2008 (July 2008), 11; *Forest Ethics Advocacy Association v Canada (National Energy Board)*, 2014 FCA 245 at para 64.

⁷⁷ Exhibit B418-3 - Trans Mountain Reply Evidence, Attachment 1.04-Reply to Assumptions for TMEP in City of Burnaby (August 20, 2015) ([A4S7K1](#)), 4-5; These include: individual attitudes change rapidly; consensus in a given community (or across communities) is difficult to attain; and levels of acceptance are even more difficult to measure. Further, there is no single measure of well-being for individuals, families or communities.

⁷⁸ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 34; Hearing transcript Vol. 25 (December 17, 2015) at line 12073; see also Exhibit C48-4-1 - Canadian Association of Petroleum Producers - CAPP Written Argument (January 12, 2016) ([A4X4A9](#)), 6.

302 framework by democratically established institutions, including the NEB, rather than by individual
303 opinions. To suggest otherwise undermines the rule of law which our society depends on.

304 **2.1.5 Weighing the Burdens and the Benefits**

305 A number of intervenors stated that the Project is not in the public interest because any benefits of
306 the Project are vastly outweighed by significant risks. Further, certain intervenors asserted that
307 Trans Mountain has provided no basis to support its conclusion that the benefits outweigh the
308 costs.⁷⁹ Certain parties alleged that the Project's benefits are short-term and overstated, while
309 others outright denied that the Project will have direct benefits for the Canadian economy.⁸⁰ These
310 views are contradicted by the evidence and analysis before the Board, as detailed below.

311 The suggestion that the Project does not result in direct benefits, or that they are short-term or
312 overstated flies in the face of the facts on the record.⁸¹ The economic, environmental and social
313 benefits from the Project, including benefits for Aboriginal groups, are real.⁸² When assessed from
314 a national perspective, the evidence is clear that the benefits outweigh the burdens, which can be
315 properly mitigated.⁸³

⁷⁹ Exhibit C363-42-1 - Upper Nicola Band - Final Written Submissions (January 12, 2016) ([A4X5V5](#)), 121-122; Exhibit C259-17-2 - North Shore NOPE - Final Written Argument (January 12, 2016) ([A4X4Y4](#)), 51.

⁸⁰ Exhibit C214-40-1 - Living Oceans Society and Raincoast Conservation Foundation - Final Argument (January 12, 2016) ([A4X5C0](#)), 78; Exhibit C329-3-1 - Strata NW313 - Final Argument (January 12, 2016) ([A4X5S8](#)), 19; Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X416](#)).

⁸¹ See e.g. Exhibit C117-3 - Edmonton Chamber of Commerce - Submission (January 11, 2016) ([A4X3U9](#)), 1 regarding how the Project serves the broader public interest by generating the greatest amount of compensation - in taxes, royalties, jobs and spinoff economic benefits - that Canada's natural resource product can deliver; Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 28.

⁸² Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 51-81, 213-218.

⁸³ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 51; Report of the Joint Review Panel for the Enbridge Northern Gateway Project - Volume 2 (December 19, 2013) ([A3S7C6](#)), 9-10.

316 There is an inherent level of risk in all activities, but risks do not equal impacts—since the
317 combined risk mitigation effect of all measures is significant.⁸⁴ For example, with mitigation
318 measures in place, Trans Mountain determined that the probability of a credible worst-case oil
319 cargo spill from a Project tanker is forecast to have a potential return period of once in 2841 years.
320 The absolute risk of an oil cargo spill from a Project tanker is low.⁸⁵ Through mitigation measures
321 and preparedness and response programs that exceed Canadian standards, Trans Mountain is
322 committed to reducing the likelihood of risks and limiting any consequences of an unlikely spill
323 event.⁸⁶

324 **2.1.6 Weighing Specific Interests Against the Public Interest**

325 A number of intervenors opposed the Project on the basis of negative impacts to them specifically,
326 or cite the unequal distribution of benefits and burdens as the reason why burdens outweigh Project
327 benefits.⁸⁷ A common thread in these arguments is that the intervenors' interests deserve more
328 weight due to their proximity to the Project.

329 The Board has previously indicated that a single factor is unlikely to be determinative of whether
330 a project is or is not in the public interest. The Board said in its Reasons for Decision for Emera

⁸⁴ Report of the Joint Review Panel for the Enbridge Northern Gateway Project - Volume 2 (December 19, 2013) ([A3S7C6](#)), 12; NEB - NEB Report - NOVA Gas Transmission Ltd. - GH-001-2014 (April 2015), 75.

⁸⁵ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 68.

⁸⁶ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 32-34, 178-190.

⁸⁷ Exhibit C41-13-2 - Burnaby Residents Opposing Kinder Morgan Expansion - BROKE Written Argument-in-Chief (January 12, 2016) ([A4X4Z7](#)), 28-29; Exhibit C232-9-1 - Metis Nation of Alberta Gunn Metis Local 55 - GML 55 Final Argument (January 11, 2016) ([A4X3Z6](#)); Exhibit C84-6-2 - Corporation of the City of Victoria - Written Argument (January 12, 2016) ([A4X4C9](#)), 26; Exhibit C107-14 - District of West Vancouver - Final Argument in Chief (January 11, 2016) ([A4X3Y6](#)), 8-9.; Exhibit C106-11-1 - District of North Vancouver - Final Argument (January 12, 2016) ([A4X4U9](#)), 47-48; Exhibit C259-17-2 - North Shore NOPE - Final Written Argument (January 12, 2016) ([A4X4Y4](#)), 51; Exhibit C405-5-1 - The Graduate Student Society at Simon Fraser University - Final Argument (January 12, 2016) ([A4X4I3](#)), 9-11, 13; Exhibit C405-5-1 - Simon Fraser Student Society - Final Argument (January 12, 2016) ([A4X4K6](#)), 9-11, 13; Exhibit C76-18-2 - City of Surrey - Written Argument in Chief (January 12, 2016) ([A4X4K9](#)), 1.

331 Brunswick Pipeline Company Ltd. that “various decisions of the courts have established that a
332 specific individual’s or locale’s interest is to be weighed against the greater public interest, and if
333 something is in the greater public interest, the specific interests must give way.”⁸⁸ Therefore,
334 specific concerns from an individual intervenor are not determinative of the broader public interest.
335 Impacts on regions or individuals that, from their own perspective, are considerable, may not be
336 significant in the broader context.⁸⁹

337 With respect to the distribution of burdens and benefits, the NEB’s decision for the Mackenzie
338 Gas Project and the JRP Report for Northern Gateway both recognize that the burdens and benefits
339 of large linear projects may not always be distributed evenly.⁹⁰ This makes sense. It is impossible
340 and inappropriate to achieve a precisely equal distribution of burdens of benefits for a proposal
341 that spans thousands of km in length. The Board’s public interest consideration addresses any local
342 variations by broadly considering all Canadians, which includes people locally, regionally and
343 nationally. When the potential adverse impacts and risks of the Project are balanced with the
344 benefits, in combination with Trans Mountain’s plans to avoid, mitigate and manage those
345 potential adverse impacts and risks, it is clear that the Project is in the Canadian public interest.⁹¹

⁸⁸ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 48-49; NEB - Reasons for Decision - Emera Brunswick Pipeline Company Ltd. - GH-1-2006 (May 31, 2007), 11.

⁸⁹ Report of the Joint Review Panel for the Mackenzie Gas Project - Volume 1 (December 30, 2009), 102-103.

⁹⁰ Joint Review Panel Report on the Enbridge Northern Gateway Project - Volume 2 (December 19, 2013) ([A3S7C6](#)), 296; Joint Review Panel Report for the Kemess North Cooper-Gold Mine Project (September 17, 2007), xxiv; NEB - Reasons for Decision - Imperial Oil Resources Ventures Limited - GH-1-2004 – Volume 1 (December 16, 2010), 11.

⁹¹ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 95.

346 **2.1.7 Evidence to Support the NEB's Public Interest Determination**

347 Some intervenors alleged that gaps in the evidence mean that the Board cannot legally make a
348 public interest determination or recommend approval of the Project.⁹² Others argued that there is
349 too much information on the record.⁹³

350 The scrutiny and rigour of this Project's review has been one of the most extensive in NEB history
351 or any other regulatory review in the country. The comprehensive evidence filed on the public
352 record is credible, necessary and sufficient for this stage in the regulatory process for the Board to
353 fulfill its mandate.⁹⁴

354 The NEB deserves significant deference in its analysis of the evidence to support its public interest
355 recommendation.⁹⁵ The Federal Court of Appeal has repeatedly recognized that the Board is "the
356 main guardian of the public interest" within its regulatory expertise.⁹⁶ Having an independent
357 expert tribunal, such as the NEB, take the time to collect, digest and understand all aspects of a

⁹² Exhibit C41-13-2 - Burnaby Residents Opposing Kinder Morgan Expansion - BROKE Written Argument-in-Chief (January 12, 2016) ([A4X4Z7](#)), 33; Exhibit C74-18-2 - City of Port Moody - Final Argument (January 12, 2016) ([A4X4G3](#)), 7; Exhibit C107-14-1 - District of West Vancouver - Final Argument in Chief (January 11, 2016) ([A4X3Y6](#)); Exhibit C214-40-1 - Living Oceans Society and Raincoast Conservation Foundation - Final Argument (January 12, 2016) ([A4X5C0](#)), 5; Exhibit C234-23-2 - Metro Vancouver - Written Argument (January 12, 2016) ([A4X4W0](#)); Exhibit C404-12-2 - Simon Fraser University - Final Argument (January 4, 2016) ([A4X2V3](#)), 7; Exhibit C363-42-1 - Upper Nicola Band - Final Written Submissions (January 12, 2016) ([A4X5V5](#)); Exhibit C24-19-2 - BC Nature and Nature Canada - Written Argument-in-Chief (January 12, 2016) ([A4X5A0](#)); Exhibit C289-13-2 - Province of BC - Final Argument (January 11, 2016) ([A4X3T3](#)). Certain groups argue that significant technical gaps in the evidence lead to an incomplete understanding of potential impacts and, consequently, to an incomplete understanding of impacts on Aboriginal rights. These arguments are addressed in Section 6 - Aboriginal of this reply.

⁹³ Hearing transcript Vol. 26 (January 19, 2016) (A4X7C5) at line 12908.

⁹⁴ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 12; Report of the Joint Review Panel Report for the Enbridge Northern Gateway Project - Volume 2 (December 19, 2013) ([A3S7C6](#)), 165.

⁹⁵ Report of the Joint Review Panel for the Mackenzie Gas Project - Volume 1 (December 30, 2009), 103.

⁹⁶ *Forest Ethics Advocacy Association v Canada (National Energy Board)*, 2014 FCA 245 at para 23.

358 complex application results in thorough, reasoned recommendations and conditions is in itself a
359 component of the public interest.⁹⁷

360 **2.2 Section 58 Order**

361 The Board's report to the Governor in Council may also contain the Board's decision on approvals
362 requested by Trans Mountain under section 58 of the NEB Act.⁹⁸ Trans Mountain has requested
363 these approvals to allow it to commence construction on early works after the CPCN is issued but
364 before the conclusion of the detailed route process.⁹⁹

365 BC Wildlife Federation sought clarification on Trans Mountain's intended start date for early
366 works and specifically asked the Board to refrain from granting approvals for any aspect of the
367 Project until the Governor in Council has approved the Project in its entirety.¹⁰⁰ Katzie First Nation
368 ("Katzie") opposes the issuance of a Section 58 Order due to concerns regarding the eligibility of
369 the works, traditional land use information and the opportunity for review of filings.¹⁰¹

370 Trans Mountain confirms that no activities that are approved under section 58 of the NEB Act will
371 commence until after the Governor in Council has approved the Project and Trans Mountain has
372 satisfied the relevant conditions of the order.

⁹⁷ Report of the Joint Review Panel Report for the Enbridge Northern Gateway Project - Volume 2 (December 19, 2013) ([A3S7C6](#)), 9.

⁹⁸ Exhibit A16-1 - National Energy Board - Letter to Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Completeness Determination and Legislated Time Limit (April 3, 2014) ([A3V6H7](#)), 2; Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 35.

⁹⁹ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 14, 452.

¹⁰⁰ Exhibit C25-5-1 - BC Wildlife Federation - BCWF WAIC FINAL (January 12, 2016) ([A4X4T5](#)) 4, 27.

¹⁰¹ Exhibit C187-20-2 - Katzie First Nation - Final Argument (January 12, 2016) ([A4X4E4](#)), 34-35.

373 The early works submitted for approval are consistent with works that have been previously
374 approved by the Board under section 58.¹⁰² Trans Mountain will incorporate any input that is
375 received from Katzie prior to construction, including traditional land use information, into Project
376 planning for the early works. Any traditional land use information that was not provided during
377 the hearing will also be included in an investigation report to the Board prior to construction in
378 accordance with NEB Draft Condition No. 84.¹⁰³

379 The only differences between activities approved under section 58 versus section 52 are that
380 section 58: (i) allows activities to commence earlier following satisfaction of any section 58 Order
381 conditions; and (ii) exempts activities from the detailed route process. Trans Mountain submits
382 that its section 58 request is appropriate and should be approved by the Board, given that there are
383 no unaddressed concerns regarding the timing of the early works or their detailed location.

384 **2.3 CEEA 2012**

385 **2.3.1 Precautionary Principle**

386 Several parties provided their views on how the Board must interpret its public interest mandate
387 in accordance with the precautionary principle (the “Precautionary Principle”).¹⁰⁴ It was argued

¹⁰² NEB - Reasons for Decision - Emera Brunswick Pipeline Company Ltd. - GH-1-2006 (May 2007), 10; NEB - Reasons for Decision - Sumas Energy 2, Inc. - EH-1-2000 (March 2004), 9; NEB - NEB Report - NOVA Gas Transmission Ltd. - GH-001-2014 (April 2015) ([A4K5R6](#)), 180.

¹⁰³ Exhibit A199 - National Energy Board - Procedural Direction No. 17 - Draft conditions for comment (August 12, 2015) ([A4S1G2](#)), 34.

¹⁰⁴ Exhibit C41-13-2 - Burnaby Residents Opposing Kinder Morgan Expansion - BROKE Written Argument-in-Chief (January 12, 2016) ([A4X4Z7](#)), 31; Exhibit C24-19-2 - BC Nature and Nature Canada - Written Argument-in-Chief (January 12, 2016) ([A4X5A0](#)), 24; Exhibit C86-33-1 - Cowichan Tribes - Cowichan Written Argument (January 12, 2016) ([A4X5E2](#)), 4; Exhibit C214-40-1 - Living Oceans Society and Raincoast Conservation Foundation - Final Argument (January 12, 2016) ([A4X5C0](#)), 7; Exhibit C277-6-1 - Pauquachin First Nation - Final Argument (January 12, 2016) ([A4X4F8](#)), 7; Exhibit C288-36-1 - Pro Information Pro Environment United People Network - Written Submissions (Pipeup) (January 12, 2016) ([A4X5A8](#)), 6, 9-10, 12-13; Exhibit C363-42-1 - Upper Nicola Band - Final Written Submissions (January 12, 2016) ([A4X5V5](#)), 10; Exhibit C308-8-1 - Scia'new First Nation - Final Argument (January 11, 2016) ([A4X3Z8](#)), 11; Exhibit C329-3-1 - Strata NW313 - Final Argument (January 12, 2016) ([A4X5S8](#)), 19; Exhibit C358-30-2 - Tseilil-Waututh Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4V2](#)); Exhibit C355-38-1 - Tsawout First Nation - Final Written

388 that the Board must ensure that any uncertainties in relation to certain impacts are resolved, and
389 thoroughly answered, prior to project approval.¹⁰⁵ This is not an accurate application of the
390 Precautionary Principle.

391 Under the CEAA 2012, a responsible authority must ensure that projects are considered in a careful
392 and precautionary manner and exercise their powers in a manner that applies the Precautionary
393 Principle.¹⁰⁶

394 The Precautionary Principle does not provide that uncertainties must be resolved before a project
395 can be approved. Pro Information Pro Environment United People Network (“PIPE UP”) correctly
396 stated that the Precautionary Principle is not to be understood as a bar to economic development
397 in the face of uncertainty or risk.¹⁰⁷ Yet, the lack of complete scientific certainty is not to be used
398 as a basis for avoiding measures to protect the environment.¹⁰⁸ It has been well established that
399 through decades of environmental decision-making, the principles embedded in the CEAA 2012
400 require the Board to err on the side of caution in the case of uncertainty and endeavour to take a
401 less risky path where there is both doubt and high uncertainty.¹⁰⁹

Submissions (January 12, 2016) ([A4X5W3](#)), 98; Exhibit C336-11-2 - Swinomish, Tulalip, Suquamish, and Lummi Indian Nations - US Tribes Final Written Argument (January 12, 2016) ([A4X4I0](#)), 45-47.

¹⁰⁵ Exhibit C214-40-1 - Living Oceans Society and Raincoast Conservation Foundation - Final Argument (January 12, 2016) ([A4X5C0](#)), 7.

¹⁰⁶ CEAA 2012, s 4.

¹⁰⁷ Exhibit C288-36-1 - Pro Information Pro Environment United People Network - Written Submissions (Pipeup) (January 12, 2016) ([A4X5A8](#)), 6.

¹⁰⁸ *Morton v Canada (Fisheries and Oceans)*, 2015 FC 575 at para 43.

¹⁰⁹ Report of the Joint Review Panel for Lower Churchill Falls Hydroelectric Generation Project (August 2011), 13; Report of the Joint Review Panel for the Mackenzie Gas Project - Volume 1 (December 30, 2009), 93-94; Report of the Joint Review Panel for the Jackpine Mine Expansion Project (July 9, 2013), 3, 105.

402 The legal test under the CEAA 2012 for determining whether a project as a whole is likely to cause
403 significant adverse environmental effects is conjunctive and requires the NEB to analyze:

- 404 (a) Whether there is an effect on the environment caused by the Project?
405 (b) If so, whether the effect would be adverse?
406 (c) If so, whether that adverse effect is significant after considering the mitigation
407 measures that address the adverse effect?
408 (d) If so, whether the significant adverse environmental effect is “likely” to occur?¹¹⁰

409 Ultimately, the Board’s recommendation must reflect a precautionary approach to assessing
410 significant adverse environmental effects.

411 The JRP for the Mackenzie Gas Project accepted that precaution was required in its assessment. It
412 stated that uncertainty is an explicit factor in significance determinations and, therefore, a greater
413 emphasis must be placed on monitoring and adaptive management.¹¹¹

414 In Northern Gateway, the JRP’s report and recommendation were guided by the following five
415 principles: (1) precaution is an element of risk detection, risk reduction and risk management; (2)
416 precautionary mitigation should be based on scientific and technical information made available
417 and tested through a public hearing process; (3) precaution is appropriate when potential
418 environmental effects are difficult to predict accurately due to natural variability and incomplete
419 knowledge of natural processes; (4) continuing community engagement and follow-up
420 environmental monitoring can help to reduce scientific uncertainty and unnecessary precaution,

¹¹⁰ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 56-57; *Bow Valley Naturalists Society v Canada (Minister of Canadian Heritage)*, [2001] 2 FC 461 at para 49.

¹¹¹ Report of the Joint Review Panel for the Mackenzie Gas Project - Volume 1 (December 2009), 94.

421 over time; and (5) a public and transparent assessment process improves the quality of a
422 precautionary approach.¹¹²

423 The Application and proposed mitigation is consistent with the Precautionary Principle. The
424 Application's risk-based design process was informed by a robust risk assessment to identify and
425 mitigate high-risk portions of the design.¹¹³ Trans Mountain assessed any residual effects, however
426 small, and this assessment informed mitigation measures.¹¹⁴ Examples of typical risk mitigation
427 strategies include: the mitigation of third party damage through increased depth of cover; increased
428 wall thickness or pipeline markers; mitigation of environmental consequences through the
429 refinement of valve placement; and the mitigation of geotechnical threats through threat
430 avoidance.¹¹⁵ Trans Mountain has proposed mitigation measure despite uncertainties, which is the
431 exact approach suggested by the Precautionary Principle. There are also several conditions
432 proposed by the Board which are consistent with the Precautionary Principle, including: NEB
433 Draft Condition No. 78 (Updates under the *Species at Risk Act*); NEB Draft Condition No. 119
434 (Emergency Preparedness and Response Exercise and Training Program); and NEB Draft
435 Condition No. 125 (SCADA and leak detection system design).¹¹⁶ Trans Mountain's approach to
436 risk-based design, mitigation measures and the Board's conditions satisfy the requirement in
437 section 4 of the CEAA 2012 that projects are considered in a careful and precautionary manner.

¹¹² Report of the Joint Review Panel for the Enbridge Northern Gateway Project - Volume 2 (December 19, 2013) ([A3S7C6](#)), 5.

¹¹³ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 167.

¹¹⁴ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 65.

¹¹⁵ Exhibit B417-2 - Trans Mountain Reply Evidence, Section 10 - Pipeline System & Engineering Design (August 20, 2015) ([A4S7E9](#)), 10-2.

¹¹⁶ Exhibit A199 - National Energy Board - Procedural Direction No. 17 - Draft conditions for comment (August 12, 2015) ([A4S1G2](#)), 32, 48, 52.

438 **2.3.2 Justification**

439 If the NEB determines that the Project is likely to cause significant adverse environmental effects,
440 it must refer the matter of whether those effects are justified in the circumstances in accordance
441 with section 52(2) of the CEEA 2012 to the Governor in Council.¹¹⁷

442 In this section, Trans Mountain responds to intervenors who asserted that: (i) it is not the role of
443 the Board to analyze whether any significant adverse effects are justified under the circumstances;
444 (ii) the Board should apply a different legal test for justification; and (iii) the significant adverse
445 environmental effects of the Project are not justified.¹¹⁸

446 *Justification of Significant Adverse Environmental Effects*

447 Shackan Indian Band (“Shackan”) argued that the Board lacks the jurisdiction under the CEEA
448 2012 to analyze whether any significant adverse effects are justified in the circumstances. In
449 Shackan’s view, “[i]t is not the role of the National Energy Board in the context of an
450 environmental assessment to conduct the sort of cost-benefit analysis that a justification decision
451 would entail.”¹¹⁹

452 Trans Mountain agrees that the ultimate decision with respect to justification rests with the
453 Governor in Council. However, previous decisions confirm that the Board can, and must,
454 recommend whether any significant adverse effects are justified.¹²⁰ As the guardian of the public

¹¹⁷ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 56-57; *Bow Valley Naturalists Society v Canada (Minister of Canadian Heritage)*, [2001] 2 FC 461 at para 49.

¹¹⁸ Exhibit C310-6-1 - Shackan Indian Band - Written Argument (January 12, 2016) ([A4X5E4](#)); Exhibit C24-19-2 - BC Nature and Nature Canada - Written Argument-in-Chief (January 12, 2016) ([A4X5A0](#)); Exhibit C214-40-1 - Living Oceans Society and Raincoast Conservation Foundation - Final Argument (January 12, 2016) ([A4X5C0](#)).

¹¹⁹ Exhibit C310-6-1 - Shackan Indian Band - Written Argument (January 12, 2016) ([A4X5E4](#)), 11-12.

¹²⁰ Report of the Joint Review Panel for the Enbridge Northern Gateway Project - Volume 2 (December 19, 2013) ([A3S7C6](#)), 169; CEEA 2012, s. 31(1)(a); NEB - NEB Report - NOVA Gas Transmission Ltd. - GH-001-2014 (April 2015), 113; NEB - NEB Report - Wolverine River Lateral Loop (Carmon Creek Section) Project - GH-003-2014 (March 5, 2015) 38.

455 interest and the arbiter of the evidence, the Board is best placed to recommend to the Governor in
456 Council whether significant adverse effects are justified based on the evidence and its expertise. It
457 would be inconsistent with past practice for the Board to deprive the Governor in Council of its
458 expert recommendation.

459 Legal Framework for Justification

460 BC Nature and Nature Canada suggested a “justification framework” for the Board based on the
461 JRP Reports for Whites Point Quarry and Marine Terminal Project, Kemess North Copper-Gold
462 Mine Project and Lower Churchill Hydroelectric Generation Project.¹²¹ Their main contention was
463 that a justification recommendation needs to be based on whether the Project results in a net
464 positive contribution to sustainable development.¹²² A close examination shows that these JRP
465 Reports are unreliable and distinguishable.

466 Trans Mountain submits that it would be legally incorrect for the Board to adopt a novel
467 justification or sustainability framework as proposed by the intervenors. It is important for the
468 Board to be cognizant of the material factual differences and legal deficiencies in the cases cited
469 by BC Nature, as detailed below.

470 The JRP Report in Whites Point Quarry should be not relied on by the Board. The JRP
471 recommended against approval of the project because significant adverse environmental effects
472 on “community core values” were not justified in the circumstances.¹²³ On review, other

¹²¹ Exhibit C24-19-2 - BC Nature and Nature Canada - Written Argument-in-Chief (January 12, 2016) ([A4X5A0](#)), 22-25.

¹²² Exhibit C24-19-2 - BC Nature and Nature Canada - Written Argument-in-Chief (January 12, 2016) ([A4X5A0](#)), 22-25.

¹²³ Report of the Joint Review Panel for the Whites Point Quarry and Marine Terminal Project (October 2007), 14; “Community core values” were described as “shared beliefs by individuals within groups, and constitute defining features of communities”.

473 adjudicators found that the JRP's use of "community core values" as the decisive and overriding
474 consideration ignored scientific and environmental evidence, imposed arbitrary requirements
475 unrelated to the quarry and was inconsistent with the Panel's mandate. On March 17, 2015, the
476 Permanent Court of Arbitration found that federal government's decision and reliance on the JRP
477 Report was in breach of NAFTA. The JRP, by its own acknowledgment,¹²⁴ adopted an
478 unprecedented approach. The standard applied by the JRP was not found in Canadian law and,
479 therefore, constituted a clear violation of the rule of law and fairness since the proponent had no
480 opportunity to make a case based on this criterion.¹²⁵ Whites Point Quarry has not been relied on
481 in Canada and the serious shortcomings in the JRP's analysis, in addition to the fact that the
482 decision is currently entangled in litigation,¹²⁶ are proof that it should not be relied on by the Board
483 in this case.

484 The decision in Kemess North is also not a useful precedent for justifying significant adverse
485 effects. The JRP did not find that that the project would result in significant adverse environmental
486 effects and did not discuss justification.¹²⁷ The JRP created a sustainability framework from
487 mining sector sustainability initiatives and the Province of B.C.'s 2005 Mining Plan, which called
488 for mining developments to provide for environmental stewardship, economic growth and social
489 progress in a balanced way.¹²⁸ The JRP proceeded to use its sustainability framework to conclude

¹²⁴ *William Ralph Clayton, William Richard Clayton, Douglas Clayton, Daniel Clayton and Bilcon of Delaware, Inc. v Government of Canada* (2015) Case 2009-04 (Permanent Court of Arbitration) (Arbitrators: Judge Bruno Simma, Professor Donald McRae, Professor Bryan Schwartz), 450.

¹²⁵ *William Ralph Clayton, William Richard Clayton, Douglas Clayton, Daniel Clayton and Bilcon of Delaware, Inc. v Government of Canada* (2015) Case 2009-04 (Permanent Court of Arbitration) (Arbitrators: Judge Bruno Simma, Professor Donald McRae, Professor Bryan Schwartz), 450-454, 475-487, 504-534.

¹²⁶ *AGC v William Ralph Clayton et al*, Federal Court of Appeal Number: T-1000-15.

¹²⁷ Report of the Joint Review Panel for the Kemess North Cooper-Gold Mine Project (September 17, 2007), 54-55.

¹²⁸ Report of the Joint Review Panel for the Kemess North Cooper-Gold Mine Project (September 17, 2007), 234.

490 that the project was not in the public interest¹²⁹ despite the fact it was beyond the Panel's mandate
491 under its Terms of Reference and the former *Canadian Environmental Assessment Act*¹³⁰
492 ("CEAA").

493 The sustainability framework from Kemess North has not been adopted by other panels. Moreover,
494 the facts indicate that approving the mine as proposed would not be consistent with the principles
495 of sustainable development.¹³¹ The JRP was required to complete the hearing for the project within
496 45 days, and submit its final report 60 days, from the close of the hearing.¹³² It found that the
497 project would leave a legacy of permanent impacts and prolonged, ongoing site maintenance with
498 no long-term oversight in return for a short-mine life and marginal economic benefits.¹³³ The
499 project also exhibited great vulnerability to the volatility of the markets and the risk of premature
500 closure was real.¹³⁴

501 In contrast, the TMEP has been subject to a rigorous regulatory review and meets sustainable
502 development objectives. The evidence shows that the Project will provide long-term access to
503 markets for Canadian resources produced by an industry that is subject to comprehensive
504 regulation. The JRP's concerns in Kemess North have no relevance to the Project.

505 Similarly, the JRP's mandate for the Lower Churchill Project stopped at determining significant
506 adverse environmental effects and recommending mitigation measures.¹³⁵ However, the Panel

¹²⁹ Report of the Joint Review Panel for the Kemess North Cooper-Gold Mine Project (September 17, 2007), 274-275.

¹³⁰ SC 1992, c 37 [CEAA].

¹³¹ See CEAA, s 4(1)(b); CEAA 2012, s 4(1)(h).

¹³² Report of the Joint Review Panel for the Kemess North Cooper-Gold Mine Project (September 17, 2007), 275.

¹³³ Report of the Joint Review Panel for the Kemess North Cooper-Gold Mine Project (September 17, 2007), 240.

¹³⁴ Report of the Joint Review Panel for the Kemess North Cooper-Gold Mine Project (September 17, 2007), 237.

¹³⁵ Report of the Joint Review Panel for the Lower Churchill Falls Hydroelectric Project (August 25, 2011), 308-309.

507 proceeded to develop a sustainability framework and a “net contribution to sustainability” test for
508 determining whether the significant adverse environmental effects of the project were justified.
509 The Panel’s stated intention was that the government decision-makers would “find it useful” in
510 reaching their final decisions on the project.¹³⁶ The Governor in Council did not find this
511 sustainability framework useful and did not adopt it. Instead, the Governor in Council determined
512 that the significant adverse environmental effects were outweighed and justified by the significant
513 energy, economic, socio-economic and environmental benefits.¹³⁷ The provincial government
514 ignored the framework completely.¹³⁸

515 A sustainability framework that was created without jurisdiction and rejected by two levels of
516 government is not helpful to the Board’s justification analysis in this case. Trans Mountain submits
517 that the Board should look to the justification analysis included in the Governor in Council’s
518 decision on the Lower Churchill Project, which Trans Mountain submits is consistent with the
519 approach in *Bow Valley Naturalists Society v Canada (Minister of Canadian Heritage)*.¹³⁹

520 Sustainable development is an objective of the CEEA 2012.¹⁴⁰ In Final Argument, Trans Mountain
521 recognized that environmental assessments promote sustainable development by integrating
522 environmental considerations into planning and decision-making.¹⁴¹ The ESA considered the
523 environmental and socio-economics effects of the Project in detail and informed Project-specific
524 mitigation measures to minimize any effects. The NEB’s mandate is to promote safety, security,

¹³⁶ Report of the Joint Review Panel for the Lower Churchill Falls Hydroelectric Project (August 25, 2011), 14, 270.

¹³⁷ Government of Canada Response to the Report of the Joint Federal-Provincial Review Panel for Nalcor’s Lower Churchill Generation Project in Newfoundland and Labrador (2012), 6.

¹³⁸ Government of Newfoundland and Labrador’s Response to the Report of the Joint Review Panel for Nalcor Energy’s Lower Churchill Hydroelectric Generation Project (2012).

¹³⁹ *Bow Valley Naturalists Society v Canada (Minister of Canadian Heritage)*, [2001] 2 FC 461 at para 17.

¹⁴⁰ CEEA 2012, s 4(1)(h).

¹⁴¹ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 219.

525 and enhance economic efficiency for the regulation of pipelines, energy development and trade in
526 the Canadian public interest.¹⁴² This is consistent with the sustainability objective of the CEAA
527 2012.

528 There are more relevant and analogous decisions than those cited by BC Nature to inform the
529 Board's justification analysis. The federal and provincial governments' response to the Mackenzie
530 Gas Project JRP Report considered both the requirements under the *Mackenzie Valley Resource*
531 *Management Act*¹⁴³ and the CEAA. The response focused on the JRP's recommendations and
532 concluded that implementing them, as specified, would eliminate or mitigate any significant
533 adverse impacts of the pipeline.¹⁴⁴

534 As indicated above, the Government of Canada followed a similar approach in approving the
535 Lower Churchill Project. In considering whether the significant adverse effects of the Project could
536 be justified, Cabinet took a broad approach and accounted for the Panel's findings on
537 environmental effects, the proponent's commitments, mitigation measures and overall benefits, as
538 well as additional economic analyses identifying risks and uncertainties. The conclusion was that
539 the project yielded substantial benefits that outweighed the adverse environmental effects.¹⁴⁵

540 The Site C Clean Energy Project ("Site C") replaced portions of the Peace River, causing
541 significant adverse effects and significant cumulative effects on a number of environmental, socio-
542 economic and Aboriginal factors in an area that is already subject to such effects. The Governor

¹⁴² NEB Report on Plans and Priorities, Released 2015-16.

¹⁴³ SC 1998, c 25.

¹⁴⁴ Governments of Canada & of the Northwest Territories Final Response to the Joint Review Panel Report for the Proposed Mackenzie Gas Project (November 2010), 2-5.

¹⁴⁵ Government of Canada Response to the Report of the Joint Federal-Provincial Review Panel for Nalcor's Lower Churchill Generation Project in Newfoundland and Labrador (2012), 5-7.

543 in Council justified the significant adverse environmental effects and cumulative effects of Site C
544 based on project-related benefits for the region and the country.¹⁴⁶

545 The Northern Gateway JRP decision is highly relevant since the focus is on another pipeline
546 project considered under the transition provisions of the CEEA 2012. The JRP found that the
547 proponent's mitigations and commitments, along with the Board's conditions, provided a
548 justifiable way to properly manage significant adverse environmental effects on the grizzly bear
549 and boreal woodland caribou.¹⁴⁷ The Governor in Council agreed with this conclusion after
550 considering the Panel's report, together with the proposed conditions proposed.¹⁴⁸

551 As evidenced by the jurisprudence, justification is a contextual analysis that must accommodate
552 the particular economic, environmental and social circumstances of each project. The
553 sustainability framework proposed by the intervenors has no support in the law under the NEB Act
554 or the CEEA 2012 in decisions for pipeline projects, or under the relevant framework developed
555 in *Bow Valley Naturalists Society v Canada (Minister of Canadian Heritage)*.¹⁴⁹

556 *Justification of Significant Adverse Environmental Effects*

557 Living Oceans Society and Raincoast Conservation Foundation ("Living Oceans") and other
558 intervenors argued for a justification analysis which requires the Board to conclude that the

¹⁴⁶ Government of Canada's Decision on the Environmental Assessment of the Site C Clean Energy Project (October 14, 2014).

¹⁴⁷ Report of the Joint Review Panel for the Enbridge Northern Gateway Project - Volume 2 (December 19, 2013) ([A3S7C6](#)), 262.

¹⁴⁸ Decision Statement Issued under Section 54 of the *Canadian Environmental Assessment Act, 2012* and Paragraph 104(4)(b) of the *Jobs, Growth and Long-term Prosperity Act* (June 17, 2014).

¹⁴⁹ [2001] 2 FC 461 at para 17.

559 significant adverse environmental effects are not justified.¹⁵⁰ Living Oceans submitted that the
560 Board should ignore the context on which impacts are predicated in its justification analysis.¹⁵¹

561 Justification involves a balancing of any significant adverse environmental effects against social,
562 economic and other project-induced benefits.¹⁵² The CEAA 2012 recognizes that project-induced
563 adverse environmental effects can be justified.¹⁵³ Whether an adverse effect is justified involves a
564 determination of whether any likely significant adverse environmental effect is to be ultimately
565 considered insignificant relative to social, economic and other project-induced benefits.¹⁵⁴

566 Trans Mountain disagrees with Living Oceans' submission that the Board's justification analysis
567 should ignore the factors set out in Final Argument regarding the specific context of the Project,
568 including the existing marine shipping environment.¹⁵⁵ The goal of an environmental assessment
569 is to ensure the integration of environmental factors into planning and decision-making processes
570 in order to promote sustainable development in a coordinated manner.¹⁵⁶ The only significant
571 adverse effect identified by Trans Mountain's ESA is the potential effect of sensory disturbance

¹⁵⁰ Exhibit C214-40-1 - Living Oceans Society and Raincoast Conservation Foundation - Final Argument (January 12, 2016) ([A4X5C0](#)), 93; Exhibit C24-19-2 - BC Nature and Nature Canada - Written Argument-in-Chief (January 12, 2016) ([A4X5A0](#)), 31.

¹⁵¹ Exhibit C214-40-1 - Living Oceans Society and Raincoast Conservation Foundation - Final Argument (January 12, 2016) ([A4X5C0](#)), 93; For Trans Mountain's responses to Living Oceans' assertions regarding environmental effects and mitigation measures, refer to Trans Mountain's response to Living Oceans' assertions in Section 4 - Environmental and Socio-Economic Assessment.

¹⁵² Report of the Joint Review Panel for Lower Churchill Falls Hydroelectric Generation Project (August 2011), xii; Report of the Joint Review Panel for the Enbridge Northern Gateway Project - Volume 2 (December 19, 2013) ([A3S7C6](#)), 13; Report of the Joint Review Panel for the Mackenzie Gas Project - Volume 1 (December 30, 2009), 105-106.

¹⁵³ CEAA 2012, s 31(1)(a)(ii).

¹⁵⁴ Government of Canada Response to the Report of the Joint Federal-Provincial Review Panel for Nalcor's Lower Churchill Generation Project in Newfoundland and Labrador (2012), 6; Government of Canada's Decision on the Environmental Assessment of the Site C Clean Energy Project (October 14, 2014), 5-6.

¹⁵⁵ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 310-311; Exhibit C214-40-1 - Living Oceans Society and Raincoast Conservation Foundation - Final Argument (January 12, 2016) ([A4X5C0](#)), 92-93.

¹⁵⁶ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 52-53.

572 on the southern resident killer whale. Neither Trans Mountain nor the NEB has direct control over
573 marine vessel activity within the southern resident killer whale critical habitat. Shipping lanes are
574 well established, used by numerous vessels and regulated by Transport Canada. The PMV,
575 Canada's largest port, will continue to host marine vessel traffic. As a result, the impacts on the
576 southern resident killer whale population assessed as part of the Application are occurring
577 regardless of whether the Project is approved and are issues that must be addressed by all users.¹⁵⁷

578 Ignoring the context of the Project would unnecessarily turn the Board's justification analysis into
579 a hypothetical exercise that disregards all existing impacts. This approach is nonsensical and would
580 be contrary to established precedent that dismisses the consideration of purely hypothetical
581 environmental effects. The Board's justification recommendation is a discretionary exercise that
582 may account for a variety of factors, including the need for the project and a null alternative.¹⁵⁸

583 The JRP for the Cheviot Coal Project concluded that significant adverse environmental effects
584 could be justified in terms of the project as a whole.¹⁵⁹ Other cases show that existing context and
585 incremental impacts are relevant to the justification analysis:

586 (a) The JRP for Lower Churchill concluded that the Red Wine Mountain Caribou herd
587 was jeopardized with or without the project due to past and present human
588 activities. The Panel recommended that: (i) the government ensure that recovery
589 efforts for the Red Wine herd would not be compromised by the approval of the

¹⁵⁷ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 65-66.

¹⁵⁸ NEB - Reasons for Decision - Emera Brunswick Pipelines Company Ltd. - GH-1-2006 (May 2007), 165; Report of the Joint Review Panel for the Mackenzie Gas Project - Volume 2 (December 30, 2009), 612, 614.

¹⁵⁹ Report of the Joint Review Panel for the Cheviot Coal Project (August 2000), 10.

590 project; and (ii) the proponent play an enhanced role in the recovery process by,
591 *inter alia*, contributing resources and participating in research efforts.¹⁶⁰

592 (b) The JRP for the Site C identified that the project area was already experiencing
593 “enormous stress” from development that would continue to exist in the future
594 without the project and factored this into its significance determination. In its
595 ultimate determination, Cabinet found that cumulative significant adverse effects
596 were justified by project benefits.¹⁶¹

597 (c) In its decision on Shell Canada’s proposed development in the Castle River area,
598 the Alberta Energy and Utilities Board (“AEUB”) agreed that the significant
599 ecological values of the region had to some degree been compromised by existing
600 human activities. However, the development posed a small incremental effect on
601 regional wildlife populations and the AEUB accepted that these effects were not
602 sufficiently large so as to outweigh the other public benefits arising from the
603 development.¹⁶²

604 (d) The JRP for Northern Gateway recognized that the impacts of the pipeline were not
605 unique. The linear density effects of other projects were already responsible for
606 significant effects on the boreal woodland caribou and the Bulkley-Lake Grizzly
607 Bear Population Unit in certain areas. In recommending that the significant adverse
608 effects were justified, the Panel trusted the proponent’s substantial commitments to

¹⁶⁰ Report of the Joint Review Panel for Lower Churchill Falls Hydroelectric Generation Project (August 2011), 109, 117.

¹⁶¹ Report of the Joint Review Panel for the Site C Clean Energy Project (May 1, 2014), iv-v.

¹⁶² Alberta Energy and Utilities Board - Shell Canada Ltd. - Decision 2000-17 (March 2000), 9-10.

609 reduce project-related impacts, engage in collaborative monitoring efforts and
610 develop adaptive management measures.¹⁶³

611 Even without the Project, the issues in question will still occur due to existing marine vessel traffic.
612 Trans Mountain submits that the Board has the discretion to consider the existing context of marine
613 shipping in its justification analysis.¹⁶⁴

614 Living Oceans' conclusion that there can be no justification for significant adverse environmental
615 effects, given the impacts of the Project, is without basis. In its analysis, Living Oceans failed to
616 consider the numerous benefits of the Project. Living Oceans' logic disregards the fact that more
617 information is needed to support the recovery of the southern resident killer whale. Looking at the
618 complete picture, what is relevant to the Board's justification determination is that Trans Mountain
619 has:

- 620 (a) engaged with Ocean Networks, which is participating in the International Quiet
621 Ocean Experiment to learn what noise levels large mammals can tolerate and how
622 marine noise affects their behaviour;¹⁶⁵
- 623 (b) entered into a funding agreement with Vancouver Fraser Port Authority to
624 contribute \$1.6 million to PMV's ECHO Program, which seeks to better understand
625 and manage potential effects on cetaceans, including whales, resulting from
626 commercial vessel activities throughout the southern coast of B.C.;¹⁶⁶ and

¹⁶³ Report of the Joint Review Panel for the Enbridge Northern Gateway Project - Volume 2 (December 19, 2013) ([A3S7C6](#)), 211-212, 216.

¹⁶⁴ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 310-311.

¹⁶⁵ Exhibit B32-2 - Trans Mountain Response to NEB IR No. 1 (May 14, 2014) ([A3W9H8](#)), 328.

¹⁶⁶ Exhibit B417-4 - Trans Mountain Reply Evidence, Section 51 - Environmental Monitoring (August 20, 2015) ([A4S7F1](#)), section 51-1.

627 (c) committed to develop a comprehensive Marine Public Outreach Program and
628 Marine Mammal Protection Plan in accordance with NEB Draft Condition
629 No. 128.¹⁶⁷

630 In summary, Living Oceans' proposed justification analysis unreasonably ignores the context and
631 benefits of the Project and arrives at the wrong conclusion. Trans Mountain's evidence and
632 commitments to cooperate and support the industry wide program regarding the southern resident
633 killer whale, and the benefits of the Project identified above, support a conclusion by the Board
634 that the significant adverse environmental effects predicted within this context is clearly justified,
635 and are likely to be mitigated to the extent possible, in the circumstances.

636 **2.4 Species at Risk Act**

637 Indicator Species

638 BC Nature and Nature Canada asserted that there is insufficient information on the record for the
639 NEB to adequately assess whether the Project is likely to affect marine bird species listed under
640 the *Species at Risk Act*¹⁶⁸ ("SARA").¹⁶⁹ Trans Mountain submits that this is incorrect.

641 Section 74 of the SARA requires an authorization to engage in an activity affecting a listed wildlife
642 species or any part of its critical habitat. Trans Mountain will implement mitigation measures,
643 informed by multi-year field surveys, to avoid or reduce the Project's potential effects on species

¹⁶⁷ Exhibit A199 - National Energy Board - Procedural Direction No. 17 - Draft conditions for comment (August 12, 2015) ([A4S1G2](#)).

¹⁶⁸ SC 2002, c 29 [SARA].

¹⁶⁹ Exhibit C24-19-2 - BC Nature and Nature Canada - Written Argument-in-Chief (January 12, 2016) ([A4X5A0](#)), 20-22.

644 at risk. The ESA focused on indicator species and then inferred that similar results would occur
645 for other species with similar ecological requirements.¹⁷⁰

646 Trans Mountain's use of an indicator-based approach is a commonly-employed and accepted
647 method in environmental assessments for section 52 and section 58 applications.¹⁷¹ For example,
648 Enbridge selected five indicator species out of approximately fourteen federally-designated
649 species to evaluate the environmental effects of the Edmonton to Hardisty Pipeline Project.¹⁷²
650 Similarly, TransCanada Pipelines chose several bird species or groups of bird species as key
651 indicator resources to analyze the effects of the Keystone Pipeline.¹⁷³ Species not assessed
652 individually were addressed by a representative species assessment.

653 The purpose is not to be all inclusive, but to look at potential project effects on representative
654 components. The JRP in Northern Gateway confirmed that using species at risk as key indicator
655 species introduces conservatism to the environmental assessment and is scientifically
656 defensible.¹⁷⁴ Trans Mountain submits that its study has exceeded the detail upon which other
657 panels have considered species at risk issues, following an indicator-based approach.¹⁷⁵ The
658 habitats and effective mitigation measures along the Project's corridor are well known to Trans

¹⁷⁰ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 211-224.

¹⁷¹ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 223-226; Report of the Joint Review Panel for the Enbridge Northern Gateway Project - Volume 2 (December 19, 2013) ([A3S7C6](#)); NEB - NEB Report - Enbridge Pipelines Inc. Edmonton to Hardisty Pipeline Project - OH-001-2013 (January 2014); NEB - Reasons for Decision - NOVA Gas Transmission Ltd - GH-2-2011 (February 2012); See also NOVA Gas Transmission Ltd. Sunday Creek South Lateral Loop No. 3 Pipeline Project.

¹⁷² Exhibit B2-5 - Enbridge Pipelines Inc. - Edmonton to Hardisty Pipeline Project - ESA, Section 6 - Environmental and Socio-Economic Effects Assessment (December 14, 2012) ([A3E2Y0](#)), 6-122 - 6-134.

¹⁷³ Exhibit B-2p - TransCanada Keystone Pipeline GP Ltd. - Keystone Pipeline Project - Wildlife (December 12, 2012) ([A0X2J3](#)), 9-5.

¹⁷⁴ Report of the Joint Review Panel for the Enbridge Northern Gateway Project - Volume 2 (December 19, 2013) ([A3S7C6](#)), 185.

¹⁷⁵ Report of the Joint Review Panel for the Jackpine Mine Expansion Project (July 9, 2013); Report of the Federal Review Panel for New Prosperity Gold-Copper Mine Project (October 31, 2013); NEB - Reasons for Decision - TransCanada

659 Mountain—the TMPL has been operating for more than 60 years along most of the very same
660 route.

661 The marine bird indicators presented in the Application are appropriate and in line with
662 methodology used in past projects for assessing potential effects on both species at risk and species
663 not at risk. The Board has sufficient information to identify Project effects on other SARA-listed
664 marine birds based on the information from Trans Mountain’s assessment on key indicator species.
665 As the Project evolves, ongoing discussions with regulators, Aboriginal groups and other
666 stakeholders will refine and optimize mitigation measures and plans for species at risk on a site-
667 specific basis. This is a long-accepted and effective method to address specific impacts on species.

668 Legal Obligations Under Section 79 of the SARA

669 Living Oceans argued that the provisions of the SARA and its purposes make it clear that measures
670 need to be taken to avoid or lessen effects on listed species.¹⁷⁶ As such, they submit there is no
671 way for the Board to legally recommend approval of the Project because: (i) vessel traffic from
672 the Project contributes to the existing situation of the southern resident killer whale; and (ii) there
673 is no current mitigation technology to avoid or mitigate Project-specific effects.¹⁷⁷

674 The intervenor’s interpretation of the SARA is inconsistent with environmental assessment
675 jurisprudence. Canadian courts have held that, while further studies and surveys of endangered
676 species do not constitute mitigation measures, recommendations for future collaborative research
677 and habitat mitigation strategies are meant to be mitigation measures.¹⁷⁸ This approach has been

¹⁷⁶ Hearing transcript Vol. 32 (January 26, 2016) at lines 16846-16893.

¹⁷⁷ Exhibit C214-40-1 - Final Argument of Living Oceans Society and Raincoast Conservation Foundation (January 12, 2016) ([A4X5C0](#)), 6-7, 78, 94-96.

¹⁷⁸ *Pembina Institute for Appropriate Development v Canada (Attorney General)*, 2008 FC 302 at para 68; *Alberta Wilderness Assn v Express Pipelines Ltd*, [1996] FCJ No 1016 (FCA) at para 14 (QL).

678 found to be reasonable and consistent with the dynamic nature of the environmental assessment
679 process.¹⁷⁹ NEB Draft Conditions Nos. 126 and 128 are directly in line with what is reasonable
680 under the circumstances.

681 Further, the intervenor's interpretation of the legal framework is incorrect. The stressors affecting
682 the southern resident killer whale population will exist with or without the Project. If applied to all
683 marine vessels, the test advanced by Living Oceans would lead to absurd results. Taken to its
684 logical conclusion, the test would lead to a moratorium on all marine vessel traffic in and out of
685 PMV, or a declaration that the authorizations issued by PMV and Transport Canada for existing
686 vessel traffic using existing shipping lanes are in breach of the SARA. This is a legally incorrect
687 and unreasonable conclusion.

688 Applying Living Oceans' request to the TMEP alone would be contrary to the basic legal principle
689 of equality under the law—the general natural justice requirement that the law must apply equally
690 to those who are the same.¹⁸⁰ Third party tankers would be prevented from calling on the Westridge
691 Marine Terminal for the TMEP but existing and future marine traffic in PMV using the same
692 shipping lanes would face no such restrictions. Living Oceans' proposed interpretation of the
693 SARA is nonsensical because, followed to its logical conclusion, the SARA would be void. The
694 solution to mitigating cumulative stressors on the southern resident killer whales is industry wide,
695 not Project-specific.¹⁸¹ In accordance with section 79(2) of the SARA, Trans Mountain is
696 committed to being part of the team that creates measures that will aid the recovery strategy for
697 the southern resident killer whale. The results of the initiatives described above in this reply and

¹⁷⁹ *Pembina Institute for Appropriate Development v Canada (Attorney General)*, 2008 FC 302 at para 69.

¹⁸⁰ Peter W. Hogg, *Constitutional Law of Canada*, 5th ed (Toronto: Thomson Reuters, 2007) (loose-leaf revision updated 2015, release 1), 55-13 - 55-16.

¹⁸¹ Report of the Joint Review Panel for the Jackpine Mine Expansion (July 9, 2013), para 32.

698 in Final Argument will provide a better understanding of vessel-related cumulative regional threats
699 and be of great value to other organizations and project proponents.¹⁸² This is what Trans Mountain
700 proposes to do and this approach can be relied on by the Board.

701 The evidentiary record provides the Board with sufficient information to factor and balance
702 economic, environmental and social considerations into its legal recommendations under the NEB
703 Act, the CEAA 2012 and the SARA. When the potential adverse impacts and risks of the Project
704 are balanced with the significant benefits and Trans Mountain's plans to avoid, mitigate and
705 manage those potential adverse impacts and risks, it is clear that significant adverse effects can be
706 justified and the Project is in the Canadian public interest.

¹⁸² Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2017) ([A4W6L8](#)), 311-316.

707 **3. PROJECT DESIGN**

708 **3.1 Pipeline Corridor and Routing**

709 **3.1.1 Project Alternatives**

710 Burnaby argued Trans Mountain did not consider alternative means of carrying out the Project.¹⁸³

711 It further argued that the risks and impacts associated with the Project are severely exacerbated by

712 the proposed location of the Project along the existing TMPL alignment within an urban region.¹⁸⁴

713 Burnaby is incorrect. Trans Mountain adequately considered alternative means of carrying out the

714 Project in the Application in accordance with section 19(1)(g) of the CEAA 2012, as detailed in

715 Final Argument.¹⁸⁵ The Federal Court of Appeal has confirmed that the decision regarding which

716 alternative means to consider is a question of the Panel's judgment.¹⁸⁶ The NEB requested further

717 information from Trans Mountain on alternative means and Trans Mountain provided this

718 information during the IR process.¹⁸⁷ The proposed route for the Project parallels existing linear

719 disturbances for 89 per cent of its length. Using existing right-of-way will greatly minimize the

720 environmental impact of the Project, as has been recognized by the Board.¹⁸⁸

¹⁸³ Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 33.

¹⁸⁴ Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 39

¹⁸⁵ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 101-102.

¹⁸⁶ *Alberta Wilderness Assn v Express Pipelines Ltd*, [1996] FCJ No 1016 (FCA) at para 17 (QL).

¹⁸⁷ Exhibit B306-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to NEB IR No. 3.017 (February 3, 2015) ([A4H1V2](#)), 156; Exhibit B381-1 - Trans Mountain Pipeline ULC - Follow-up to NEB Information Request No. 3.017a (May 1, 2015) ([A4K9V0](#)).

¹⁸⁸ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 108.

721 Burnaby asserted that the Westridge Marine Terminal poses a risk due to urban development, high
722 marine traffic levels and the confined geophysical setting, and that Trans Mountain failed to
723 consider alternative terminal options.¹⁸⁹

724 Contrary to Burnaby's assertion, Trans Mountain considered alternative locations, including
725 Kitimat and Roberts Bank, in Delta, for the Westridge Marine Terminal. Trans Mountain
726 determined that these alternatives, when compared to the expansion of existing facilities, would
727 create a larger project footprint and additional environmental effects at a greater cost. As a result,
728 Trans Mountain determined these alternatives were not reasonable for the TMEP considering
729 comparable marine shipping and pipeline access in addition to technical, economic and
730 environmental factors.¹⁹⁰

731 **3.1.2 Routing**

732 Trans Mountain has proposed amendments to NEB Draft Condition No. 9 to permit further
733 investigation and study of routing alternatives in certain locations during the detailed routing
734 process.¹⁹¹ During oral argument, the Panel questioned intervenors regarding whether specific
735 routing concerns could be dealt with during the detailed routing hearings. In Trans Mountain's
736 view, most routing-related concerns can be dealt with during the detailed routing process.¹⁹²

¹⁸⁹ Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 44-45.

¹⁹⁰ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 102; Exhibit B32-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to NEB IR No. 1 1 of 2 (May 14, 2014) ([A3W9H8](#)), 232-233.

¹⁹¹ Exhibit B417-5 - Trans Mountain Reply Evidence, Appendix 1A - Analysis of Draft Conditions (August 20, 2015)

¹⁹² Hearing Transcript Vol. 26 ([A4X7C5](#)) at lines 12478-12492; Hearing transcript Vol. 27 (January 20, 2016) ([A4X7G2](#)) at lines 13359-13365.

737 City of Coquitlam – United Boulevard

738 The City of Coquitlam indicated that its preference would be for Trans Mountain to pursue its
739 existing right of way through 1575 Hartley and 1750 United Boulevard as the preferred corridor
740 in this area rather than Schooner Street.¹⁹³

741 Trans Mountain supports further study of re-routes for United Boulevard and Hartley Avenue in
742 Coquitlam and requested that these locations be added to NEB Draft Condition No. 9.¹⁹⁴

743 City of Edmonton – Whitemud Corridor

744 The City of Edmonton objected to Trans Mountain’s proposed use of the Whitemud Corridor and
745 requested that Trans Mountain utilize its existing right-of-way through Lewis Estates due to
746 concerns about increased cost, risk and maintenance issues associated with the Whitemud
747 Corridor.¹⁹⁵

748 In Trans Mountain’s view, the Whitemud Corridor is consistent with its routing criteria, where use
749 of corridors was selected versus use of the existing Trans Mountain easement in order to avoid
750 higher density urban areas to the extent possible. Nonetheless, Trans Mountain requested that the
751 Whitemud Corridor be added to NEB Draft Condition No. 9 to enable further study.¹⁹⁶ Trans
752 Mountain is participating in a joint Technical Working Group with the City of Edmonton to work
753 towards resolution of issues with the Whitemud Corridor.¹⁹⁷

¹⁹³ Exhibit C70-5-2 - City of Coquitlam - Written Argument-in-Chief (January 12, 2016) ([A4X4U1](#)), 6 lines 126-131.

¹⁹⁴ Exhibit B417-5 - Trans Mountain Reply Evidence, Appendix 1A - Analysis of Draft Conditions (August 20, 2015) ([A4S7F2](#)), 1-2.

¹⁹⁵ Exhibit C345-8-2 - The City of Edmonton - Written Argument (January 12, 2016) ([A4X5C5](#)), paras 50-59.

¹⁹⁶ Exhibit B417-5 - Trans Mountain Reply Evidence, Appendix 1A - Analysis of Draft Conditions (August 20, 2015) ([A4S7F2](#)), 1-2.

¹⁹⁷ Exhibit B444-2 - Trans Mountain Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 39, 118.

754 City of Surrey - Surrey Bend Regional Park

755 Certain intervenors expressed environmental-related concerns regarding Trans Mountain's
756 proposed corridor through Surrey Bend Regional Park.¹⁹⁸ The City of Surrey suggested two
757 alternative corridors that are feasible for the Project—the South Fraser Perimeter Road Corridor
758 and the Golden Ears Connector Corridor.¹⁹⁹ In oral argument, the City of Surrey suggested that
759 its proposed alternatives are both within the pipeline corridor.

760 The City of Surrey's proposed routing options were specifically considered in Trans Mountain's
761 Reply Evidence Report, "Reply to City of Surrey and Metro Vancouver "Environmental
762 Assessment of Pipeline 1 Placement Options Within and Adjacent to Surrey Bend Regional
763 Park"".

764 Trans Mountain's Reply Evidence report contradicts the City of Surrey's assertion during oral
765 argument²⁰⁰ that both of its proposed alternatives are within the study corridor:

766 [U]nless [the B.C. Ministry of Transportation] were to grant Trans
767 Mountain a variance and share their RoW, neither of the alternative
768 options presented are possible. Additionally, Option A is not possible
769 regardless of MoTI jurisdiction, due to the narrow corridor between the
770 SFPR and CN railway tracks as well as existing and future Metro
771 Vancouver sewer infrastructure already in this area and Option B is
772 detrimental in terms of Pacific Water Shrew and construction footprint
773 concerns.²⁰¹

774 Trans Mountain supports further study of re-routes with the Ministry of Transportation regarding
775 sharing their right-of-way through the region with the potential to avoid having to route through

¹⁹⁸ Exhibit C76-18-2 - City of Surrey - Written Argument in Chief (January 12, 2016) ([A4X4K9](#)), para 153; Exhibit C25-5-1 - BC Wildlife Federation - BCWF WAIC FINAL (January 12, 2016) ([A4X4T5](#)), 22; Exhibit C187-20-2 - Katzie First Nation - Final Argument (January 12, 2016) ([A4X4E4](#)), para 63.

¹⁹⁹ Exhibit C76-18-2 - City of Surrey - Written Argument in Chief (January 12, 2016) ([A4X4K9](#)), para 149.

²⁰⁰ Hearing transcript Vol. 26 (January 19, 2016) ([A4X7C5](#)) at line 12435.

²⁰¹ B418-16 - Trans Mountain Reply Evidence, Attachment 1.17-Reply to EA Pipeline Placement SBRP (August 20, 2015) ([A4S7L4](#)), 14-15.

776 Surrey Bend Regional Park.²⁰² Accordingly, Trans Mountain supports the inclusion of Surrey
777 Bend Regional Park in NEB Draft Condition No. 9, which permits further assessment of potential
778 route re-alignments in this region concurrent with filing its Plan, Profile, Book of Reference.²⁰³

779 Lac du Bois Protected Area

780 Grasslands Conservation Council expressed concerns regarding route selection through Lac du
781 Bois Provincial Park.²⁰⁴ Trans Mountain submits these concerns are adequately addressed by the
782 proposed mitigation measures. A detailed assessment of potential impacts to grasslands in the Lac
783 du Bois Protected Area was completed and filed as part of Trans Mountain's B.C. Parks Stage 2
784 Detailed 17 Proposal Boundary Adjustment Application.²⁰⁵ Trans Mountain's routing in this area
785 was informed through consultation with stakeholders and it was determined that following the
786 existing TMPL routing would be significantly impactful to the community and landowners. The
787 Lac du Bois routing satisfies Trans Mountain's routing criteria to follow other existing
788 disturbances.²⁰⁶ Should the TMEP proceed, Trans Mountain has committed to investing
789 \$1,195,000 in environmental benefits for the Lac du Bois Grasslands Protected Area for the
790 reclamation of fibre optic right-of-way and trails, an invasive vegetation survey and cultural and
791 grassland awareness signage.²⁰⁷ Trans Mountain believes that it can remediate any effects on the

²⁰² Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 110-11.

²⁰³ Exhibit B417-5 - Trans Mountain Reply Evidence, Appendix 1A - Analysis of Draft Conditions (August 20, 2015) ([A4S7F2](#)), 1-2.

²⁰⁴ Exhibit C143-8-1 - Grasslands Conservation Council of BC - Amended Final Argument (January 11, 2016) ([A4X3X8](#)), 3.

²⁰⁵ Exhibit B417-2 - Trans Mountain Reply Evidence, Section 6 - Stakeholder Engagement and Communications (August 20, 2015) ([A4S7E9](#)), 6-2.

²⁰⁶ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 107-113.

²⁰⁷ Exhibit B417-4 - Trans Mountain Reply Evidence, Section 49 - Environmental Net Benefits (August 20, 2015) ([A4S7F1](#)), 49-1 - 49-6; Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 60.

792 land and ultimately improve the existing disturbance through its investment in environmental
793 benefits.

794 *Métis Nation of Alberta Gunn Métis Local 55 – Wabamun Lake*

795 Gunn Métis Local #55 (“GML 55”) submitted that the Project should be re-routed to the north side
796 of Highway 16 for those portions where it is planned to run adjacent to Wabamun Lake.²⁰⁸ Trans
797 Mountain previously considered the routing proposed by GML 55; however, stakeholders in the
798 area expressed a preference with routing which runs through Wabamun Lake Provincial Park along
799 the existing TMPL right-of-way for 100 per cent of its length. This routing is shorter in length, has
800 fewer highway and road crossings and crosses fewer private land parcels. Trans Mountain will
801 work closely stakeholders to reduce any adverse environmental and socio-economic effects in
802 Wabamun Lake Provincial Park.²⁰⁹

803 *Coldwater Valley*

804 Coldwater Indian Band (“Coldwater”) submitted that the Board should recommend the full
805 rejection of the Project due to Trans Mountain’s alleged failure to adequately consider routing
806 alternatives through the Coldwater Valley.²¹⁰ In the alternative, Coldwater submitted that the
807 portion of the Project located in the Coldwater Valley should be subject to re-examination of
808 routing options since Coldwater asserts that the West Alternative has fewer impacts and was
809 “unilaterally removed” from consideration by Trans Mountain.²¹¹ In Reply Evidence and Reply
810 Evidence IRs, Trans Mountain explains in detail why it disagrees with Coldwater’s

²⁰⁸ Exhibit C232-9-1 - Metis Nation of Alberta Gunn Metis Local 55 - GML 55 Final Argument (January 11, 2016) ([A4X3Z6](#)), para 48.

²⁰⁹ Exhibit B248-7 - Trans Mountain Pipeline ULC - Tech Update 1 Cons Update 2 Part 1 Routing Pt06 (August 1, 2014) ([A3Z8F0](#)), 20.

²¹⁰ Exhibit C78-21-2 - Coldwater Indian Band - Final Argument (January 12, 2016) ([A4X5J8](#)), para 105.

²¹¹ Exhibit C78-21-2 - Coldwater Indian Band - Final Argument (January 12, 2016) ([A4X5J8](#)), para 105.

811 characterization of its route selection process and summarizes its extensive engagement with
812 Coldwater regarding routing to date.²¹² Trans Mountain maintains its position that the East and
813 Modified East Alternate route options are better suited to the Project than the previously rejected
814 West Alternate: “[t]he East route was preferred over the West route due to its greater use of the
815 existing Trans Mountain right-of-way, its shorter length, and its avoidance of two additional
816 crossings of the Coldwater River.”²¹³ Trans Mountain remains committed to continue its ongoing
817 engagement with Coldwater to address its Project specific concerns.

818 City of Burnaby – Burnaby Mountain Conservation Area

819 Burnaby is opposed to Trans Mountain’s proposed routing through the Burnaby Mountain
820 Conservation Area due to concerns about environmental effects and stakeholder consultation.²¹⁴
821 Trans Mountain fully responded to these concerns in Final Argument, which referenced story
822 evidence of stakeholder requests for a trenchless routing through Burnaby Mountain to minimize
823 and avoid adverse impacts.²¹⁵

824 City of New Westminister – Brunette River

825 The City of New Westminister and other intervenors raised concerns with Trans Mountain’s
826 proposed route adjacent to the Brunette River, which they contend is highly sensitive.²¹⁶ While
827 the proposed pipeline corridor parallels but does not cross the Brunette River, Trans Mountain is

²¹² Exhibit B120-1 - Trans Mountain Pipeline ULC - Trans Mountain Response to CIB IR No. 1 (June 18, 2014) ([A3Y2I0](#)), 2.

²¹³ Exhibit B417-2 - Trans Mountain Reply Evidence, Section 13 - Pipeline Corridor & Routing (August 20, 2015) ([A4S7E9](#)), 13-11.

²¹⁴ Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 43-44.

²¹⁵ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 32-34; Exhibit B290-2 - Trans Mountain Pipeline ULC - Part 1, Westridge Delivery Line Routing Update (December 1, 2014) ([A4F5D5](#)), 19.

²¹⁶ Exhibit C72-10-1 - City of New Westminister - Comments to NEB on Draft Conditions (August 20, 2015) ([A4X5S2](#)), 1; Hearing transcript Vol. 33 (January 27, 2016) ([A4X8G0](#)) at line 17872.

828 acutely aware of the species within and habitat sensitivity of the Brunette River and its tributaries.
829 Trans Mountain has proposed extensive mitigation measures to ensure that fish and fish habitat
830 are not compromised.²¹⁷

831 Shackan Indian Band – Nicola Valley

832 Shackan contended that the routing for the Project remains unidentified in a number of areas,
833 particularly in the Nicola Valley as Trans Mountain’s preferred route traverses Lower Nicola
834 Indian Band reserves. Shackan submitted that this makes Trans Mountain’s repeated statements
835 regarding the extent that it is following the existing pipeline route inaccurate.²¹⁸

836 Trans Mountain disagrees with Shackan’s assertion regarding its efforts to follow the existing
837 pipeline route. The proposed route for the Project is on or adjacent to the existing TMPL easement
838 for 73 per cent of the total length, approximately 16 per cent follows other existing rights-of-way
839 and approximately 11 per cent will be in a new corridor. By following existing linear disturbances
840 for 89 per cent of the route, Trans Mountain has significantly reduced the environmental impacts
841 and land required for the Project.²¹⁹

842 In a limited number of specific areas, Trans Mountain is carrying technically feasible alternative
843 corridors as a response to issues raised during Aboriginal, stakeholder and landowner engagement.
844 These alternate pipeline corridors include routing on the Lower Nicola Indian Band reserves, as
845 detailed in Trans Mountain’s updated response to NEB IR No. 3.017(a).²²⁰

²¹⁷ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 268-269.

²¹⁸ Exhibit C310-6-1 - Shackan Indian Band - Written Argument (January 12, 2016) ([A4X5E4](#)), 14.

²¹⁹ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 59.

²²⁰ Exhibit B415 - Trans Mountain Pipeline ULC - Updated Response NEB IR No. 3 017a (July 31, 2015) ([A71581](#)).

846 **3.2 Potential Municipal Infrastructure Impacts and Mitigation**

847 Several B.C. municipalities, including the Cities of Surrey, Coquitlam, Burnaby and Abbotsford,
848 the Township of Langley, the Fraser Valley Regional District, the Fraser-Fort George Regional
849 District and the Village of Valemount (collectively, the “B.C. Municipalities”) jointly proposed
850 several conditions that they argue should be placed on any approval of the Project.²²¹ In general,
851 the proposed conditions seek to ensure that the B.C. Municipalities will not incur any present or
852 future costs or barriers as a result of the Project. For example, they ask that Trans Mountain be
853 required to cover the costs of future alterations to the Project as may be required to accommodate
854 new highways or other municipal utilities. They also ask that Trans Mountain be required to give
855 unconditional consent to the extinguishment of its easement as required for the construction of
856 new highways.

857 Trans Mountain notes that the Board has previously declined to impose prescriptive conditions on
858 pipeline approvals in relation to land use conflicts or utility crossings. For example:

859 (a) In relation to the King’s North Connection Pipeline Project, intervenors (including
860 municipalities) raised the issue of compensation/indemnification for project-related
861 impacts and costs associated with ongoing ownership. The Board declined requests
862 to impose specific conditions regarding ongoing communications between the
863 intervenor and the proponent, construction scheduling and land agreements, and
864 instead required the proponent to formalize its prior commitments (including a
865 commitment to accommodate all existing and planned infrastructure in building the

²²¹ Exhibit C76-18-2 - City of Surrey - Written Argument in Chief (January 12, 2016) ([A4X4K9](#)), 115-17; Exhibit C68-21-4 - Joint Municipal Submissions on Increased Infrastructure Costs from Pipeline (January 12, 2016) ([A4X5F7](#)), 115-17; Exhibit C70-5-3 - City of Coquitlam - Appendices 1-3 to City of Coquitlam Written Argument-in-Chief (January 12, 2016) ([A4X4U2](#)), PDF 7-9 (Appendix 3).

866 project) and encouraged the parties to continue working together to resolve
867 outstanding concerns.²²²

868 (b) When asked by rural landowners to impose conditions on a certificate requiring
869 TransCanada Pipelines Limited to, among other things, “grant permission to [the
870 affected] landowners to cross Alberta System pipelines on their respective
871 properties with vehicles or equipment used for farming operations” and “offer
872 landowners annual compensation, of indefinite duration, in respect of any new
873 facilities related to the Alberta System to compensate landowners for the ongoing
874 impacts of pipeline operation”, the Board declined, finding that “the conditions are
875 either unnecessary or beyond the mandate of the Board.” The Board held that the
876 proponent’s standard practices for landowner engagement and integrity
877 management addressed the concerns expressed about pipeline crossing permission
878 and that “the proposed conditions that address compensation are not within the
879 Board’s mandate under the NEB Act and therefore will not be imposed.”²²³

880 (c) With respect to the facilities and tolls application for the Alliance Pipeline Project,
881 the Board considered concerns regarding crossings with the Cochin pipeline
882 system. Cochin asked that, for any such crossings, Alliance be required to: (i) cross
883 at an angle not less than 70 degrees; (ii) install heavier-walled pipe within 200 m
884 of each crossing; (iii) install crack arrestors before and after each crossing; and (iv)
885 install its pipeline under the Cochin pipeline maintaining a distance of at least 30
886 cm (12 inches). The Board did not grant the requested conditions and, instead,
887 found that Alliance “may still be able to reach agreement with the owners of the

²²² NEB - Reasons for Decision - TransCanada PipeLines Limited - GHW-001-2014 (July 2015), 8-10.

²²³ NEB - Reasons for Decision - TransCanada PipeLines Limited - GH-5-2008 (February 2009), 24-27.

888 utilities which it may cross and, at the least, should be given an opportunity to
889 attempt to reach such agreements.” The proponent was granted permission to cross
890 the Cochin lines so long as it was in compliance with a crossing agreement with
891 Cochin and consistent with national technical standards. The Board noted that
892 further recourse may be made to the Board under the NEB Act if the parties were
893 unable to reach an agreement.²²⁴

894 Trans Mountain submits that, as in the above cases, the prescriptive conditions proposed by the
895 B.C. Municipalities should not be imposed on the Project. As detailed below, the Board does not
896 have the statutory mandate to impose the conditions proposed by the B.C. Municipalities in the
897 applied-for CPCN. Such conditions are also not necessary or appropriate in light of the evidence,
898 the alternative remedies available under the NEB Act and Trans Mountain’s commitments.

899 **3.2.2 NEB Jurisdiction for the B.C. Municipalities’ Proposed Conditions**

900 As a creature of statute, the Board has only those powers conferred on it by its enabling legislation,
901 the NEB Act. It has no inherent power to make orders that may affect a person’s substantive rights
902 or obligations. Such powers must be granted by statute, either expressly or by necessary
903 implication, with a view to ensuring the Board is able to fulfil the purposes of the NEB Act.²²⁵

904 The NEB has broad jurisdiction to impose conditions on the issuance of a CPCN pursuant to
905 section 52 of the NEB Act, which provides that the Board must include in its report to the Minister
906 “all the terms and conditions that it considers necessary or desirable in the public interest to which
907 the certificate will be subject”.²²⁶ This power is not unlimited. It must be exercised in good faith

²²⁴ NEB - Reasons for Decision - Alliance Pipeline Ltd. on behalf of the Alliance Pipeline Limited Partnership - GH-3-97 (November 1998), 62-63.

²²⁵ *ATCO Gas & Pipelines Ltd. v Alberta (Energy & Utilities Board)*, [2006] 1 SCR 140 at para 51.

²²⁶ NEB Act, s 52(1)(b).

908 for its intended purpose.²²⁷ Moreover, unless the statute otherwise provides, the Board does not
909 have the authority to alter the substantive provisions of the NEB Act through the imposition of
910 conditions.²²⁸

911 This is important because conditions that are beyond the Board's jurisdiction are not valid and
912 cannot be enforced.²²⁹ This is a fundamental principle of administrative law:

913 The principle that a public authority may not act outside its powers (or act
914 *ultra vires*) might appropriately be considered to be the central principle
915 of administrative law. Statutory bodies to which specific powers are
916 delegated may only deal with matters over which they have authority, and
917 may not abuse that authority. They must always demonstrate that their
918 actions are within "the four corners of their jurisdiction", and fall squarely
919 within the boundaries set by legislation. If a court determines that a public
920 body or decision maker acted outside the powers allocated to it, its doctrine
921 of *ultra vires* allows courts to strike down administrative decisions made
922 by decision makers exercising public functions for which those decision
923 makers have no power. [...]

924 If a public authority makes an order which it has no authority to grant, the
925 order will be illegal and of no use. Since the decision has no legal leg to
926 stand on, it is a nullity [references omitted].²³⁰

927 In determining the confines of its jurisdiction, the Board is guided by the overall scheme and object
928 of its enabling legislation, and will consider the legislation as a whole.²³¹ In Trans Mountain's
929 view and as further detailed below, the fact that the NEB Act includes substantive remedies and
930 procedures outside the section 52 certificate process which specifically address the matters raised
931 by the B.C. Municipalities suggests that the proposed conditions, which deviate from those
932 processes, are *ultra vires* the Board. The existing statutory remedies are designed to address

²²⁷ *ATCO Gas & Pipelines Ltd. v Alberta (Energy & Utilities Board)*, 2006 SCC 4 at para 92, per Binnie J. (dissenting).

²²⁸ *Upper Lakes Shipping Ltd. v Sheehan et al.*, [1979] 1 SCR 902 at paras 20-21.

²²⁹ *Grand Trunk Pacific Railway v Fort William Landowners*, [1912] AC 224 (PC).

²³⁰ G. Régimbald, *Canadian Administrative Law*, 2nd ed. (Markham, ON: LexisNexis Canada Inc., 2015) at 175-176.

²³¹ NEB - Reasons for Decision - Alliance Pipeline Ltd. - MH-R-1-2007 (October 2007), Appendix 1 (Letter to Parties dated 20 March 2007 on Statutory Authority).

933 specific land use conflicts and compensation matters as they arise from the construction and
934 operation of an interprovincial pipeline. Contrary to the assertions of the B.C. Municipalities, the
935 NEB Act does not provide for blanket compensation or crossing orders in relation to speculative
936 future conflicts or works.

937 In particular, with respect to compensation, Trans Mountain will be required by section 75 of the
938 NEB Act to compensate municipalities for damages caused by the Project. Section 75 of the NEB
939 Act requires that Trans Mountain do as little damage as possible, and to make full compensation
940 to all persons interested, for all damages caused by Trans Mountain in exercising its powers under
941 the NEB Act. The NEB Act further sets out the elements that must be included in any land
942 acquisition agreement, including, *inter alia*, compensation for all damages suffered as a result of
943 the operations of the pipeline company and indemnification from liabilities arising out of the
944 operations of the pipeline company, other than those resulting from the landowner's gross
945 negligence or wilful misconduct.²³² Trans Mountain is bound by these obligations in relation to
946 the Project.

947 As a result, Trans Mountain submits that the B.C. Municipalities' concerns regarding
948 compensation and indemnification are addressed by, the provisions of the NEB Act that
949 specifically address indemnifications and cost awards. The NEB does not have the statutory
950 mandate to vary these provisions through the imposition of conditions on a certificate in the
951 manner suggested by the B.C. Municipalities. As recently stated by the Board:

952 Section 75 of the NEB Act requires companies to do as little damage as
953 possible and make full compensation for all damages sustained by persons
954 as a result of the companies' exercise of their powers under the NEB Act.
955 The NEB Act provides a framework of negotiation and arbitration
956 procedures - that is within the authority of the Minister of Natural

²³² NEB Act, s 86(2).

957 Resources, not the Board - for compensation for use of lands or for
958 damages from the construction and operation of the pipeline.²³³

959 ...

960 When a landowner and a pipeline company cannot agree on compensation
961 for lands that the company has acquired or damaged, either party may
962 apply to the Minister of Natural Resources to receive the services of a
963 negotiator, or to have the dispute settled by arbitration [emphasis
964 added].²³⁴

965 This is consistent with the Board’s prior conclusion that conditions seeking specific compensation
966 entitlements “are not within the Board’s mandate under the NEB Act and therefore will not be
967 imposed.”²³⁵

968 Similarly, the B.C. Municipalities’ proposed conditions regarding present and future highway
969 crossings are inconsistent with the provisions of the NEB Act and are beyond the Board’s statutory
970 mandate established by Parliament. They are, therefore, outside the jurisdiction of the Board.

971 The B.C. Municipalities argued that the NEB has the authority to issue such conditions under
972 section 108 of the NEB Act and the Board’s “plenary jurisdiction set out in s. 52”.²³⁶ Section 108
973 of the NEB Act prohibits the construction of pipelines on, over, along or under a utility (including
974 a highway) unless a section 52 certificate or section 58 order has been issued and:

975 (a) the certificate or order contains a term or condition relating to that
976 utility;

977 (b) the company has been granted leave under subsection (2); or

978 (c) the company is constructing the pipeline in circumstances specified in
979 an order or regulation made under subsection (4).

²³³ NEB - Reasons for Decision - TransCanada PipeLines Limited - GHW-001-2014 (July 2015), 9.

²³⁴ NEB - Reasons for Decision - TransCanada PipeLines Limited - GHW-001-2014 (July 2015), 9.

²³⁵ NEB – Reasons for Decision - TransCanada PipeLines Limited - GH-5-2008 (February 2009), 27.

²³⁶ Exhibit C76-18-2 - City of Surrey - Written Argument in Chief (January 12, 2016) ([A4X4K9](#)), 3; Exhibit C68-21-4 - Joint Municipal Submissions on Increased Infrastructure Costs from Pipeline (January 12, 2016) ([A4X5F7](#)), 2.

980 The B.C. Municipalities state that this section, in combination with the Board’s ability to impose
981 conditions on certificates, gives the Board the power to require Trans Mountain to consent—
982 without conditions or compensation—to the extinguishment of its statutory right of way (“SRW”)
983 for future roadway projects that overlap the TMEP once the pipeline is in place. Trans Mountain
984 disagrees. Section 108 does not deal with future contemplated utilities, such as new highways or
985 highway expansions. Rather, it is limited to proposed new pipelines and their contemplated
986 intersections with existing utilities. In contrast, section 112 of the NEB Act addresses
987 circumstances where a pipeline exists, and a person is contemplating the construction of a new
988 facility that overlaps it:

989 (1) Subject to subsection (5), no person shall, unless leave is first obtained
990 from the Board, construct a facility across, on, along or under a pipeline
991 or excavate using power-operated equipment or explosives within thirty
992 metres of a pipeline.

993 (2) Subject to subsection (5), no person shall operate a vehicle or mobile
994 equipment across a pipeline unless leave is first obtained from the
995 company or the vehicle or mobile equipment is operated within the
996 travelled portion of a highway or public road.

997 (3) The Board may, on granting an application for leave under this section,
998 impose such terms and conditions as it considers proper.

999 ...

1000 As an alternative to seeking leave under section 112, proponents of facilities overlapping a pipeline
1001 may obtain written permission from the pipeline company, and the pipeline company may impose
1002 conditions on such permission.²³⁷ By requesting that Trans Mountain be required to grant
1003 unconditional consent regarding all future roadworks above the pipeline, the B.C. Municipalities
1004 are asking the Board to go beyond its statutory mandate and deviate from the legislative scheme

²³⁷ *National Energy Board Pipeline Crossing Regulations, Part I, SOR/88-528, s 4(b).*

1005 established to address such crossings. As stated above, any such condition would be *ultra vires* the
1006 Board.

1007 Moreover, a condition requiring the mandatory extinguishment of Trans Mountain’s SRW would
1008 be tantamount to an expropriation which is not available under the NEB Act. The provisions
1009 regarding expropriation are limited to those set out in Part V of the NEB Act, and do not allow for
1010 the expropriation of pipeline SRW or easement in favour of a municipality in any case. The B.C.
1011 Municipalities acknowledge that the “crossing provisions” of the NEB Act “do not provide the
1012 necessary authority to compel Trans Mountain to extinguish statutory rights of way it has acquired
1013 to allow for highways to be widened or established.”²³⁸ They also correctly conclude that
1014 “expropriation... in the case of federal undertakings such as the proposed and existing pipelines is
1015 arguably unavailable.”²³⁹

1016 Additionally, at law, expropriation of property rights must be compensated for unless the statute
1017 expressly provides otherwise.²⁴⁰ This principle is often phrased as a rule of statutory interpretation,
1018 such that “unless the words of the statute clearly so demand, a statute is not to be construed so as
1019 to take away the property of a subject without compensation.”²⁴¹ In the present case, given the
1020 absence of express language permitting expropriation of pipeline SRW or easements, it would be
1021 inconsistent with legal principles to construe the NEB Act as authorizing the expropriation of
1022 Trans Mountain’s property rights without compensation. Contrary to the submissions of the B.C.

²³⁸ Exhibit C76-18-2 - City of Surrey - Written Argument in Chief (January 12, 2016) ([A4X4K9](#)), 72; Exhibit C68-21-4 - Joint Municipal Submissions on Increased Infrastructure Costs from Pipeline (January 12, 2016) ([A4X5F7](#)), 72.

²³⁹ Exhibit C76-18-2 - City of Surrey - Written Argument in Chief (January 12, 2016) ([A4X4K9](#)), para 88; Exhibit C68-21-4 - Joint Municipal Submissions on Increased Infrastructure Costs from Pipeline (January 12, 2016) ([A4X5F7](#)), para 88.

²⁴⁰ *Toronto Area Transit Operating Authority v Dell Holdings Ltd.*, [1997] 1 SCR 32 at 45.

²⁴¹ *Toronto Area Transit Operating Authority v Dell Holdings Ltd.*, [1997] 1 SCR 32 at 45; *Alberta (Minister of Infrastructure) v Nilsson*, 2002 ABCA 283 at paras 48-50.

1023 Municipalities, Trans Mountain submits that the ability of the Board to impose conditions on the
1024 certificate cannot be used to do indirectly what the Board cannot do directly, i.e., allow for the
1025 unconditional and unlimited expropriation of Trans Mountain's SRW without due compensation.

1026 The B.C. Municipalities also referred to examples from provincial (B.C.) statutes and federal
1027 telecommunication and railway statutes, including related jurisprudence, to support its view that
1028 the current regime under the NEB Act is inadequate.²⁴² However, the TMPL and the Project, if
1029 approved and built, are regulated under the NEB Act, the *NEB Onshore Pipeline Regulations* and
1030 the *National Energy Board Pipeline Crossing Regulations, Part I* and *Part II*. The Board must
1031 exercise the statutory duties and authorities it is given under statute. It does not have the statutory
1032 mandate or authority to impose a regime from a different jurisdiction or industry on the Project
1033 that is inconsistent with its enabling legislation.

1034 For these reasons and the reasons set out below, Trans Mountain submits that the Board should
1035 not impose any of the conditions jointly proposed by the B.C. Municipalities on any certificate
1036 issued for the Project.

1037 **3.2.3 Municipal Costs**

1038 The B.C. Municipalities argued that the Project will unfairly impose costs on, and restrict, future
1039 development of the urban areas through which it is routed.²⁴³ The intervenors relied on an
1040 Associated Engineering Report that estimates the total costs of the Project to the B.C.

²⁴² Exhibit C76-18-2 - City of Surrey - Written Argument in Chief (January 12, 2016) ([A4X4K9](#)), 31-72; Exhibit C68-21-4 - Joint Municipal Submissions on Increased Infrastructure Costs from Pipeline (January 12, 2016) ([A4X5F7](#)), 31-72.

²⁴³ Exhibit C76-18-2 - City of Surrey - Argument in Chief (January 12, 2016) ([A4X4K9](#)), para 6; Exhibit C69-6-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 52; Exhibit C70-5-2 - City of Coquitlam - Written Argument-in-Chief (January 12, 2016) ([A4X4U1](#)), 2, lines 50-52; Exhibit C68-21-1 - Local Governments Joint Submission Final Argument (January 12, 2016) ([A4X5F4](#)), para 16.

1041 Municipalities over the next fifty years is \$93,000,000.²⁴⁴ For instance, the City of Coquitlam
1042 argued that if Trans Mountain is granted permission to use municipal lands, “it must do so in a
1043 way that does not transfer the financial burden to the owner of those lands”.²⁴⁵ The City of
1044 Coquitlam contended that it should not be subject to these “causal costs”; that is, those costs that
1045 would not arise but for the existence of the pipeline.²⁴⁶ The City of Coquitlam, the City of Surrey,
1046 and Burnaby took issue with Trans Mountain’s position that it compensates municipalities in part
1047 through payment of municipal taxes.²⁴⁷ The City of Coquitlam contended that Trans Mountain
1048 misunderstands the difference between taxes and fees and argued Trans Mountain should be
1049 subject to a condition to enter into co-location agreements that provide for municipal cost recovery
1050 in a manner that recognizes municipalities’ mandate as trustees of public assets.²⁴⁸

1051 Trans Mountain responds to these allegations below, addressing: (i) potential municipal
1052 infrastructure costs related to the Project; (ii) the adequacy of the compensation scheme under the
1053 NEB Act; (iii) the nature of municipal taxes; and (iv) co-location agreements.

1054 *Potential Municipal Infrastructure Costs*

1055 Trans Mountain provided a comprehensive response to submissions regarding potential municipal
1056 costs in both Final Argument and Reply Evidence.²⁴⁹ The Associated Engineering Report relied

²⁴⁴ Exhibits C76-10-6 to C76-10-8 - City of Surrey - Cost Impacts of the Trans Mountain Expansion on Lower Mainland Municipalities - Report by Associated Engineering (May 27, 2015) ([A70306](#)), i.

²⁴⁵ Exhibit C70-5-2 - City of Coquitlam - Written Argument-in-Chief (January 12, 2016) ([A4X4U1](#)), 28, lines 670-672.

²⁴⁶ Exhibit C70-5-2 - City of Coquitlam - Written Argument-in-Chief (January 12, 2016) ([A4X4U1](#)), 13, lines 266-270.

²⁴⁷ Exhibit C70-5-2 - City of Coquitlam - Written Argument-in-Chief (January 12, 2016) ([A4X4U1](#)), 25, lines 601-607.

²⁴⁸ Exhibit C70-5-2 - City of Coquitlam - Written Argument-in-Chief (January 12, 2016) ([A4X4U1](#)), 26, lines 625-627.

²⁴⁹ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 115-121; Exhibit B418-4 - Trans Mountain Reply Evidence, Attachment 1.05 - Reply to the City of Abbotsford, City of

1057 on by several municipalities is based upon a number of unsubstantiated assumptions or incomplete
1058 information that undermines its validity and usability. Most notably this Report: ignores taxes and
1059 fees received by municipalities for TMPL and those projected for TMEP; does not refer to the
1060 routing, design and construction practices adopted by Trans Mountain and consultation with
1061 municipalities to identify, mitigate and minimize social and economic impacts upon communities;
1062 is silent respecting the Technical Working Groups established with four of the B.C. Municipalities
1063 to identify and address municipal concerns and issues; is silent respecting the land rights payments
1064 municipalities will receive for TMEP; and unfairly infers that TMEP should be distinguished and
1065 treated differently than other utilities and linear infrastructure within the municipalities.²⁵⁰

1066 Trans Mountain believes it is reasonable for the Project to reimburse municipalities for any
1067 modifications to their existing infrastructure required to accommodate the Project. The statutory
1068 regime and dispute resolution mechanisms already in place ensure that municipalities are
1069 compensated for damage caused by Trans Mountain; it is simply not necessary for Trans Mountain
1070 to go further and indemnify municipalities for future, speculative additional costs. To date, Trans
1071 Mountain has made several commitments to municipalities that mitigate any burden placed on
1072 them as a result of the Project:

- 1073 (a) continue to pay municipal taxes that are in excess of the costs of municipal services
1074 required and received by Trans Mountain;
- 1075 (b) pay for land rights on municipal lands required for the TMEP;

Burnaby, City of Coquitlam, City of Surrey, Township of Langley “Cost Impact of the Trans Mountain Expansion on Lower Mainland Municipalities” (August 20, 2015) ([A4S7K2](#)).

²⁵⁰ Exhibit B418-4 - Trans Mountain Reply Evidence, Attachment 1.05 - Reply to the City of Abbotsford, City of Burnaby, City of Coquitlam, City of Surrey, Township of Langley “Cost Impact of the Trans Mountain Expansion on Lower Mainland Municipalities” (August 20, 2015) ([A4S7K2](#)).

- 1076 (c) pay for modifications to municipal infrastructure required to accommodate TMEP,
1077 including staff and consultants time for design and monitoring of construction to
1078 ensure the integrity of municipal infrastructure;
- 1079 (d) work jointly with municipal staff to identify and address specific municipal issues
1080 and concerns with Trans Mountain through joint Technical Working Groups;
- 1081 (e) enter into crossing agreements to clearly specify rights and responsibilities,
1082 including cost coverage for crossings of municipal infrastructure;
- 1083 (f) continue to work with municipalities through pipeline operations and pipeline
1084 protection to develop ways to more efficiently meet regulatory requirements,
1085 protect public safety and ensure pipeline integrity; and
- 1086 (g) follow regulatory requirements and standard industry practices for design and
1087 implementation of utility crossings.²⁵¹

1088 Trans Mountain will continue working with municipalities in the planning and design of the
1089 Project to minimize impacts and accommodate reasonably foreseeable plans for municipal
1090 infrastructure. Once Project construction is complete, any subsequent design and development of
1091 municipal infrastructure by municipalities would be completed with the pipeline in place, in
1092 consultation with Trans Mountain. Trans Mountain is actively engaging with municipalities and
1093 has used Technical Working Groups to address Project-related concerns from participating
1094 municipalities.²⁵² Ultimately, Trans Mountain submits it is reasonable to treat concerns regarding
1095 future roadway plans differently than concerns regarding impacts to existing infrastructure. As
1096 stated previously by the Board, “urban development that is still in the planning stage can be

²⁵¹ Exhibit B418-4 - Trans Mountain Reply Evidence, Attachment 1.05 - Reply to the City of Abbotsford, City of Burnaby, City of Coquitlam, City of Surrey, Township of Langley “Cost Impact of the Trans Mountain Expansion on Lower Mainland Municipalities” (August 20, 2015) ([A4S7K2](#)).

²⁵² Exhibit B413-2 - Trans Mountain Response to NEB IR 6.19 (July 22, 2015) ([A4R614](#)), 88-91.

1097 designed to accommodate pipelines and [...] this same opportunity is not available for existing
1098 development.”²⁵³

1099 Compensation owed to Municipalities under the NEB Act is Adequate

1100 Mechanisms already in place are sufficient to ensure that municipalities are compensated for
1101 damages incurred. Specifically, section 75 of the NEB Act requires that Trans Mountain do as
1102 little damage as possible, and makes full compensation to all persons interested, for all damages
1103 caused by Trans Mountain in exercising its powers under the NEB Act.

1104 Trans Mountain is committed to upholding all statutory requirements, including section 75 of the
1105 NEB Act. Trans Mountain recognizes these statutory requirements and commits to investigating
1106 how it can best mitigate impact, and address local government issues and cost impact, under a
1107 blanket proximity permit for the proposed pipeline, while not compromising safety. Trans
1108 Mountain does not object to cost reimbursement for extraordinary costs to municipalities caused
1109 by the operation of the Project when these costs result from municipalities undertaking works
1110 which conflict with the Project; however, Trans Mountain believes such issues are best dealt with
1111 on a case-by-case through negotiation with affected municipalities. Trans Mountain is committed
1112 to working with the municipalities to ensure that the pipeline location minimizes future costs based
1113 on a municipality’s long term plans.²⁵⁴ Trans Mountain has also expressed its intention to enter
1114 into crossing agreements with municipalities to clearly specify rights and responsibilities,
1115 including cost coverage for crossings of municipal infrastructure.²⁵⁵ If the municipality and Trans

²⁵³ NEB - Reasons for Decision - TransCanada PipeLines Limited - GHW-001-2014 (July 2015), 8.

²⁵⁴ Refer to Trans Mountain’s responses to intervenor comments on draft conditions in Appendices “A” and “B” of this reply.

²⁵⁵ Exhibit B418-4 - Trans Mountain Reply Evidence, Attachment 1.05 - Reply to the City of Abbotsford, City of Burnaby, City of Coquitlam, City of Surrey, Township of Langley “Cost Impact of the Trans Mountain Expansion on Lower Mainland Municipalities” (August 20, 2015) ([A4S7K2](#)), 7.

1116 Mountain cannot resolve the concern, the municipality has recourse. The municipality can seek
1117 dispute resolution assistance from the NEB without filing a formal application, or, could make an
1118 application under section 112 of the NEB Act. There are mechanisms in place to ensure
1119 municipalities are compensated for damages incurred by them, and Trans Mountain's commitment
1120 to enter crossing agreements will provide clarity and mitigate potential future disputes. Trans
1121 Mountain responded to compensation-related condition comments from intervenors in Appendix
1122 "A" and Appendix "B" of this reply.

1123 *The Nature of Municipal Taxes*

1124 Trans Mountain is committed to compensate all entities for damages caused by the pipeline. It
1125 cannot be said these municipalities have been damaged when they are left in a better position. If
1126 any municipality believes it has suffered damage it can avail itself of its right under the NEB Act.

1127 Regarding the position put forward by the City of Coquitlam that Trans Mountain has
1128 misunderstood the difference between taxes and fees, Trans Mountain submits that the City of
1129 Coquitlam has misunderstood the relevance of the distinction between taxes and fees. The
1130 distinction between taxes and fees is relevant to determine whether an entity, such as a
1131 municipality, can constitutionally collect such. It is not a tool to determine on account of what
1132 services an amount is being collected.²⁵⁶ Trans Mountain maintains its position that the
1133 incremental taxes and fees it will pay will offset the future and speculative additional costs
1134 municipalities may incur.

²⁵⁶ The Supreme Court case relied on by the City of Coquitlam, *Re Eurig Estate*, [1998] 2 SCR 565 makes it clear that a nexus between the quantum of an amount paid and services received is one of a number of factors to consider in determining if the amount paid is a tax, or if it is a fee. Essentially, the factor is one input variable in coming to a final conclusion. It cannot be said that because Trans Mountain is paying a tax, there is no relationship between the quantum of what it pays and the services it receives, as asserted by the City of Coquitlam.

1135 The fact of the matter is that taxes cover basic services. There is a land compensation regime in
1136 place under the NEB Act which requires companies to provide full compensation for all damage
1137 sustained. Fees are paid to offset administrative and other costs. It is simply not the case that there
1138 cannot be a causal relationship between taxes paid and services received. Trans Mountain, like all
1139 taxpayers, receives services from government in return for the taxes it pays. As discussed above,
1140 Trans Mountain has committed to discuss with municipalities outstanding concerns and directly
1141 related costs. The Project is a federal undertaking that is regulated by the NEB. Should the parties
1142 be unable to reach an agreement, the B.C. Municipalities have the ability to seek compensation for
1143 any damage sustained under section 75 of the NEB Act.

1144 Co-location Agreements

1145 The evidence from the B.C. Municipalities is that the TMEP should be distinguished and treated
1146 differently than other utilities and linear infrastructure within the municipalities. The City of
1147 Coquitlam argued that Trans Mountain should be subject to a condition to enter into co-location
1148 agreements that provide for municipal cost recovery.²⁵⁷ However, the evidence supporting this
1149 claim is silent on whether the municipalities have cost recovery agreements in place with other
1150 utilities including BC Hydro, Spectra, Fortis, and the B.C. Ministry of Transportation and
1151 Infrastructure.²⁵⁸

1152 As detailed above, the proposed condition to require co-location agreements is beyond the
1153 jurisdiction of the NEB. Furthermore, any such condition would be unfair and discriminatory since
1154 the TMEP would be subject to different requirements than similar utilities within the

²⁵⁷ Exhibit C70-5-2 - City of Coquitlam - Written Argument-in-Chief (January 12, 2016) ([A4X4U1](#)), 26, lines 625-627.

²⁵⁸ Exhibit B418-4 - Trans Mountain Reply Evidence, Attachment 1.05 - Reply to the City of Abbotsford, City of Burnaby, City of Coquitlam, City of Surrey, Township of Langley "Cost Impact of the Trans Mountain Expansion on Lower Mainland Municipalities" (August 20, 2015) ([A4S7K2](#)), 6.

1155 municipalities. This type of requirement is improper, since it would require Trans Mountain to
1156 reach an agreement with municipalities that is outside of Trans Mountain's control—essentially
1157 providing the B.C. Municipalities a veto over the Project. If the NEB were to require co-location
1158 agreements between Trans Mountain and the B.C. Municipalities, similar agreements would be
1159 required with the more than 20 other municipalities along the Project right-of-way since it would
1160 be unfair to give certain municipalities rights but not others.²⁵⁹ Such an approach would constitute
1161 an abandonment of the NEB's authority granted by Parliament over intra-provincial pipelines as a
1162 federal work and undertaking. Trans Mountain maintains its position that to require Trans
1163 Mountain to enter co-location agreements to indemnify municipalities for costs beyond what is
1164 specifically required by statute would be discriminatory, as compared to how other similar utilities
1165 are treated. Trans Mountain has established in evidence and Final Argument that the existing
1166 compensation regime under the NEB Act is sufficient to compensate municipalities for Project-
1167 related impacts.

1168 There is a well-defined process in Part V of the NEB Act for acquiring land rights through
1169 negotiation and, if necessary arbitration. Trans Mountain has followed this process and is required
1170 to obtain the necessary land rights for the Project in advance of construction. If any impacts on
1171 land values or development plans will be addressed through negotiation between the parties or
1172 through the legislated process.²⁶⁰ It is inappropriate for parties to attempt to circumvent that
1173 process by seeking conditions from the Board which would be part of the land acquisition process.
1174 If the parties cannot agree, they can avail themselves of the dispute resolution mechanisms under
1175 Part V of the NEB Act. Trans Mountain submits that intervenor argument in a regulatory process

²⁵⁹ Exhibits B1-6 to B1-9 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project Application, Volume 3A, Public Consultation (December 16, 2013) ([A3S0R2](#), [A3S0R3](#), [A3S0R4](#), [A3S0R5](#) plus appendices).

²⁶⁰ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 113-115.

1176 is not an appropriate forum to negotiate the specific terms and conditions of agreements that will
1177 govern Trans Mountain's land rights and utility crossings.

1178 In previous proceedings where intervenors have requested specific types of indemnities, the Board
1179 has relied on the provisions in the Act and has not imposed any further conditions.²⁶¹ Trans
1180 Mountain submits that the Board should follow the same approach in this case and not impose any
1181 of the intervenors' proposed conditions relating to liability for future damages or indemnities.

1182 Trans Mountain believes that issues such as co-location agreements are best dealt with on a case-
1183 by-case basis through direct negotiation with the affected municipality.²⁶²

1184 **3.2.4 Statutory Rights of Way**

1185 The B.C. Municipalities argued that Trans Mountain should be required, by way of certificate
1186 conditions, to grant unconditional consent and extinguish a portion of its SRW where a
1187 municipality requires that portion of the SRW for the expansion or construction of a highway.²⁶³

1188 The B.C. Municipalities stated that, without such conditions, municipal and provincial efforts to
1189 widen or establish highways will be "frustrated" by the TMPL and proposed expansion because
1190 there is no authority sufficient to compel Trans Mountain to extinguish its SRW.²⁶⁴

²⁶¹ See e.g. NEB - Reasons for Decision - TransCanada PipeLines Limited - GHW-001-2014 (July 2015), 8; Report of the Joint Review Panel for the Sable Gas Projects (October 1997), 80. The JRP in the Sable Gas proceeding included the NEB.

²⁶² Refer to Trans Mountain's responses to intervenor comments on draft conditions in Appendices "A" and "B" of this reply.

²⁶³ Exhibit C76-18-2 - City of Surrey - Written Argument in Chief (January 12, 2016) ([A4X4K9](#)), 115-16; Exhibit C68-21-4 - Joint Municipal Submissions on Increased Infrastructure Costs from Pipeline (January 12, 2016) ([A4X5F7](#)), 115-16; Exhibit C70-5-3 - City of Coquitlam - Appendices 1-3 to Written Argument-in-Chief (January 12, 2016) ([A4X4U2](#)), PDF 7-8 (Appendix 3, p 1-2).

²⁶⁴ Exhibit C76-18-2 - City of Surrey - Written Argument in Chief (January 12, 2016) ([A4X4K9](#)), 72; Exhibit C68-21-4 - Joint Municipal Submissions on Increased Infrastructure Costs from Pipeline (January 12, 2016) ([A4X5F7](#)), 72.

1191 In essence, this request arises from the B.C. Municipalities’ dissatisfaction with the current
1192 legislative scheme and the prior demands of Trans Mountain (and its predecessors) in relation to
1193 highway crossings over the TMPL. To summarize their views:

- 1194 (a) leave of the NEB is required to construct facilities, including highways, across, on,
1195 along or under existing federally-regulated pipelines (such as the TMPL), unless
1196 permission is obtained from the pipeline company;²⁶⁵
- 1197 (b) Trans Mountain has, in at least some cases, imposed conditions on such permission
1198 that are unsatisfactory and/or costly to the B.C. Municipalities and has refused to
1199 extinguish its SRW; and
- 1200 (c) recourse to the Board under the NEB Act (section 112) delays municipal projects,
1201 which results in increased costs to municipalities.

1202 The B.C. Municipalities alleged that “Trans Mountain has confirmed that it will continue this
1203 practice of refusing to consent to the dedication of highways.”²⁶⁶ This allegation is wrong. Trans
1204 Mountain explained that it is prepared to allow extinguishment of title, subject to certain
1205 conditions, in its response to IRs from the City of Surrey as follows:

1206 Trans Mountain is prepared to allow extinguishment of the title over those
1207 parts of the Trans Mountain right-of-way for roadways crossing the
1208 pipeline at approximately 90 degrees that are deemed necessary by the
1209 municipality. No compensation is requested for the property right loss,
1210 although terms and conditions will be required with the municipality on a
1211 proximity permit from Trans Mountain, including agreement over costs
1212 incurred in undertaking any protective works, modification or re-location
1213 of the pipeline.

1214 ...

²⁶⁵ NEB Act, s. 112; *National Energy Board Pipeline Crossing Regulations, Part I*, SOR/88-528, s. 4.

²⁶⁶ Exhibit C76-18-2 - City of Surrey - Written Argument in Chief (January 12, 2016) ([A4X4K9](#)), 93; Exhibit C68-21-4 - Joint Municipal Submissions on Increased Infrastructure Costs from Pipeline (January 12, 2016) ([A4X5F7](#)), 93.

1215 Currently, Trans Mountain has no licenses or other permits with
1216 municipalities for the existing federally regulated Trans Mountain Pipeline
1217 system. However, Trans Mountain is aware that the City of Surrey and
1218 other municipalities are interested in negotiating such agreements, and has
1219 begun working on a form of protocol agreement to reasonably address any
1220 issues of concern to the municipalities. There has been one informal
1221 meeting held to date on May 16, 2014 between Trans Mountain and the
1222 City of Surrey to discuss this issue. Trans Mountain would welcome the
1223 opportunity to discuss this issue further with the City of Surrey and work
1224 towards a mutually acceptable protocol agreement.

1225 ...

1226 Trans Mountain anticipates the form of permit for crossings of the pipeline
1227 would be a point of discussion during engagement around development of
1228 overall crossing agreements.²⁶⁷

1229 Notwithstanding this commitment, the B.C. Municipalities have asked that the Board require Trans
1230 Mountain to consent to the extinguishment of its SRW or easement “without conditions and
1231 without compensation” whenever any municipality decides to construct a highway or road that
1232 intersects the Project. The B.C. Municipalities further asked the Board to require Trans Mountain
1233 to obtain the consent of third-party mortgagees or other persons having an interest in the SRW for
1234 such extinguishment. Finally, the B.C. Municipalities’ proposed conditions require that any
1235 permission granted by Trans Mountain for such crossings be consistent with the aforementioned
1236 conditions requiring mandatory and unconditional consent.

1237 Trans Mountain submits that such conditions are not appropriate because: (i) they are beyond the
1238 jurisdiction of the Board to implement; (ii) if the proposed conditions were implemented, it would
1239 give municipalities an exemption from the legislative requirements and result in the Board
1240 abandoning its regulatory mandate over crossings of existing interprovincial pipelines; (iii) the
1241 requested conditions fail to acknowledge or address the safety concerns associated with building
1242 highways over pipelines, and there is no certainty as to extent of the impact the proposed conditions

²⁶⁷ Exhibit B52-1 - Trans Mountain Pipeline ULC - Trans Mountain Response to City Surrey IR No. 1 (June 4, 2014) ([A3X6A5](#)), 18, 20.

1243 may have on the Project, as they apply to all municipalities and all future road projects; (iv) Trans
1244 Mountain has offered a reasonable approach to address the Municipalities' concerns; and (v) if
1245 municipalities are unable to acquire permission from Trans Mountain to build highways that
1246 intersect the Project on terms they think are acceptable, they may apply for leave from the Board
1247 pursuant to section 112 of the NEB Act.

1248 *The Requested Conditions are Beyond the Board's Jurisdiction*

1249 As discussed above, the B.C. Municipalities' proposed conditions regarding present and future
1250 highway crossings are inconsistent with the provisions of the NEB Act, which expressly grant
1251 pipeline companies the discretion to grant (or withhold) permission to persons wishing to construct
1252 facilities above their pipelines and to impose conditions on such permission.²⁶⁸ In addition, the
1253 B.C. Municipalities' proposed conditions seek the mandatory extinguishment of Trans Mountain's
1254 SRW, which would amount to expropriation without compensation, and would be contrary to the
1255 legal principle that compensation is owed when property rights are expropriated, unless the statute
1256 provides otherwise.²⁶⁹ The B.C. Municipalities' proposed conditions regarding pipeline and
1257 highway crossings are, therefore, beyond the statutory mandate of the Board and are thus outside
1258 its jurisdiction.

1259 *The Practical Effect of the Proposed Conditions would be an Exemption from Statutory*
1260 *Requirements*

1261 If the Board imposes the requested conditions and Trans Mountain is required to grant
1262 unconditional consent and extinguishment of its SRW and easements for all future municipal
1263 roadworks above the pipeline, the effect would be to grant the municipalities intersected by the

²⁶⁸ *National Energy Board Pipeline Crossing Regulations, Part I*, SOR/88-528, s. 4.

²⁶⁹ *Toronto Area Transit Operating Authority v Dell Holdings Ltd.*, [1997] 1 SCR 32 at 45.

1264 pipeline an exemption from the regulatory requirements established by the NEB Act and the
1265 *National Energy Board Pipeline Crossing Regulations, Part I*. In other words, the Board would be
1266 abandoning its mandate to govern the construction of facilities above interprovincial pipelines with
1267 respect to the Project (and, as requested by the B.C. Municipalities, the TMPL). Trans Mountain
1268 submits that it would not be in the public interest for the Board to grant the B.C. Municipalities
1269 the requested “work-around” in relation to the statutory requirements imposed by the NEB Act
1270 and its regulations.

1271 *The Requested Conditions Fail to Address Safety Concerns*

1272 With respect to safety, the purpose of section 112 and the corresponding regulations is to ensure
1273 that future developments and construction projects that overlap existing pipelines are executed in
1274 a manner that is safe. As stated by O’Connor J.A. of the Ontario Court of Appeal:

1275 The restrictions [imposed by s. 112 of the Act and the *Pipeline Crossing*
1276 *Regulations*] are analogous to zoning regulations: they are regulatory
1277 rather than confiscatory and are directed at protecting the safety of the
1278 public, including the landowners on whose lands pipelines are located.²⁷⁰

1279 As stated above, section 4 of the *National Energy Board Pipeline Crossing Regulations, Part I*
1280 provides that the party wishing to construct a facility may obtain permission from the owner of the
1281 pipeline as an alternative to getting leave from the Board. The specific language of section 4
1282 emphasizes the safety-oriented purpose of this requirement:

1283 Leave of the Board is not required for any construction or installation of a
1284 facility, other than the installation of an overhead line referred to in section
1285 5, if

1286 ...

1287 (b) the facility owner obtains written permission from the pipeline
1288 company prior to the construction or installation of the facility and accepts
1289 any conditions set out in the permission;

²⁷⁰ *Canadian Alliance of Pipeline Landowners’ Associations v Enbridge Pipelines Inc.*, 2008 ONCA 227 at para 41.

1290 (c) the facility owner ensures that the work is carried out in accordance
1291 with the technical details that are set out in its request for permission that
1292 have been accepted by the pipeline company;

1293 ...

1294 (h) the facility owner undertakes and complies with all practices stipulated
1295 by the pipeline company to the facility owner to lessen any detrimental
1296 effect that the facility may have on a pipe;

1297 (i) prior to the construction or installation of the facility, the facility owner

1298 (i) confirms with the pipeline company that all the pipeline company's
1299 pipes in the vicinity have been staked, and

1300 (ii) ensures that the pipeline company has explained, to the satisfaction of
1301 the facility owner, the significance of the stakes that identify the location
1302 of the pipeline company's pipes;

1303 (j) the facility owner complies with the instructions of an authorized field
1304 representative of the pipeline company regarding the procedures to be
1305 followed while working in the vicinity of a pipe;

1306 (k) where interference with or alteration of a pipe is necessary, the facility
1307 owner obtains prior written consent of the pipeline company; [and]

1308 (l) where the facility owner receives the consent referred to in paragraph
1309 (k), the work is carried out under the supervision of the pipeline company;

1310 ...

1311 It is evident from the above stipulations that the purpose of requiring leave from the Board or
1312 permission from the pipeline company, and the ability of Board or pipeline company to impose
1313 conditions on such consent, is to ensure the safety of the pipeline and, consequently, the public.

1314 To grant the B.C. Municipalities an unrestricted right to build highways and roads over the Project
1315 free from any conditions jeopardizes pipeline and public safety and contradicts the intent of the
1316 existing legislative scheme.

1317 In addition, as a result of the broad wording in the B.C. Municipalities' proposed conditions, the
1318 consequences of the conditions' implementation would be limitless. The requirement for
1319 unconditional consent would apply to all municipalities that overlap the Project route and all future
1320 roads or roadway expansions, regardless of: (i) Trans Mountain's preference for crossings to be at

1321 approximately 90 degrees; (ii) the impacts to Trans Mountain's operations; (iii) impacts on Trans
1322 Mountain's ability to maintain, inspect and ensure the integrity of the pipeline beneath the
1323 roadway; and (iv) the need for Trans Mountain to realign, raise, lower, add casing to or install
1324 appurtenances for the protection of the pipeline to accommodate the roadworks. These far-reaching
1325 consequences would cause significant prejudice to Trans Mountain, which is responsible for
1326 ensuring the safe and reliable operation of the Project, and demonstrate that the conditions
1327 proposed by the B.C. Municipalities are not practical, unfair and not in the public interest.

1328 *Trans Mountain's Approach is Reasonable*

1329 Finally, Trans Mountain submits that the B.C. Municipalities will not be unduly restricted in their
1330 ability to construct and expand highways and roads within their jurisdiction as a result of the
1331 Project proceeding. Trans Mountain has agreed to grant permission for such works and extinguish
1332 its SRW where highways and roads will cross the pipeline at approximately 90 degrees.²⁷¹ The
1333 fact that Trans Mountain will place conditions on such permission is reasonable in light of the
1334 safety and operational considerations and is consistent with the approach contemplated under the
1335 NEB Act, as discussed above.

1336 In contrast to the B.C. Municipalities' proposed conditions, which are unprecedented, a condition
1337 requiring Trans Mountain to consult and negotiate in good-faith with impacted municipalities is
1338 consistent with the Board's practice. In previous proceedings, the Board has indicated a preference
1339 for negotiated solutions to land use conflicts including pipeline crossing and compensation issues,
1340 rather than prescriptive requirements in approval conditions.²⁷² Should such negotiations fail, the

²⁷¹ Exhibit B52-1 - Trans Mountain Pipeline ULC - Trans Mountain Response to City Surrey IR No. 1 (June 4, 2014) ([A3X6A5](#)), 18.

²⁷² NEB - Reasons for Decision - TransCanada PipeLines Limited - GHW-001-2014 (July 2015), 8-10; NEB - Reasons for Decision - Alliance Pipeline Ltd. on behalf of the Alliance Pipeline Limited Partnership - GH-3-97 (November

1341 parties will have the necessary factual details and sufficient clarity regarding the main points of
1342 contention to bring the matter to the Board for final resolution. Trans Mountain believes this to be
1343 a pragmatic approach and submits that it is equally suitable in the present case.

1344 *Relief is Available to the B.C. Municipalities under the NEB Act*

1345 The B.C. Municipalities' proposed conditions regarding future highways or roads above the
1346 Project are also not necessary in view of section 112 of the NEB Act. That provision ensures that,
1347 if a municipality is unable to reach a satisfactory resolution with Trans Mountain in relation to the
1348 construction or expansion of a road intersecting the Project, it can apply to the Board for leave.
1349 The B.C. Municipalities argued that this process would cause delay.²⁷³ However, they have not
1350 provided any evidence of such delay. Trans Mountain submits that, with sufficient time
1351 incorporated into planning horizons, an application for leave under section 112 remains a
1352 meaningful remedy to municipalities wishing to construct facilities above a federal pipeline and
1353 should not cause undue delay to their projects.

1354 For all of the above reasons, Trans Mountain submits that the Board should not impose the
1355 conditions jointly proposed by the B.C. Municipalities.

1998), 62-63; NEB - Reasons for Decision - TransCanada PipeLines Limited - GH-5-2008 (February 2009), 24-27.

²⁷³ Exhibit C76-18-2 - City of Surrey - Written Argument in Chief (January 12, 2016) ([A4X4K9](#)), para 80; Exhibit C68-21-1 - Local Government Joint Submission Final Argument (January 12, 2016) ([A4X5F4](#)), para 80.

1356 **3.3 Landowner Engagement**

1357 **3.3.1 Existing TMPL**

1358 Certain intervenors raised issues regarding the existing TMPL.²⁷⁴ Additionally, CGLAP maintains
1359 that some of its members have experienced what “can only be considered as a form of harassment”
1360 by Trans Mountain since the TMPL’s inception.²⁷⁵

1361 The Board confirmed that intervenor issues pertaining to the continued operation of the existing
1362 TMPL are within the jurisdiction of the NEB, but are outside of the scope of the TMEP regulatory
1363 process.²⁷⁶ Trans Mountain disagrees with the allegations regarding its dealings with landowners
1364 with respect to the TMPL. The Application for the TMEP is founded on relationships with
1365 stakeholders along the TMPL, which span more than 60 years.²⁷⁷ Trans Mountain will continue
1366 its ongoing and long-term engagement with affected landowners to reasonably address their
1367 Project-related concerns.

1368 **3.3.2 Decommissioning**

1369 Some intervenors made submissions regarding funding for the decommissioning of the pipeline or
1370 argue that existing segments of the TMPL should be decommissioned.²⁷⁸ As stated above, the
1371 regulation of the TMPL system is outside of the scope of this proceeding. Nevertheless, Trans

²⁷⁴ Exhibit C311-6-1 - Masanobu Shoji - Final Argument (January 12, 2016) ([A4X4C1](#)), para 7; Exhibit C-289-13-2 - Province of BC - Final Argument (January 11, 2016) ([A4X3T3](#)), paras 56-66.

²⁷⁵ Exhibit C47-7-2 - C.G.L.A.P. - Written Argument In Chief (January 12, 2016) ([A4X5U1](#)), 11.

²⁷⁶ Exhibit A81-1 - National Energy Board - Ruling No. 33 - Motions to compel full and adequate responses to the first round of intervenor information requests (September 26, 2014) ([A4C4H5](#)), 4.

²⁷⁷ Exhibit B306-12 - Trans Mountain Pipeline ULC - Trans Mountain Response to NEB IR No. 3.005a-Attachment 1-Part 1 (February 3, 2015) ([A4H1W2](#)), 82.

²⁷⁸ Exhibit C47-7-2 - C.G.L.A.P. - Written Argument In - Chief (January 12, 2016) ([A4X5U1](#)), 10; Exhibit C76-18-2 - City of Surrey - Written Argument in Chief (January 12, 2016) ([A4X4K9](#)), paras 174-182.

1372 Mountain will operate and abandon the pipeline in accordance with the requirements of the
1373 *National Energy Board Onshore Pipeline Regulations*.²⁷⁹

1374 **3.3.3 Landowner Compensation**

1375 CGLAP sought to have its individual members compensated for inconveniences and interruptions
1376 caused by the construction and operation of the TMEP and requested a combined easement in
1377 respect of the TMPL and the TMEP,²⁸⁰ annual or lump sum compensation as well as extra
1378 compensation for any activities beyond what is reasonably contemplated in the easement and new
1379 compensation processes.²⁸¹ The City of Coquitlam cites *Balisky v Canada (Minister of Natural*
1380 *Resources)*²⁸² for the proposition that Trans Mountain overlooks the “practical reality” that a
1381 compensation regime is required under Part V of the NEB Act, in part due to restrictions placed
1382 on landowners.

1383 Trans Mountain is fully aware of its obligations to provide full compensation to landowners for
1384 damage sustained in the exercise of its powers under the NEB Act, as described in *Balisky*.²⁸³ It
1385 provided each owner with its position on that value in notices provided under section 87(1) of the
1386 NEB Act. Built into Trans Mountain’s compensation framework is the ability to assess and respond
1387 individually to landowner-specific land values and disturbance damages, including business losses
1388 related to construction and operation of the TMEP, to be determined between Trans Mountain and
1389 landowners on an occurrence basis. In accordance with the requirements of the NEB Act,
1390 disturbance damages will be unique to each affected property and will be compensated, to the

²⁷⁹ SOR/99-294.

²⁸⁰ Exhibit C47-7-2 - C.G.L.A.P. - Written Argument In Chief (January 12, 2016) ([A4X5U1](#)), 1.

²⁸¹ Exhibit C47-7-2 - C.G.L.A.P. - Written Argument In Chief (January 12, 2016) ([A4X5U1](#)), 1, 17-30.

²⁸² 2003 FCA 104.

²⁸³ Exhibit C70-5-2 - City of Coquitlam - Written Argument-in-Chief (January 12, 2016) ([A4X4U1](#)), 9.

1391 extent they cannot be addressed by mitigation measures. Trans Mountain complies with NEB Act
1392 section 86(2)(a) and is offering landowners the option of receiving payment, at the option of the
1393 owner of the lands, by one lump sum payment or by annual payments based upon the value of the
1394 lump sum payment. In Trans Mountain's view, compensation processes in addition to the
1395 framework under the NEB Act are not required.²⁸⁴

1396 **3.3.4 Construction**

1397 Intervenors such as Yarrow Ecovillage raised concerns in intervenor argument regarding potential
1398 construction-related impacts.²⁸⁵ In a letter filed after the conclusion of intervenor oral argument,
1399 Yarrow Ecovillage cited a question from the panel received during oral argument and listed new
1400 routing-related "minimum conditions" based on a regulatory proceeding in Minnesota.²⁸⁶ Trans
1401 Mountain provided an overview of its construction-related plans and range of mitigation measures
1402 in Final Argument, including specific commitments for Yarrow Ecovillage.²⁸⁷ As stated above,
1403 routing related concerns can be dealt with during the detailed routing process. Trans Mountain has
1404 responded to intervenor proposed conditions received by the Board's January 12, 2016 deadline in
1405 Appendix "B" to this reply.

1406 The Village of Valemount and RDFFG expressed concerns with the impact of the expected influx
1407 of temporary workers on housing and on the management of solid waste.²⁸⁸ Valemount and
1408 RDFFG submitted that the Board should require Trans Mountain to enter into the Worker

²⁸⁴ Exhibit B417-2 - Trans Mountain Reply Evidence, Section 9 - Landowner & Other Compensation (August 20, 2015) ([A4S7E9](#)), 9-1 - 9-3.

²⁸⁵ Exhibit C394-6-2 - Yarrow Ecovillage - Argument-in-chief to NEB (January 12, 2016) ([A4X5R7](#)), 8.

²⁸⁶ Exhibit C394-7-1 - Yarrow Ecovillage - Response to NEB Question (February 16, 2016) ([A4Y1I6](#)), 1-2; Hearing transcript Vol. 33 (January 27, 2016) ([A4X8G0](#)) at lines 17420-17425; Exhibit C394-6-2 - Yarrow Ecovillage - Argument-in-chief to NEB (January 12, 2016) ([A4X5R7](#)), 14-15.

²⁸⁷ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 122-123.

²⁸⁸ Exhibit C68-21-1 - Local Government Joint Submission Final Argument (January 12, 2016) ([A4X5F4](#)), para 103.

1409 Accommodation Plan by consulting with local government authorities.²⁸⁹ NEB Draft Condition
1410 No. 18 requires Trans Mountain to prepare a worker accommodation strategy in consultation with
1411 appropriate municipal and provincial authorities. Trans Mountain provided feedback on this
1412 condition to ensure that there is sufficient time for consultation.²⁹⁰

1413 **3.3.5 Commitment Tracking**

1414 Intervenors including the B.C. Municipalities and CGLAP provided specific feedback in argument
1415 regarding Trans Mountain's commitment tracking.²⁹¹

1416 NEB Draft Condition No. 8 requires Trans Mountain to implement conditions contained within its
1417 commitment tracking table. Trans Mountain must also regularly file an updated table with the
1418 Board and post it on its website as follows:

- 1419 (a) 90 days after the date a CPCN is issued, if approval is granted;
- 1420 (b) 30 days prior to the start of construction of TMEP;
- 1421 (c) on a monthly basis during the construction of TMEP until operations commences;
- 1422 and
- 1423 (d) on a quarterly basis during operations until all CPCN conditions are satisfied,
- 1424 except those involving filings for the TMEP lifecycle.²⁹²

1425 Trans Mountain will review the feedback received from intervenors in argument and will
1426 incorporate the applicable commitments in the commitment tracking table to ensure no

²⁸⁹ Exhibit C68-21-1 - Local Government Joint Submission Final Argument (January 12, 2016) ([A4X5F4](#)), paras 106-107.

²⁹⁰ Exhibit B417-5 - Trans Mountain Reply Evidence, Appendix 1A - Analysis of Draft Conditions (August 20, 2015) ([A4S7F2](#)), 1-2.

²⁹¹ Exhibit C47-7-2 - C.G.L.A.P. - Written Argument In - Chief (January 12, 2016) ([A4X5U1](#)), 2-10; Exhibit C70-5-2 - City of Coquitlam - Written Argument-in-Chief (January 12, 2016) ([A4X4U1](#)), 28, Appendix 2; Exhibit C68-21-4 - Local Governments Joint Submission Final Argument Appendix A (January 12, 2016) ([A4X5F5](#)).

²⁹² See Appendix "A" of this reply, NEB Draft Condition No. 8.

1427 commitments have been missed. The updated commitment tracking table will be publicly filed in
1428 accordance with NEB Draft Condition No. 8. Trans Mountain's approach to commitment tracking
1429 is described in Trans Mountain's response to NEB IR 3.001(a).²⁹³ Trans Mountain has responded
1430 to intervenor comments regarding NEB Draft Condition No. 8 in Appendix "A".

1431 The numerous commitments made by Trans Mountain during the regulatory process are
1432 demonstrative of its dedication to incorporating feedback from stakeholders.²⁹⁴ Regulators have
1433 noted a proponent's substantial commitments to reduce project-related impacts, engage in
1434 collaborative monitoring efforts and develop adaptive management measures.²⁹⁵ The Board can
1435 similarly trust that Trans Mountain's transparent and iterative approach to refining and optimizing
1436 the Project based on feedback from stakeholders minimizes and avoids adverse impacts.

1437 **3.4 Pipeline Engineering and Design**

1438 **3.4.1 Valve Locations**

1439 The Province of B.C. argued that Trans Mountain failed to take measures to limit the volume of a
1440 spill in the event of a loss of containment and references its request to install valves near sensitive
1441 waterways, "where reasonably practicable", in order to reduce potential outflow volumes to 2,000
1442 m³ (based on a similar commitment made by Northern Gateway Pipelines Inc.).²⁹⁶ Trans Mountain
1443 provided a detailed IR response regarding this precise issue. It noted that pipelines must be
1444 carefully designed to account for all relevant variables and conditions. It is not accurate to represent

²⁹³ Exhibit B306-3 - Trans Mountain Pipeline ULC - Response to NEB IR No. 3.001A - Attachment 1 (February 3, 2015) ([A4H1V3](#)), 3-5.

²⁹⁴ Exhibit B306-3 - Trans Mountain Pipeline ULC - Response to NEB IR No. 3.001A - Attachment 1 (February 3, 2015) ([A4H1V3](#)); Exhibit B413 - Trans Mountain Pipeline ULC - Responses to National Energy Board Information Request No. 6 (July 22, 2015) ([A4R6I4](#)), 3.

²⁹⁵ Report of the Joint Review Panel for the Enbridge Northern Gateway Project - Volume 2 (December 19, 2013) ([A3S7C6](#)), 211-212, 216.

²⁹⁶ Exhibit C-289-13-2 - Province of BC - Final Argument (January 11, 2016) ([A4X3T3](#)), paras 14-17.

1445 that the design attributes and operating characteristics of one pipeline must necessarily be
1446 appropriate for another pipeline. Trans Mountain's risk based design adequately mitigates through
1447 the reduction of both pipe failure likelihood and consequence.²⁹⁷ The NEB is regulating valve
1448 locations for the Project as evidenced by NEB Draft Condition No. 34, which requires Trans
1449 Mountain to file its final valve location assessment for approval.²⁹⁸

1450 **3.4.2 Watercourse Crossing Design**

1451 Nooaitch Indian Band ("Nooaitch") asserted that Trans Mountain failed to adequately plan for
1452 crossing methods to address particular characteristics of the Nicola River and Nicola and
1453 Coldwater watershed areas.²⁹⁹ As detailed in Final Argument, Trans Mountain is committed to
1454 constructing the most suitable pipeline watercourse crossings based on all relevant environmental,
1455 social and technical factors.³⁰⁰ Trans Mountain also specifically responded to Nooaitch's concerns
1456 regarding watercourse crossings in Reply Evidence.³⁰¹

1457 **3.4.3 Leak Detection**

1458 The Province of B.C. took issue with Trans Mountain's automated leak detection plans and in-line
1459 inspection frequency, which is currently five years.³⁰² The Province of B.C. contended that: (i)
1460 there is a potential that a slow leak of 100 m³ to 200 m³ of oil could take place during the
1461 intervening five-year period; (ii) Trans Mountain should commit to complementary leak detection

²⁹⁷ Exhibit B316-34 - Trans Mountain Pipeline ULC - Trans Mountain Response to Province of BC IR No 2 (February 2, 2015) ([A4H8W6](#)), 59-61.

²⁹⁸ Exhibit B417-5 - Trans Mountain Reply Evidence, Appendix 1A - Analysis of Draft Conditions (August 20, 2015) ([A4S7E2](#)), 8.

²⁹⁹ Exhibit C258-14-2 - Nooaitch Indian Band - Argument in Chief Final (January 12, 2016) ([A4X5J5](#)), 39.

³⁰⁰ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 124.

³⁰¹ Exhibit B417-2 - Trans Mountain Reply Evidence, Section 14 - Watercourse Crossing Design (August 20, 2015) ([A4S7E9](#)), 14-1.

³⁰² Exhibit C-289-13-2 - Province of BC - Final Argument (January 11, 2016) ([A4X3T3](#)), paras 27-47.

1462 systems; and (iii) that a control centre rule is required to perform a controlled shutdown if a leak
1463 cannot be ruled out within a prescribed period of time.³⁰³

1464 Trans Mountain directly addressed concerns regarding in-line inspection in IR responses to the
1465 Province of B.C., including a rationale why a spill of this size would likely be detected within the
1466 five-year period by other means. Kinder Morgan's Integrity Management Program includes
1467 continual assessments accomplished by running different in-line inspection tool technologies on
1468 independent five-year continual assessment cycles, as well as follow-up inspection processes. The
1469 running of multiple tools that specialize in detecting different threats, as planned for TMEP, has
1470 an added benefit of providing overlapping inspections which increases the inspection frequency
1471 for certain threats. The in-line inspection interval for each time dependent threat is selected to
1472 monitor for anomalies in order to repair any defects before they present a risk of failure. The results
1473 of prior inspections are analyzed using industry accepted practices to predict the growth of time
1474 dependent flaws based on applicable operational factors such as established corrosion rates. It is
1475 therefore unlikely for a segment of pipe to experience a five-year gap between in-line inspection
1476 runs.³⁰⁴

1477 With respect to complimentary leak detection systems, as detailed in IR responses Trans Mountain
1478 uses a computational pipeline monitoring ("CPM") system for leak detection. In recognition of
1479 higher standards in other countries such as Germany, which require two systems running in parallel
1480 on a single pipeline, Trans Mountain is installing a second complementary CPM system that will
1481 operate in parallel with the existing system. If the application on the existing TMPL system proves

³⁰³ Exhibit C-289-13-2 - Province of BC - Final Argument (January 11, 2016) ([A4X3T3](#)), para 42.

³⁰⁴ Exhibit B316-34 - Trans Mountain Pipeline ULC - Trans Mountain Response to Province of BC IR No 2 (February 2, 2015) ([A4H8W6](#)), 102-103.

1482 successful, the new CPM system will also be implemented for the Project.³⁰⁵ Trans Mountain
1483 submits that its proposed approach will ensure that Trans Mountain not only meets, but exceeds
1484 regulatory requirements and maximizes CPM leak detection capability.

1485 Trans Mountain responded to the Province of B.C.'s proposed amendment to NEB Draft Condition
1486 No. 125 (SCADA and leak detection system design), regarding to control centre rules, in Appendix
1487 "A".

1488 **3.4.4 Pipeline Geotechnical Assessment**

1489 Upper Nicola Band ("Upper Nicola") expressed concerns related to Trans Mountain's geotechnical
1490 assessment, including acid rock drainage and metal leaching, asserted knowledge gaps and
1491 mountain pine beetle infestations.³⁰⁶ Trans Mountain specifically addressed Upper Nicola's
1492 concerns in Reply Evidence and Final Argument.³⁰⁷ Trans Mountain has done considerable work
1493 to identify and mitigate geotechnical risks and hazards for the TMEP and provided all information
1494 required for the Board's recommendation.

1495 **3.5 Facilities Engineering and Design**

1496 **3.5.1 Terminals Risk Assessment**

1497 Burnaby and Wembley Estate Strata Council contended that Trans Mountain failed to provide a
1498 comprehensive and accurate risk assessment for the Burnaby Terminal and maintain that a
1499 comprehensive risk assessment as a post-approval condition is not sufficient.³⁰⁸

³⁰⁵ Exhibit B316-34 – Trans Mountain Response to Province of BC IR No. 2 (February 18, 2015) ([A4H8W6](#)), 74.

³⁰⁶ Exhibit C363-42-1 - Upper Nicola Band - Final Written Submissions (January 12, 2016) ([A4X5V5](#)), para 144.

³⁰⁷ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 155-156; Exhibit B417-2 - Trans Mountain Reply Evidence, Section 11 - Pipeline Geotechnical Assessment (August 20, 2015) ([A4S7E9](#)), 11-5.

³⁰⁸ Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 56, 67; Exhibit C381-6-1 - Wembley Estate Strata Council - NEB Written Presentation Submission (January 11, 2016) ([A4X3V7](#)), 2.

1500 Trans Mountain has provided a risk assessment of the Burnaby Terminal.³⁰⁹ Trans Mountain
1501 performed its risk assessment in accordance with the MIACC criteria, and determined the level of
1502 risk is acceptable from a land use planning perspective, without mitigation.³¹⁰ Nonetheless, Trans
1503 Mountain has proposed mitigation measures to reduce the level of risk below the MIACC
1504 standards.³¹¹ Additionally, as noted in Final Argument, Trans Mountain's property line set-backs
1505 have been developed to meet or exceed the requirements of National Fire Protection Association
1506 Code 30 and Burnaby bylaws.³¹²

1507 Pursuant to NEB Draft Condition No. 29, Trans Mountain will provide an updated terminal risk
1508 assessment prior to construction. NEB Draft Condition No. 29 is appropriate with regard to the
1509 timelines proposed by Trans Mountain, since the revised risk assessment may affect the design.
1510 Trans Mountain anticipates the updated terminal risk assessment will be an iterative process of
1511 risk assessment and design adjustment to ensure the final project design continues to meet MIACC
1512 standards.³¹³

1513 **3.5.2 Terminals Emergency Access**

1514 Burnaby, relying on evidence provided by the Deputy Fire Chief of Burnaby, argued the proposed
1515 new tank spacing unacceptably limits the possibility of containment in the event of a fire and

³⁰⁹ Exhibit B33-29 - Trans Mountain Pipeline ULC - Trans Mountain Response to NEB IR No. 1.98a-Attachment2 (May 14, 2014) ([A3W9S5](#)).

³¹⁰ Exhibit B417-2 - Trans Mountain Reply Evidence, Section 24 - Facility Risk Assessment (August 20, 2015) ([A4S7E9](#)), 24-18.

³¹¹ Exhibit B32-3 - Trans Mountain Pipeline ULC - Trans Mountain Response to NEB IR No. 1 2 of 2 (May 14, 2014) ([A3W9H9](#)), 479-481; Exhibit B306-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to NEB IR No. 3 (February 3, 2015) ([A4H1V2](#)), 468-472; Exhibit B371-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to NEB IR No. 4 (April 13, 2015) ([A4K4W3](#)), 128-131.

³¹² Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 141; Exhibit B118-1 Trans Mountain Pipeline ULC - Trans Mountain Response to City Burnaby IR No. 1 (June 18, 2014) ([A3Y2E6](#)), 305-306.

³¹³ Exhibit B417-5 - Trans Mountain Reply Evidence, Appendix 1A-Analysis of Draft Conditions (August 20, 2015) ([A4S7F2](#)), 1A-7.

1516 prevents safe access for first responders.³¹⁴ Burnaby also expressed concern that the planned access
1517 and egress routes to the Burnaby Terminal are insufficient to allow emergency responders to
1518 properly address a tank fire.³¹⁵

1519 Trans Mountain addressed access and egress concerns in Final Argument.³¹⁶ The proposed primary
1520 and secondary access routes at the Burnaby Terminal will be designed and constructed in
1521 accordance with the International Association of Fire Chiefs Emergency Vehicle Size and Weight
1522 Regulation Guideline. The primary access routes at Burnaby Terminal will be designed so as to
1523 allow the movement of emergency apparatus and equipment, and will allow emergency response
1524 access from a minimum of two independent directions. Secondary routes can be utilized for
1525 emergency response where appropriate.³¹⁷

1526 **3.5.3 Terminals Fire Protection**

1527 Intervenors expressed concerns that Trans Mountain failed to assess the possibility of a boil-over
1528 as a credible worst-case scenario³¹⁸ and failed to account for the dispersal of harmful pollutants in
1529 the event of a fire at the tank farm.³¹⁹

³¹⁴ Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 41, 63.

³¹⁵ Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 60-63.

³¹⁶ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 142-143.

³¹⁷ Exhibit B417-2 - Trans Mountain Reply Evidence, Section 24 - Facility Risk Assessment (August 20, 2015) ([A4S7E9](#)), 24-51; Exhibit B313-28 - Trans Mountain Pipeline ULC - Trans Mountain Response to City of Burnaby IR No. 2 (February 18, 2015) ([A4H8A1](#)), 118.

³¹⁸ Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 67; Exhibit C381-6-1 - Wembley Estate Strata Council - NEB Written Presentation Submission (January 11, 2016) ([A4X3V7](#)), 4.

³¹⁹ Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 60, 73; Exhibit C259-17-2 - North Shore NOPE - Final Written Argument ([A4X4Y4](#)), 25, lines 21-29; Exhibit C381-6-1 - Wembley Estate Strata Council - NEB Written Presentation Submission (January 11, 2016) ([A4X3V7](#)), 4.

1530 Trans Mountain confirmed in Final Argument that boil-over events have an extremely low
1531 probability and numerous mitigation measures are in place.³²⁰ Trans Mountain will use
1532 sophisticated fire prevention, detection and suppression design features and systems to: (i)
1533 minimize the possibility of a fire occurrence in the first instance; (ii) to alert emergency responders
1534 in the unlikely event a fire does occur; and (iii) to activate automated fire-suppression systems to
1535 extinguish the fire. The proposed tank spacing is much greater than the requirements set out in the
1536 National Fire Protection Association Code 30, which also contributes to fire prevention.³²¹ With
1537 these systems in place, the likelihood of a fire developing into a full-surface tank fire is very low,
1538 and the likelihood of a further progression to a boil-over event is even lower. In addition, the
1539 isolated historical examples of boil-over events world-wide have taken many hours to occur after
1540 the start of a fire. Emergency responders will, therefore, have sufficient time to recognize and
1541 address the potential for a boil-over event.³²²

1542 Through its proposed fire prevention, detection, and suppression design features and systems,
1543 Trans Mountain has mitigated to the extent practical the issue of potential pollutant dispersal that
1544 could result from a fire event at the Burnaby Terminal. As noted in Final Argument, the Burnaby
1545 Terminal will be designed to the relevant industry standards and will include design features to
1546 prevent, detect, and extinguish fires. Examples of these features include steel-pontoon floating
1547 roofs, heat detectors, and fixed automated rim-seal area and full-surface fire-suppression systems.
1548 The inclusion of full-surface fire-suppression systems exceeds the statutory design

³²⁰ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 143.

³²¹ Exhibit B313-28 - Trans Mountain Pipeline ULC - Trans Mountain Response to City of Burnaby IR No. 2 (February 18, 2015) ([A4H8A1](#)), 109; Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 138.

³²² Exhibit B418-2 - Trans Mountain Reply Evidence, Attachment 1.03 - Reply to Burnaby Fire Department Risk Analysis Rpt (August 20, 2015) ([A4S7K0](#)), 30-32.

1549 requirements.³²³ Trans Mountain addressed Simon Fraser University's concerns regarding
1550 secondary containment area (dike) fires³²⁴ in its IR response.³²⁵

1551 Trans Mountain addressed Simon Fraser University's concerns regarding secondary containment
1552 area (dike) fires³²⁶ in its IR response.³²⁷

1553 **3.5.4 Westridge Marine Terminal Risk Assessment and Geotechnical Studies**

1554 Burnaby expressed concerns regarding the risk assessment and geotechnical studies for the
1555 Westridge Marine Terminal.³²⁸

1556 Trans Mountain filed its initial risk assessment for the proposed new and expanded facilities and
1557 has committed to undertake final risk assessments once detailed engineering and design is in its
1558 final stages. In so doing, Trans Mountain intends to optimize mitigation measures according to the
1559 most recent available data.³²⁹

1560 The Preliminary Offshore Geotechnical Report³³⁰ for the Westridge Marine Terminal sufficiently
1561 addresses geotechnical considerations and is adequate for a proper assessment of siting

³²³ Exhibit B306-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to NEB IR No 3.093(b) (February 3, 2015) ([A4H1V2](#)), 469-472; Exhibit B417-2 - Trans Mountain Reply Evidence, Section 20 - Facility Engineering and Design (August 20, 2015) ([A4S7E9](#)), 20-4.

³²⁴ Exhibit C404-12-2 - Simon Fraser University - Final Argument (January 4, 2016) ([A4X2V3](#)), 41-42.

³²⁵ Exhibit B33-29 - Trans Mountain Pipeline ULC - Trans Mountain Response to NEB IR No 1.98a-Attachment3 (May 14, 2014) ([A3W9S5](#)), 21.

³²⁶ Exhibit C404-12-2 - Simon Fraser University - Final Argument (January 4, 2016) ([A4X2V3](#)), 41-42.

³²⁷ Exhibit B33-29 - Trans Mountain Pipeline ULC - Trans Mountain Response to NEB IR No 1.98a-Attachment3 (May 14, 2014) ([A3W9S5](#)), 21.

³²⁸ Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 81-82.

³²⁹ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 158; Exhibit B32-3 - Trans Mountain Pipeline ULC - Trans Mountain Response to NEB IR No. 1 2 of 2 (May 14, 2014) ([A3W9H9](#)), 480-481.

³³⁰ Exhibit B325-24 - Trans Mountain Pipeline ULC - Westridge Marine Terminal Offshore Preliminary Geotechnical Report (February 27, 2015) ([A4I6L5](#)).

1562 considerations and for a screening level evaluation of various pile foundation design options.³³¹
1563 Trans Mountain will file a final onshore geotechnical report at least six months prior to
1564 commencing construction and will file a final offshore geotechnical report at least three months
1565 prior to commencing construction in accordance with NEB Draft Conditions Nos. 26 and 27,
1566 respectively.³³²

1567 **3.5.5 Seismic Hazards**

1568 Burnaby and Burnaby Residents Opposing Kinder Morgan Expansion (“BROKE”), relying on a
1569 report by Dr. Sheri Molnar,³³³ alleged that Trans Mountain failed to adequately account for seismic
1570 activity, particularly the potential for liquefaction, in the terminal design.³³⁴

1571 As detailed in Final Argument and Reply Evidence, Trans Mountain carefully considered seismic
1572 activity and its potential impact on the Project, relying on both its 60 years of experience operating
1573 the TMPL system and new analysis obtained specifically for the design, construction and operation
1574 of the Project.³³⁵ Trans Mountain responded directly to BROKE’s seismic-related concerns in both
1575 argument and evidence.

³³¹ Exhibit B417-5 - Trans Mountain Reply Evidence, Appendix 1A-Analysis of Draft Conditions (August 20, 2015) ([A4S7F2](#)), 1A-7.

³³² Exhibit B417-2 - Trans Mountain Reply Evidence, Section 24 - Facility Risk Assessment (August 20, 2015) ([A4S7E9](#)), 20-6.

³³³ Exhibit C41-8-1 - Burnaby Residents Opposing Kinder Morgan Expansion - Seismic Hazard Assessment - Molnar (May 27, 2015) ([A4L6U4](#)).

³³⁴ Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 65; Exhibit C41-13-2 - Burnaby Residents Opposing Kinder Morgan Expansion - Written Argument-in-Chief (January 12, 2016) ([A4X4Z7](#)), paras 53-58, 70.

³³⁵ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 151-154; Exhibit B417-2 - Trans Mountain Reply Evidence, Section 15 - Seismic Hazards (August 20, 2015) ([A4S7E9](#)), 15-1.

1576 Trans Mountain has sufficiently accounted for seismic activity in its terminal design, in accordance
1577 with statutory requirements and relevant industry standards.³³⁶ The general geology of the Burnaby
1578 Terminal and general area of Burnaby Mountain are relatively well known, and there are no known
1579 detrimental underlying geological features.³³⁷ In addition, Trans Mountain filed new analysis
1580 specifically for the design and construction of the Project, including its preliminary seismic hazard
1581 assessment, a semi-quantitative hazard assessment of geohazards and a Seismic Hazard Update.³³⁸
1582 The tanks and secondary containment berms will be founded on sandstone bedrock or dense glacial
1583 till.³³⁹

1584 Moreover, during the engineering and design phase, Trans Mountain will undertake seismic
1585 investigations, performed by experienced engineers, in all areas along the TMEP route where it
1586 has identified an elevated liquefaction or landslide potential.³⁴⁰

³³⁶ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 157-158.

³³⁷ Exhibit B372-3 - Trans Mountain Pipeline ULC - Trans Mountain Response to City of Burnaby IR No. 2(c) (April 13, 2015) ([A4K5A7](#)), 21.

³³⁸ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 151.

³³⁹ Exhibit B372-10 - Trans Mountain Pipeline ULC - Trans Mountain Response to Squamish Nation IR No. 2(c) (April 13, 2015) ([A4K5C4](#)), 21.

³⁴⁰ Exhibit B115-1 - Trans Mountain Pipeline ULC - Trans Mountain Response to BROKE IR No 1 (June 18, 2014) ([A3Y2D3](#)), 5-6; Exhibit 239-13 - Trans Mountain Pipeline ULC - Trans Mountain Response to NEB IR No 2 (July 21, 2014) ([A3Z4T9](#)), 369; Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 152.

1587 **4. ENVIRONMENTAL AND SOCIO-ECONOMIC ASSESSMENT**

1588 The ESA for the Project relied on Trans Mountain’s experience with past projects, as well as the
1589 most current science on how these types of projects affect the environment. Trans Mountain’s ESA
1590 is supported by detailed studies such as wildlife, fish, vegetation and geotechnical assessments and
1591 traditional land and resource use (“TLRU”) and traditional marine resource use (“TMRU”) studies
1592 which provide a thorough understanding of the current uses of land and resources for traditional
1593 purposes. The ESA includes multiple Environmental Protection Programs (“EPPs”) and
1594 Environmental Alignment Sheets which contain a comprehensive suite of well-understood and
1595 field-proven mitigation techniques to address potential issues that may arise. A detailed summary
1596 of Trans Mountain’s ESA findings and conclusions is provided in Final Argument.³⁴¹ Trans
1597 Mountain’s approach complies with the CEAA 2012 and NEB Filing Manual requirements and
1598 provides adequate and reliable information for the Board to determine the likely effects of the
1599 Project.

1600 **4.1 Methodology**

1601 Several intervenors raised concerns regarding Trans Mountain’s assessment methodology.³⁴²
1602 Tsleil-Waututh Nation (“TWN”) argued the Board must reject Trans Mountain’s approach to
1603 evaluating significance for the purposes of the CEAA 2012 on the basis that it “improperly

³⁴¹ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 219-358.

³⁴² Exhibit C77-61 - City of Vancouver - Written Argument (January 12, 2016) ([A75082](#)), 101-112; Exhibit C358-30-2 - Tsleil-Waututh Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4V2](#)), 139-141; Exhibit C214-40-1 - Living Oceans Society and Raincoast Conservation Foundation - Final Argument (January 12, 2016) ([A4X5C0](#)), 5; Exhibit C336-11-2 - Swinomish, Tulalip, Suquamish, and Lummi Indian Nations - US Tribes Final Written Argument (January 12, 2016) ([A4X4I0](#)), 11; Exhibit C310-6-1 - Shackan Indian Band - Written Argument (January 12, 2016) ([A4X5E4](#)), 10; Exhibit C86-33-1 - Cowichan Tribes - Cowichan Written Argument (January 12, 2016) ([A4X5E2](#)); Exhibit C24-19-2 - BC Nature and Nature Canada - Written Argument-in-Chief (January 12, 2016) ([A4X5A0](#)); Exhibit C258-14-2 - Nooaitch Indian Band - Argument in Chief Final (January 12, 2016) ([A4X5J5](#)), 27.

1604 subsumes or collapses the assessment of ‘likelihood’ into that of ‘significance’ by considering the
1605 probability of occurrence as a matter going to an effect’s significance”.³⁴³ TWN asserted that it is
1606 not the “correct test in law” and is contrary to the plain wording of the CEEA 2012.³⁴⁴ TWN
1607 submitted that the proper approach under the CEEA 2012 is a sequential step process that requires
1608 the consideration of: (i) whether effects are adverse; (ii) whether adverse effects are significant;
1609 and (iii) whether significant adverse effects are likely.³⁴⁵

1610 Trans Mountain disagrees with TWN’s interpretation. While Trans Mountain acknowledges that
1611 the sequential approach to determining significance is one possible methodology that has been
1612 endorsed by the CEA Agency, courts and regulators have consistently held that there is no single
1613 accepted approach to determining significance under section 16(1) of the former CEEA (which
1614 contained identical language with respect to significance as is now contained in section 19(1) of
1615 the CEEA 2012). For example, in *Alberta Wilderness Assn v Express Pipelines Ltd.*, Alberta Forest
1616 Association and other intervenors argued, as a result of the sequential listing of factors under
1617 section 16(1), that mitigation measures should only be considered after the environmental effects
1618 and significance of a project were considered.³⁴⁶ The Federal Court of Appeal rejected this
1619 approach stating, “[n]othing in the statute supports such a view” and “logic and common sense
1620 point the same way: there can be no purpose whatever in considering purely hypothetical
1621 environmental effects when it is known and proposed that such effects can and will be mitigated
1622 by appropriate measures”.³⁴⁷ Similarly, the Mackenzie Gas Project JRP Report concluded that the

³⁴³ Exhibit C358-30-2 - Tsleil-Waututh Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4V2](#)), para 326.

³⁴⁴ Exhibit C358-30-2 - Tsleil-Waututh Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4V2](#)), paras 326-327.

³⁴⁵ Exhibit C77-61 - City of Vancouver - Written Argument (January 12, 2016) ([A75082](#)), para 317.

³⁴⁶ *Alberta Wilderness Assn v Express Pipelines Ltd.*, [1996] FCJ No 1016 (FCA) at para 13 (QL).

³⁴⁷ *Alberta Wilderness Assn v Express Pipelines Ltd.*, [1996] FCJ No 1016 (FCA) at para 13 (QL).

1623 legislative framework does not provide specific criteria to be applied in making individual
1624 determinations under the CEAA³⁴⁸ and that no “single formula” or “single list of criteria” should
1625 be applied to determine significance.³⁴⁹ In addition, the courts have been clear that the CEA
1626 Agency’s guidance regarding environmental assessment methodology is not legally binding.³⁵⁰

1627 Whatever methods are used, the focus of an environmental assessment under the CEAA 2012
1628 comes down to a decision about whether, after taking mitigation measures into consideration, the
1629 project is likely to cause significant adverse effects.³⁵¹ The correct legal test section 52 of the
1630 CEAA 2012:

1631 [T]he decision maker ... must decide if, taking into account the
1632 implementation of any mitigation measures that the decision maker
1633 considers appropriate, the designated project ... is likely to cause
1634 significant adverse effects.³⁵²

1635 In light of that test, Trans Mountain relied on the CEA Agency’s Adverse Effects Guide and the
1636 Filing Manual,³⁵³ and utilized industry standard methodology to determine whether the Project
1637 will result in what it defines as a “significant residual effect”.³⁵⁴ A significant residual effect is one
1638 that (i) has a high probability of occurrence; (ii) is permanent or reversible in the long-term; and

³⁴⁸ Report of the Joint Review Panel for the Mackenzie Gas Project - Volume 1 (December 30, 2009), 99.

³⁴⁹ Report of the Joint Review Panel for the Mackenzie Gas Project - Volume 1 (December 30, 2009), 103.

³⁵⁰ *Bow Valley Naturalists Society v Canada (Minister of Canadian Heritage)*, [2001] 2 FC 461 at para 21.

³⁵¹ CEA Agency, “Reference Guide: Determining Whether a Project is Likely to Cause Significant Adverse Environmental Effects”, (Ottawa: Federal Minister of Supply and Services Canada, 1994), online: https://www.ceaa-acee.gc.ca/Content/D/2/1/D213D286-2512-47F4-B9C3-08B5C01E5005/Determining_Whether_a_Project_is_Likely_to_Cause_Significant_Adverse_Environmental_Effects.pdf, 1.

³⁵² CEAA 2012, s 52.

³⁵³ NEB Filing Manual, Released 2014-03.

³⁵⁴ Exhibit B5-20 - Trans Mountain ULC - Trans Mountain Expansion Project - Volume 5A (December 16, 2013) ([A3S1Q9](#)), 7-7.

1639 (iii) is of a high magnitude and cannot be technically or economically mitigated.³⁵⁵ Trans
1640 Mountain's definition of a "significant residual effect" is functionally equivalent to the
1641 significance determination that must be made by the Board pursuant to section 52. That is,
1642 "significant residual effects" are adverse effects that are significant and likely, taking into
1643 consideration the implementation of any appropriate mitigation measures.

1644 Trans Mountain's methodology incorporates the assessment of a number of criteria, including: (i)
1645 spatial boundaries; (ii) temporal context; (iii) magnitude; (iv) probability or likelihood; and (v)
1646 level of confidence or certainty.³⁵⁶ Trans Mountain submits that evaluating likelihood as one of
1647 several significance criteria (referred to as the combined-step approach by the NEB) represents a
1648 reasonable approach to fulfill the requirements of the CEEA 2012 because it does not require a
1649 significance determination for effects that are, in the words of the Federal Court of Appeal in
1650 *Alberta Wilderness Assn v Express Pipelines Ltd.*, "purely hypothetical". Trans Mountain notes
1651 that its approach to determining significance is the same approach that has been used for past NEB-
1652 regulated pipeline projects that have recently been approved.³⁵⁷ As a result, Trans Mountain
1653 submits that its approach to determining significance under the CEEA 2012 is reasonable and
1654 should be accepted by the Board.

³⁵⁵ Exhibit B5-20 - Trans Mountain ULC - Trans Mountain Expansion Project - Volume 5A (December 16, 2013) ([A3S1Q9](#)), 7-7.

³⁵⁶ Exhibit B5-20 - Trans Mountain ULC - Trans Mountain Expansion Project - Volume 5A (December 16, 2013) ([A3S1Q9](#)), 7-7.

³⁵⁷ See Exhibit B-2-s - Terasen Pipelines (Trans Mountain) Inc - TMX-Anchor Loop Project - Section 6 EA S6 - Environmental and Socio-Economic Effects Assessment (February 17, 2006) ([A0T2F3](#)), 6-5; Exhibit B3-16 - NOVA Gas Transmission Ltd - Northwest Mainline Expansion Application - Environment and Socio Economic Matters (April 29, 2011) ([A1Y9G9](#)), 6-6, 6-7; Exhibit B2-5 - Enbridge Pipelines Inc - Edmonton to Hardisty Pipeline Project - Volume II - ESA- Section 6 - Environmental and Socio-Economic Effects Assessment (December 14, 2012) ([A3E2Y0](#)), 6-4.

1655 Living Oceans argued that “in respect of its assessment of environmental effects, Trans Mountain
1656 avoids addressing the effects of accidents and malfunctions on the basis that they are not
1657 “likely.””³⁵⁸ This is incorrect. Trans Mountain conducted a comprehensive assessment of the
1658 potential environmental effects associated with accidents and malfunctions related to the pipeline
1659 and facilities, as well as the increase in Project-related marine shipping activities.³⁵⁹ This
1660 assessment followed the guidance contained in the Filing Manual³⁶⁰ and complies with section
1661 19(1)(a) of the CEAA 2012.³⁶¹

1662 Trans Mountain’s consideration of “likelihood” of environmental effects associated with accidents
1663 and malfunctions did not change the level of assessment of those effects, only Trans Mountain’s
1664 determination of whether those effects are “significant” for the purposes of the CEAA 2012. The
1665 central test in the CEAA 2012 is whether or not a project is likely to cause significant adverse
1666 environmental effects. As a result, effects that are not likely to occur are not significant for the
1667 purposes of the CEAA 2012.

1668 Trans Mountain’s evidence is that accidents and malfunctions related to the pipeline and facilities
1669 and the increase in Project-related marine shipping activities will have a low probability of
1670 occurrence (i.e., the scenarios considered and formally evaluated are not likely to unfold).³⁶² Since

³⁵⁸ Exhibit C214-40-1 - Living Oceans Society and Raincoast Conservation Foundation - Final Argument (January 12, 2016) ([A4X5C0](#)), 82; Exhibit C258-14-2 - Nooaitch Indian Band - Argument in Chief Final (January 12, 2016) ([A4X5J5](#)), 27.

³⁵⁹ Note: Small spills and other types of accidents and malfunctions are discussed in Section 7 of Volumes 5A and 5B and Section 4.3 of Volume 8A. Exhibit B5-21 - V5A ESA 13of16 BIOPHYSICAL (December 16, 2013) ([A3S1R0](#)), 7-515 to 7-530; Exhibit B5-40 - V5B ESA 15of16 SOCIOEC (December 16, 2013) ([A3S1S9](#)) 7-294 to 7-306; Exhibit B18-29 - V8A 4.2.12.2 TO T5.2.2 MAR TRANS ASSESS (December 16, 2013) ([A3S4Y3](#)) 8A-426.

³⁶⁰ NEB Filing Manual, Release 2014-03, 80.

³⁶¹ CEAA 2012, s 19(1)(a).

³⁶² Exhibit B280-3 - Trans Mountain Pipeline ULC - Trans Mountain Follow Up Response to NEB Ruling 33 (October 17, 2014) ([A4D3G2](#)), 240; Exhibit B313-15 - Trans Mountain ULC - Trans Mountain Response to BC Nature Cda Ir No. 2 (February 18, 2015) ([A4H7Y8](#)), 171-177.

1671 the likelihood of a credible worst-case or smaller spill occurring is low, Trans Mountain concluded
1672 that effects of accidental spills were not significant in the context of the CEAA 2012 based on the
1673 significance framework and criteria provided in the Application.³⁶³ Trans Mountain submits this
1674 approach is consistent with the legislation.

1675 **4.2 Wildlife and Wildlife Habitat**

1676 Several intervenors raised concerns regarding wildlife and wildlife habitat.³⁶⁴ In Final Argument,
1677 Trans Mountain provided a detailed overview of its submissions with respect to wildlife and
1678 wildlife habitat including references to Trans Mountain's evidence on the record.³⁶⁵ Trans
1679 Mountain is confident that the residual environmental effects of Project construction and
1680 operations on wildlife and wildlife habitat indicators will not be significant.³⁶⁶ Trans Mountain
1681 does not intend on repeating submissions that have been made in Final Argument; however, Trans
1682 Mountain provides the following response to the specific comments made by the City of Port
1683 Moody ("Port Moody").

1684 Port Moody submitted that Trans Mountain's approach to protecting wildlife and wildlife habitat
1685 in the event of an oil spill is deficient. Port Moody pointed to the Reply Evidence wherein Trans
1686 Mountain, with respect to oil spills, states that measures to protect wildlife and wildlife habitat in

³⁶³ Exhibit B5-20 - Trans Mountain ULC - Trans Mountain Expansion Project - Volume 5A (December 16, 2013) ([A3S1Q9](#)), section 7.1; Exhibit B5-38 - Trans Mountain ULC - Trans Mountain Expansion Project - Volume 5B (December 16, 2013) ([A3S1S7](#)), section 7.1; B18-29 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 8A (December 17, 2013) ([A3S4Y3](#)), section 4.3.1.

³⁶⁴ Exhibit C74-18-2 - City of Port Moody - Final Argument (January 12, 2016) ([A4X4G3](#)), 12; Exhibit C363-42-1 - Upper Nicola Band - Final Written Submissions (January 12, 2016) ([A4X5V5](#)); Exhibit C143-8-1 - Grasslands Conservation Council of BC - Amended Final Argument (January 11, 2016) ([A4X3X8](#)); Exhibit C411-5-1 - First Nations of Maa-nulth Treaty Society - Final Argument (January 11, 2016) ([A4X4A0](#)); Exhibit C358-30-2 - Tsleil-Waututh Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4V2](#)); Exhibit C33-14-1 - Board of Friends of Ecological Reserves- Written Argument-in-Chief FINAL Jan 12 (January 12, 2016) ([A4X4W3](#)); Exhibit C25-5-1 - BC Wildlife Federation - BCWF WAIC FINAL (January 12, 2016) ([A4X4T5](#)).

³⁶⁵ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 281- 287.

³⁶⁶ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 281-287.

1687 the event of an oil spill, including species at risk and critical habitat, will be included in the
1688 Emergency Response Plan (“ERP”). Port Moody raised the concern that it has been unable to
1689 identify any reference in Trans Mountain’s Reply Evidence concerning the ERPs and what Trans
1690 Mountain will do to protect wildlife and wildlife habitat.

1691 Since the updated Emergency Management Program (“EMP”) depends upon the final detailed
1692 design of the Project, a process which will not be carried out unless the Project receives approval
1693 and until Trans Mountain has an opportunity to review the conditions of such approval, the updated
1694 EMP cannot be provided during the NEB’s regulatory review of the Project.³⁶⁷ The existing ERPs
1695 and guides will be used as the foundation for the development of enhanced ERPs and guides for
1696 the Project. These updated plans for the pipeline and facilities will reflect the added scope of the
1697 Project, increased volumes, new or updated control points due to routing, and updates to new
1698 response equipment and bases if required. Final enhanced ERPs and supporting documents will be
1699 completed in advance of commissioning and operation of the Project.³⁶⁸ Trans Mountain directs
1700 the Port Moody to NEB Draft Condition No. 122 which requires Trans Mountain to file with the
1701 NEB, at least six months prior to commencing operations, a detailed summary of its review of the
1702 ERPs including changes to the various ERPs for the Project.³⁶⁹ Trans Mountain submits that Port
1703 Moody’s concerns are premature because the final updated ERPs have yet to be developed and
1704 provided to the Board.

³⁶⁷ Exhibit B417-4 - Trans Mountain Reply Evidence, Section 63 - Emergency Management Program (August 20, 2016) ([A4S7F1](#)), 63-2.

³⁶⁸ Exhibit B18-1 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 7 (December 17, 2013) ([A3S4V5](#)), 7-44.

³⁶⁹ Exhibit A199-3 - National Energy Board - Procedural Direction No. 17 - Appendix A (August 12, 2015) ([A4S1G2](#)), 122.

1705 Port Moody raised concerns with the fact that Trans Mountain appears to only be preparing a
1706 mitigation plan for the Pacific water shrew (*Sorex bendirii*) and not the four SARA species in the
1707 Burrard Inlet area identified in Dr. Golds' evidence.³⁷⁰

1708 NEB Draft Condition No. 44 requires species-specific mitigation plans for wildlife species whose
1709 early draft, candidate, proposed, or final critical habitat is directly or indirectly affected by the
1710 Project.³⁷¹ None of the three species noted by Dr. Golds (Band-tailed pigeon, great blue heron and
1711 purple martin) have a provincial or federal recovery plan at this time. Therefore, critical habitat
1712 has not been identified. As a result, Trans Mountain submits that mitigation for these species will
1713 be addressed in the EPPs, and a stand-alone mitigation plan is not warranted.³⁷²

1714 **4.3 Fish and Fish Habitat**

1715 A number of intervenors raised concerns regarding fish and fish habitat.³⁷³ Trans Mountain's Final
1716 Argument provides a comprehensive discussion of fish and fish habitat including the proposed
1717 crossing methods for watercourses.³⁷⁴ Trans Mountain is confident in its conclusion that the
1718 implementation of the proposed mitigation measures and Project plans will mitigate adverse

³⁷⁰ Exhibit C74-18-2 - City of Port Moody - Final Argument (January 12, 2016) ([A4X4G3](#)), 12; Hearing transcript Vol. 28 (January 21, 2016) ([A4X7K0](#)) at line 14196.

³⁷¹ Exhibit A199-3 - National Energy Board - Procedural Direction No. 17 - Appendix A (August 12, 2015) ([A4S1G2](#)), 44.

³⁷² Exhibit A199-3 - National Energy Board - Procedural Direction No. 17 - Appendix A (August 12, 2015) ([A4S1G2](#)), 62-64.

³⁷³ Exhibit C301-21-2 - Salmon River Enhancement Society - Written Argument Evidence (January 12, 2016) ([A4X5V2](#)); Exhibit C363-42-1 - Upper Nicola Band - Final Written Submissions (January 12, 2016) ([A4X5V5](#)), 72; Exhibit C232-9-1 - Metis Nation of Alberta Gunn Metis Local 55 - GML 55 Final Argument (January 11, 2016) ([A4X3Z6](#)); Exhibit C318-5 - Snuneymuxw First Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4Z4](#)); Exhibit C326-18-2 - Stó:lō Collective - Final Argument (January 11, 2016) ([A4X5T3](#)); Exhibit C76-18-2 - City of Surrey - Written Argument In Chief (January 12, 2016) ([A4X4K9](#)); Exhibit C288-36-1 - Pro Information Pro Environment United People Network - Written Submissions (Pipeup) (January 12, 2016) ([A4X5A8](#)).

³⁷⁴ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 263-272.

1719 effects on fish and fish habitat and will ensure that there is no serious harm to fish that are part of
1720 a commercial, recreational or Aboriginal fishery, or to fish that support such a fishery. For these
1721 reasons, the residual environmental effects of the Project on fish and fish habitat will not be
1722 significant.³⁷⁵

1723 The Salmon River Enhancement Society raised concerns in argument regarding fish and fish
1724 habitat.³⁷⁶ Trans Mountain provided full responses to Salmon River Enhancement Society's
1725 concerns in its IR responses,³⁷⁷ Reply Evidence³⁷⁸ and Final Argument.³⁷⁹

1726 **4.4 Marine Birds**

1727 Marine birds are discussed in Final Argument. Trans Mountain's substantial evidence on the
1728 record supports the conclusion that no significant effects on marine birds are expected as a result
1729 of the Project.³⁸⁰ Many intervenors³⁸¹ repeated concerns regarding marine birds that have
1730 previously been addressed in Final Argument and evidence. To avoid unnecessary repetition, these

³⁷⁵ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 272.

³⁷⁶ Exhibit C301-21-2 - Salmon River Enhancement Society - Written Argument Evidence (January 12, 2016) ([A4X5V2](#)), section 1.4.

³⁷⁷ Exhibit B372-11 - Trans Mountain Pipeline ULC - Trans Mountain Response to SRES IR No. 2(c) (April 13, 2015) ([A4K5C5](#)).

³⁷⁸ Exhibit B417-2 - Trans Mountain Reply Evidence, Section 35 - Fish and Fish Habitat (August 20, 2015) ([A4S7E9](#)), 35-1 to 35-51.

³⁷⁹ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 272.

³⁸⁰ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 325-330.

³⁸¹ Exhibit C33-14-1 - Board of Friends of Ecological Reserves - Written Argument-in-Chief FINAL (January 12, 2016) ([A4X4W3](#)); Exhibit C355-38-1 - Tsawout First Nation - Final Written Submissions (January 12, 2016) ([A4X5W3](#)); Exhibit C107-14 - District of West Vancouver - Final Argument in Chief (January 11, 2016) ([A4X3Y6](#)); Exhibit C308-8-1 - Scia'new First Nation - Final Argument (January 11, 2016) ([A4X3Z8](#)); Exhibit C411-5-1 - First Nations of Maa-nulth Treaty Society - Final Argument (January 11, 2016) ([A4X4A0](#)); Exhibit C84-6-2 - Corporation of the City of Victoria - Written Argument (January 12, 2016) ([A4X4C9](#)); Exhibit C123-6-1 - Esquimalt Nation - Final Argument (January 12, 2016) ([A4X4A2](#)); Exhibit C319-40 - Squamish Nation - Final Argument (January 12, 2016) ([A4X5E7](#)); Exhibit C277-6-1 - Pauquachin First Nation - Final Argument (January 12, 2016) ([A4X4F8](#)); Exhibit C24-19-2 - BC Nature and Nature Canada - Written Argument-in-Chief (January 12, 2016) ([A4X5A0](#)); Exhibit C379-11-1 - Andrew Weaver - Written Argument-in-Chief (January 8, 2016) ([A4X3L0](#)).

1731 concerns will not be addressed in this reply. However, Trans Mountain responds to certain specific
1732 concerns regarding marine birds below.

1733 BC Nature and Nature Canada alleged that “there is insufficient evidence for the NEB to conduct
1734 a legally adequate analysis of the environmental effects of malfunctions or accidents in connection
1735 with this Project.”³⁸² Specifically, BC Nature and Nature Canada submitted that, with respect to
1736 marine birds, the NEB should not adopt the habitat-focused approach used by Trans Mountain in
1737 its Application.³⁸³ BC Nature and Nature Canada argue that the habitat focused approach limits
1738 the NEB’s ability to consider the factors set out in section 19(1) of the CEAA 2012. Trans
1739 Mountain has previously discussed and addressed concerns regarding the habitat-focused
1740 approach.³⁸⁴

1741 The habitat-focused approach adopted for the Ecological Risk Assessment (“ERA”) allows
1742 potential effects on marine birds and other species to be evaluated in a transparent and defensible
1743 manner. Trans Mountain has wholly considered potential effects to marine birds and their habitat
1744 by considering the habitats used by species represented in the baseline and historical data compiled
1745 for the Project, along with expected habitat use of species expected to occur in the Regional Study
1746 Area (“RSA”) based on life history traits described in literature. These sources of information are
1747 adequate to inform the habitat-focused assessment in the ERA. Potential environmental effects to
1748 bird habitat are assessed wherever crude oil is expected to be present, and all habitats from the
1749 open water to the shoreline and near shore habitats are included in the assessment. Accordingly,

³⁸² Exhibit C24-19-2 - BC Nature and Nature Canada - Written Argument-in-Chief (January 12, 2016) ([A4X5A0](#)), 8.

³⁸³ Exhibit C24-19-2 - BC Nature and Nature Canada - Written Argument-in-Chief (January 12, 2016) ([A4X5A0](#)), 10.

³⁸⁴ Exhibit B112-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to BC Nature and Nature Cda IR No. 1 (June 18, 2014) ([A3Y2C5](#)); Exhibit B313-15 - Trans Mountain Pipeline ULC - Trans Mountain Response to BC Nature and Nature Cda IR No. 2 (February 18, 2015) ([A4H7Y8](#)); Exhibit B280-3 - Trans Mountain Pipeline ULC - Trans Mountain Follow-Up Response to NEB Ruling 33 (October 17, 2014) ([A4D3G2](#)).

1750 the habitat-focused approach adopted for the ERA was conservatively designed to encompass
1751 potential effects on all shorebird or other marine bird species that use both surface water and
1752 shoreline habitats.³⁸⁵

1753 BC Nature and Nature Canada submitted that there are “deficiencies with Trans Mountain’s
1754 PQERA that deprive the NEB of the ability to meet its statutory and common law duties to conduct
1755 a legally adequate environmental assessment pursuant to the CEEA 2012.”³⁸⁶ This is incorrect and
1756 does not reflect the evidence on the record.³⁸⁷ Trans Mountain’s PQERA provides an adequate
1757 assessment of the ecological consequences of oil spills and their effects to marine birds that the
1758 Board can rely on.

1759 BC Nature and Nature Canada argued that Trans Mountain has not provided sufficient scientific
1760 basis for its use of a 10 micrometer threshold for oil thickness to assess potential acute
1761 environmental effects on marine birds from exposure to oiling.³⁸⁸ Trans Mountain provided a
1762 comprehensive response to this issue.³⁸⁹ Acute adverse effects (i.e., death due to hypothermia
1763 caused by oiling) are assumed to occur to marine birds if the estimated slick thickness equals or
1764 exceeds 10 micrometer in any model grid square, at any time step, in the oil spill fate and transport

³⁸⁵ Exhibit B112-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to BC Nature and Nature Cda IR No. 1 (June 18 2014) ([A3Y2C5](#)).

³⁸⁶ Exhibit C24-19-2 - BC Nature and Nature Canada - Written Argument-in-Chief (January 12, 2016) ([A4X5A0](#)), 12-13.

³⁸⁷ Exhibit B417-3 - Trans Mountain Reply Evidence, Section 46 - Ecological Risk Assessment (August 20, 2015) ([A4S7F0](#)), 46-17 - 46-21; Exhibit B313-15 - Trans Mountain Pipeline ULC - Trans Mountain Response to BC Nature and Nature Cda IR No. 2 (February 18, 2015) ([A4H7Y8](#)), 31, 93, 126; Exhibit B112-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to BC Nature and Nature Cda IR No. 1 (June 18, 2014) ([A3Y2C5](#)), 22-24; Exhibit B19-14 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 8B (December 17, 2013) ([A3S4K7](#)); Exhibit B32-25 - Trans Mountain Pipeline ULC - Trans Mountain Response to NEB IR No. 1.62d-Attachment1 1 of 9 (May 14, 2014) ([A3W9K1](#));

³⁸⁸ Exhibit C24-19-2 - BC Nature and Nature Canada - Written Argument-in-Chief (January 12, 2015) ([A4X5A0](#)), 14.

³⁸⁹ Exhibit B313-15 - Trans Mountain Pipeline ULC - Trans Mountain Response to BC Nature and Nature Cda IR No. 2 (February 18, 2015) ([A4H7Y8](#)), 126-139.

1765 simulation. Based on the rationale provided in Trans Mountain's response to BC Nature and Nature
1766 Canada IR No. 2.22, Trans Mountain believes that the approach applied in the DQERA is likely
1767 to over-state rather than under-state the actual adversity of outcomes.

1768 BC Nature and Nature Canada also alleged that Trans Mountain has not supplied sufficient
1769 baseline information regarding marine bird populations.³⁹⁰ Trans Mountain submits that, as
1770 detailed in the evidence on the record, sufficient baseline information regarding marine bird
1771 populations has been gathered in the Marine Transportation RSA to adequately assess marine
1772 birds.³⁹¹ This data represents a sampling of the population and is not meant to be a census. Trans
1773 Mountain believes that the results reflect relative differences in abundance among species;
1774 however, pelagic species are likely to be under-represented due to survey effort weighted to
1775 shoreline surveys. While there are some gaps in knowledge regarding the abundance of marine
1776 bird indicators, this was not a limitation with respect to assessment of potential effects. The
1777 assessment considered Project effects pathways based on available data and an understanding of
1778 species-specific ecology and behaviour.³⁹²

1779 BC Nature and Nature Canada submitted that there is insufficient information for the NEB to
1780 adequately assess whether the Project is likely to affect a listed wildlife species or its critical habitat
1781 pursuant to section 79(1) of the SARA.³⁹³ The evidence suggests otherwise. Trans Mountain

³⁹⁰ Exhibit C24-19-2 - BC Nature and Nature Canada - Written Argument-in-Chief (January 12, 2015) ([A4X5A0](#)), 15.

³⁹¹ Exhibit B19-3 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 8B ([A3S4J6](#)) (December 17, 2013), 16-25.

³⁹² Exhibit B19-3 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 8B (December 17, 2013) ([A3S4J6](#)); Exhibit B112-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to BC Nature and Nature Cda IR No. 1 (June 18, 2014) ([A3Y2C5](#)), 13-14.

³⁹³ Exhibit C24-19-2 - BC Nature and Nature Canada - Written Argument-in-Chief (January 12, 2016) ([A4X5A0](#)), 22.

1782 assessed the SARA Schedule-1 marine bird species and their critical habitat.³⁹⁴ There is sufficient
1783 evidence on the record for the NEB to adequately assess whether the Project is likely to affect a
1784 listed wildlife species or its critical habitat pursuant to section 79(1) of the SARA.

1785 The Board of Friends of Ecological Reserves (“BFER”) alleged that Trans Mountain has omitted
1786 “some of the most important aspects of environmental impact on Seabird nesting colonies, winter
1787 resident colonies and migratory stopover locations.” In support of this assertion, BFER contended
1788 that the “continuous incremental increase in Chronic oil as well as the likely chance of a major oil
1789 spill would have a serious impact on feeding, breeding and migration.”³⁹⁵ This is unsupported.
1790 Trans Mountain indicated that it will require Project vessels to not discharge any bilge water while
1791 within the territorial waters of Canada (the Marine Transportation RSA) as part of its Tanker
1792 Acceptance Program.³⁹⁶

1793 BC Nature and Nature Canada also raised arguments with respect to: (i) marine bird population
1794 post-spill recovery time estimates;³⁹⁷ (ii) Trans Mountain’s use of marine bird indicator species;³⁹⁸
1795 and (iii) cumulative environmental effects, particularly on the issue of “chronic oiling” on marine
1796 bird species and populations.³⁹⁹ Trans Mountain addressed these arguments in Final Argument.⁴⁰⁰

³⁹⁴ Exhibit B280-22 - Trans Mountain Pipeline ULC - Trans Mountain Follow-Up to NEB IR No.2 Responses (October 17, 2014) ([A4D3I1](#)).

³⁹⁵ Exhibit C33-14-1 - Board of Friends of Ecological Reserves- Written Argument-in-Chief FINAL Jan 12 (January 12, 2016) ([A4X4W3](#)), 37-38.

³⁹⁶ Exhibit B112-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to BC Nature and Nature Cda IR No. 1 (June 18, 2014) ([A3Y2C5](#)), 39.

³⁹⁷ Exhibit C24-19-2 - BC Nature and Nature Canada - Written Argument-in-Chief (January 12, 2016) ([A4X5A0](#)), 15-16.

³⁹⁸ Exhibit C24-19-2 - BC Nature and Nature Canada - Written Argument-in-Chief (January 12, 2016) ([A4X5A0](#)), 18.

³⁹⁹ Exhibit C24-19-2 - BC Nature and Nature Canada - Written Argument-in-Chief (January 12, 2016) ([A4X5A0](#)), 19.

⁴⁰⁰ Exhibits B19-14 to B19-37 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 8B (December 17, 2013) ([A56022](#)); Exhibit B112-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to BC Nature and Nature Cda IR No. 1 (June 18, 2014) ([A3Y2C5](#)), 18-26, 28-31; Exhibit B313-15 - Trans Mountain Pipeline ULC - Trans Mountain Response to BC Nature and Nature Cda IR No. 2 (February 18, 2015) ([A4H7Y8](#)),

1797 **4.5 Southern Resident Killer Whale**

1798 Several intervenors raised concerns regarding marine mammals and, more specifically, the
1799 southern resident killer whale.⁴⁰¹ Trans Mountain provided detailed submissions in Final
1800 Argument regarding marine mammals and, specifically, the southern resident killer whale,⁴⁰²
1801 which address concerns raised by intervenors. For example, Living Oceans submitted argument
1802 regarding the Project's adverse environmental impacts, particularly on the southern resident killer
1803 whale.⁴⁰³ Trans Mountain provided extensive evidence and a complete response to those concerns

31-41, 93-109; Exhibit B5-21 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 5A (December 16, 2013) ([A3S1R0](#)), 69-73; Exhibit B18-29 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 8A (December 17, 2013) ([A3S4Y3](#)), 103-106; Exhibit B280-22 - Trans Mountain Pipeline ULC - Trans Mountain Follow-Up to NEB IR No.2 Responses (October 17, 2014) ([A4D311](#)), 67-73; Exhibit B151-1 - Trans Mountain Pipeline ULC - Trans Mountain Response to Raincoast IR No. 1 (June 18, 2014) ([A3Y3C0](#)), 28-29; Exhibit B112-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to BC Nature and Nature Cda IR No. 1 (June 18, 2014) ([A3Y2C5](#)), 39-40; Exhibit B333-2 - Trans Mountain Pipeline ULC - Response to BC Nature IR No 2 Notice of Motion (March 12, 2015) ([A4J5C4](#)), 65-67; Exhibit B112-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to BC Nature and Nature Cda IR No. 1 (June 18, 2014) ([A3Y2C5](#)); B112-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to BC Nature and Nature Cda IR No. 1 (June 18, 2014) ([A3Y2C5](#)), 39-40.

⁴⁰¹ Exhibit C330-22-2 - Stz'uminus First Nation - Final Argument (January 12, 2016) ([A4X5I8](#)); Exhibit C355-38-1 - Tsawout First Nation - Final Written Submissions (January 12, 2016) ([A4X5W3](#)); Exhibit C124-9-1 - David Farmer - Final Argument in Chief (January 12, 2016) ([A4X5T0](#)); Exhibit C214-40-1 - Living Oceans Society and Raincoast Conservation Foundation - Final Argument (January 12, 2016) ([A4X5C0](#)); Exhibit C33-14-1 - Board of Friends of Ecological Reserves - Written Argument-in-Chief FINAL (January 12, 2016) ([A4X4W3](#)); Exhibit C376-18-2 - Washington State Department of Ecology - Written Argument In Chief (January 12, 2016) ([A4X4Y1](#)); Exhibit C77-61 - City of Vancouver - Written Argument (January 12, 2016) ([A75082](#)); Exhibit C336-11-2 - Swinomish, Tulalip, Suquamish, and Lummi Indian Nations - US Tribes Final Written Argument (January 12, 2016) ([A4X4I0](#)); Exhibit C288-36-1 - Pro Information Pro Environment United People Network - Written Submissions (Pipeup) (January 12, 2016) ([A4X5A8](#)); Exhibit C310-6-1 - Shackan Indian Band - Written Argument (January 12, 2016) ([A4X5E4](#)); Exhibit C358-30-2 - Tsleil-Waututh Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4V2](#)); Exhibit C354-14-2 - Tsartlip First Nation - Argument in Chief Final (January 12, 2016) ([A4X5I1](#)); Exhibit C359-9-2 - T'Sou-ke Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4W6](#)).

⁴⁰² Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 307-325.

⁴⁰³ Exhibit C214-40-1 - Living Oceans Society and Raincoast Conservation Foundation - Final Argument (January 12, 2016) ([A4X5C0](#)).

1804 raised by Living Oceans in Final Argument,⁴⁰⁴ responses to IRs,⁴⁰⁵ Reply Evidence,⁴⁰⁶ and the
1805 Application.⁴⁰⁷

1806 **4.6 Air Emissions**

1807 Intervenors raised concerns regarding air emissions in the Lower Mainland.⁴⁰⁸ Trans Mountain
1808 conducted an assessment of air emissions and provided a thorough discussion in Final
1809 Argument.⁴⁰⁹ There are no situations where there is predicted to be a high probability of occurrence
1810 of a permanent or long-term residual environmental effect on air emissions indicators of high
1811 magnitude that cannot be technically or economically mitigated.⁴¹⁰ Many of the intervenors
1812 repeated concerns in argument that Trans Mountain already addressed. Therefore, Trans Mountain
1813 will provide limited responses to specific intervenor concerns.

⁴⁰⁴ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 307-325.

⁴⁰⁵ Exhibit B32-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to NEB IR No. 1 (May 14, 2014) ([A3W9H8](#)), 154, 326, 329; Exhibit B239-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to NEB IR No. 2 (July 21, 2014) ([A3Z4T9](#)), 154.

⁴⁰⁶ Exhibit B417-4 - Trans Mountain Reply Evidence, Section 55 - Marine Mammals (August 20, 2015) ([A4S7F1](#)).

⁴⁰⁷ Exhibit B18-29 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 8A (December 17, 2013) ([A3S4Y3](#)); Exhibit B018-20 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 8A (December 17, 2013) ([A3S4X4](#)).

⁴⁰⁸ Exhibit C365-11-2 - Vancouver Port Authority - VFPA Final Written Argument-in-Chief (January 11, 2016) ([A4X3Y4](#)); Exhibit C33-14-1 - Board of Friends of Ecological Reserves- Written Argument-in-Chief FINAL Jan 12 (January 12, 2016) ([A4X4W3](#)); Exhibit C355-38-1 - Tsawout First Nation - Final Written Submissions (January 12, 2016) ([A4X5W3](#)); Exhibit C107-14 - District of West Vancouver - Final Argument in Chief (January 11, 2016) ([A4X3Y6](#)); Exhibit C77-61 - City of Vancouver - Written Argument (January 12, 2016) ([A75082](#)); Exhibit C69-61-2 - City of Burnaby - Final Argument of Burnaby (January 12, 2016) ([A4X4I6](#)); Exhibit C234-23-2 - Metro Vancouver - Written Argument (January 12, 2016) ([A4X4W0](#)); Exhibit C68-21-4 - Joint Municipal Submissions on Increased Infrastructure Costs from Pipeline (January 12, 2016) ([A4X5F7](#)); Exhibit C319-40 - Squamish Nation - Final Argument (January 12, 2016) ([A75108](#)).

⁴⁰⁹ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 243-255.

⁴¹⁰ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 255.

1814 NO₂ and PM_{2.5}

1815 NSNOPE adopted the evidence of Dr. Batterman on behalf of Living Oceans with respect to air
1816 quality related health risks of the Project.⁴¹¹ NSNOPE argued that the evidence of Dr. Batterman
1817 establishes a strong likelihood that the Project will cause or significantly contribute to material
1818 exceedances of regulatory thresholds for NO₂ and PM_{2.5}.

1819 Trans Mountain submits that NSNOPE's final argument has failed to reference the most recent
1820 NO₂ and PM_{2.5} predicted concentration results. Rather, NSNOPE has referenced previous NO₂ and
1821 PM_{2.5} concentration results for combined effects of the Application Case (terrestrial and marine
1822 emissions) with ambient background.⁴¹² The most current modelling results indicate the maximum
1823 predicted one-hour NO₂ concentration is 162 µg/m³ and the 98th percentile value is 128 µg/m³,
1824 both of which are below the MV ambient objective of 200 µg/m³ and British Columbia Interim
1825 Provincial Air Quality Objective of 188 µg/m³, respectively. The maximum predicted 24-hour
1826 PM_{2.5} concentration is 17.4 µg/m³ which is below the MV ambient objective of 25 µg/m³.⁴¹³

⁴¹¹ Exhibit C259-17-2 - North Shore NOPE - Final Written Argument (January 12, 2016) ([A4X4Y4](#)), 14.

⁴¹² Exhibit B6-10 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 5C (December 16, 2013) ([A3S1U1](#)).

Note: The dispersion modelling results were updated based on the refined engineering assumptions and presented in Supplemental Air Quality Technical Report for Technical Update No 2 (August 2014) and the Marine Air Quality and Greenhouse Gas Marine Transportation Technical Report, Supplemental Report No 2.

Exhibit B290-45 - Trans Mountain Pipeline ULC - Part 3 Marine AQ Supp Technical Report 2 Pt01 (December 1, 2014) ([A4F5H8](#)); Exhibit B290-46 - Trans Mountain Pipeline ULC - Part 3 Marine AQ Supp Technical Report 2 Pt02 (December 1, 2014) ([A4F5H9](#)); Exhibit B290-47 - Trans Mountain Pipeline ULC - Part 3 Marine AQ Supp Technical Report 2 Pt03 (December 1, 2014) ([A4F5I0](#)); Exhibit B290-48 - Trans Mountain Pipeline ULC - Part 3 Marine AQ Supp Technical Report 2 Pt04 (December 1, 2014) ([A4F5I1](#)); Exhibit B290-49 - Trans Mountain Pipeline ULC - Part 3 Marine AQ Supp Technical Report 2 Pt05 (December 1, 2014) ([A4F5I2](#)).

⁴¹³ Exhibit B316-16 - Trans Mountain Pipeline ULC - Trans Mountain Response to Metro Vancouver IR No. 2 (February 18, 2015) ([A4H8U8](#)), 27.

1827 Ozone

1828 Metro Vancouver alleged that there are a number of unresolved deficiencies in Trans Mountain's
1829 photochemical modelling of secondary formation of ozone.⁴¹⁴

1830 The updated modelling indicated no significant contribution from the Project to ozone levels or
1831 human health effects under worst-case meteorological scenarios. These findings are consistent
1832 with similar modeling conducted by Environment Canada.⁴¹⁵ Trans Mountain supports Metro
1833 Vancouver's initiatives to manage emissions in the Lower Fraser Valley and minimize any
1834 potential secondary ozone formation. Trans Mountain has also committed to installing
1835 technologically advanced vapour recovery equipment at the Westridge Marine Terminal, which,
1836 in addition to ensuring that the specific ambient air quality objectives will be achieved at the site,
1837 will also generally minimize the amount of volatile organic compounds ("VOC") as pre-cursors to
1838 secondary ozone formation.⁴¹⁶

1839 Vapour Collection Efficiency

1840 Metro Vancouver raised concerns regarding Trans Mountain's latest VOC emission estimates
1841 using measurements obtained from the Galena Park, Texas, U.S. facility ("Galena Park
1842 Terminal"). Metro Vancouver notes that the products loaded at the Galena Park Terminal are
1843 different from those at the Westridge Marine Terminal and argues that the products loaded at the
1844 Westridge Marine Terminal have physical properties that result in less efficient vapour collection
1845 than for the products on which the measurements are based.⁴¹⁷ Metro Vancouver argued that the

⁴¹⁴ Exhibit C234-23-2 - Metro Vancouver - Written Argument (January 12, 2016) ([A4X4W0](#)), 15, 20.

⁴¹⁵ Exhibit C121-3-11 - Environment Canada - Appendix F MSC Photochemical Scoping Report Feb2015 final (May 27, 2015) ([A4L8Z6](#)).

⁴¹⁶ Exhibit B306-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to NEB IR No. 3 (February 2, 2015) ([A4H1V2](#)), 183-184.

⁴¹⁷ Exhibit C234-23-2 - Metro Vancouver - Written Argument (January 12, 2016) ([A4X4W0](#)), 14.

1846 uncertainty in vapour collection efficiency results in a directly related uncertainty regarding the
1847 potential effect of benzene emissions. Metro Vancouver alleged that if the actual vapour collection
1848 efficiency is less than the latest assumption of 99.5 per cent, there is the potential for benzene
1849 emissions to result in ambient benzene concentrations that approach or potentially exceed ambient
1850 air quality objectives.⁴¹⁸ Metro Vancouver also submitted that the potential effect of benzene
1851 emissions from ship loading is unknown due to uncertainty in the vapour collection efficiency and
1852 as a result the assessment is incomplete.⁴¹⁹ Metro Vancouver suggests Trans Mountain should sum
1853 up all of the maximum predicted concentrations for all sources.

1854 The Galena Park Terminal loads both refined products (such as gasoline, gasoline blend stock and
1855 premium unleaded gasoline) and crude oil; whereas, the commodities being loaded at Westridge
1856 Marine Terminal will be heavy oil (as diluted bitumen) as well as synthetic crude oil.⁴²⁰ Trans
1857 Mountain submits that this commodity type is not expected to create a material difference with
1858 respect to vapour collection system performance.⁴²¹ Kinder Morgan's testing on three tankers
1859 loading at the Galena Park Terminal demonstrated typical VOC collection efficiencies during
1860 loading ranging from 99.865 per cent to 99.985 per cent.⁴²² Trans Mountain estimated fugitive
1861 emission rates from loading for VOCs and benzene, toluene, ethyl benzene and xylenes assuming

⁴¹⁸ Exhibit C234-23-2 - Metro Vancouver - Written Argument (January 12, 2016) ([A4X4W0](#)), 15.

⁴¹⁹ Exhibit C234-23-2 - Metro Vancouver - Written Argument (January 12, 2016) ([A4X4W0](#)), 18-19.

⁴²⁰ Exhibit B435-7 - Trans Mountain Pipeline ULC - Trans Mountain Response to Metro Vancouver Reply Evidence IR (November 12, 2015) ([A4V3W1](#)), 3.

⁴²¹ For example, the Reid vapour pressure for gasoline is 101 kPa (based on 2011 KMC Petroleum Properties) while the Reid vapour pressure of Cold Lake blend (as an example of heavy oil) is about 52 kPa. A higher Reid vapour pressure value will result in more fugitive emissions during loading (US EPA, 2008).

⁴²² Exhibit B413-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to NEB IR No. 6 (July 22, 2015) ([A4R614](#)), 17.

1862 the more conservative collection efficiency of 99.5 per cent,⁴²³ which is higher than the minimum
1863 collection efficiency of 99.865 per cent among all three tanker sample results.⁴²⁴

1864 The actual VOC collection efficiency at Westridge Marine Terminal is expected to be equivalent
1865 to or higher than that of Galena Park Terminal. However, even using the more conservative
1866 collection efficiency of 99.5 per cent the maximum predicted one-hour and annual benzene
1867 concentrations as a result of fugitive emissions from three tankers loading at three berths are
1868 predicted to remain below the Alberta Ambient Air Quality Objectives, which Trans Mountain has
1869 adopted in the absence of any similar objectives in B.C.⁴²⁵

1870 Metro Vancouver's suggested approach to sum up all maximum predicted concentrations is overly
1871 conservative and unrealistic because the maximum predicted benzene concentrations will not
1872 occur at the same time or receptor location.⁴²⁶ Further, Metro Vancouver's approach is non-
1873 compliant with the Guidelines for Air Quality Dispersion Modelling in B.C. which Metro
1874 Vancouver agreed to adopt in the approved Detailed Model Work Plan.

1875 To ensure the accuracy and effectiveness of the vapour collection system performance, Trans
1876 Mountain will undertake sampling surveys onboard randomly selected tankers at Westridge

⁴²³ As noted in Trans Mountain's Reply Evidence, Metro Vancouver's default collection efficiency of 95% is outdated and unrealistic.

⁴²⁴ Exhibit B417-2 - Trans Mountain Reply Evidence, Section 33 - Air Quality (August 20, 2015) ([A4S7E9](#)), 33-2.

⁴²⁵ Exhibit B435-7 - Trans Mountain Pipeline ULC - Trans Mountain Response to Metro Vancouver Reply Evidence IR (November 12, 2015) ([A4V3W1](#)), 5.

⁴²⁶ Exhibit B435-7 - Trans Mountain Pipeline ULC - Trans Mountain Response to Metro Vancouver Reply Evidence IR (November 12, 2015) ([A4V3W1](#)), 5.

1877 Marine Terminal during which cargo tank covers and associated seals will be checked for leaks of
1878 total hydrocarbon or total VOCs measurements using a real-time portable monitor.⁴²⁷

1879 Land Use Classifications

1880 In Final Argument Trans Mountain stated that the land use in its dispersion model is one of two
1881 land use datasets recommended in the Guidelines for Air Quality Dispersion Modelling in B.C.
1882 Metro Vancouver submitted that, based on evidence it has submitted, there are significant
1883 differences in land use classifications on Burnaby Mountain and the area adjacent to the Westridge
1884 Marine Terminal. Based on this, Metro Vancouver argued that Trans Mountain has made errors
1885 during data formatting or used outdated data, resulting in the misclassification of forested areas on
1886 Burnaby Mountain and the area adjacent to the Westridge Marine Terminal as an urban land use.
1887 Metro Vancouver goes on to state that Trans Mountain has not provided any evidence to support
1888 the claim made in Final Argument that “[i]t is not expected to materially affect the predicted
1889 results”. In contrast, Metro Vancouver’s evidence is that “[i]ncorrectly assigned land use in
1890 CALPUFF may result in differences in predicted ground level concentrations of up to 50 per
1891 cent.”⁴²⁸

1892 Trans Mountain disagrees with this assertion. The Novus Environmental Report⁴²⁹ relied on by
1893 Metro Vancouver shows a range of potential error from 5 per cent to 50 per cent based on “personal
1894 experience” without providing any evidence to support this claim. The Novus Environmental

⁴²⁷ Exhibit B314-24 - Trans Mountain Pipeline ULC - Trans Mountain Response to City of Port Moody IR No. 2 ([A4H8G7](#)), 188; Exhibit B310-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to GoC IR No. 2 (February 12, 2015) ([A4H6A5](#)), 320-330.

⁴²⁸ Exhibit C234-23-2 - Metro Vancouver - Written Argument (January 12, 2016) ([A4X4W0](#)), 15.

⁴²⁹ Exhibit C234-7-14 - Metro Vancouver - Exhibit 09, Tech Memo-Importance of Land Use Data Applied to CALPUFF Modelling (May 27, 2015) ([A4L7Z5](#)).

1895 Report also referenced two studies which indicated that “a change in land use might change either
1896 ground level concentrations or (particulate matter) depositions up to 30 per cent”.⁴³⁰

1897 One of references cited, Bell et al. (2010), indicates that differences in geophysical parameters
1898 results in minimal differences in ground-level SO₂ concentrations. According to Bell, the 30 per
1899 cent difference is incorrectly applied by Novus and corresponds to deposition patterns of
1900 particulate matter, not predicted concentrations, which is the subject matter at hand.

1901 Metro Vancouver correctly pointed out that Trans Mountain committed to “updating the defined
1902 land use areas for the updated dispersion modelling” in Final Argument. However, Metro
1903 Vancouver submitted that “this is not sufficient, as the NEB needs updated land use areas and
1904 dispersion modelling in order to make its recommendation.” Metro Vancouver argued that Trans
1905 Mountain has not provided the correct modelling for the NEB’s process. Therefore, Metro
1906 Vancouver took the position that Trans Mountain’s assessment of air quality is inadequate and
1907 incomplete.⁴³¹

1908 Trans Mountain submits an update to the land use type used in the modeling is not expected to
1909 result in a material difference in the outcome and, in any event, Trans Mountain will meet all
1910 applicable ambient air quality objectives and implement any engineering design upgrades to
1911 achieve this outcome. In addition, Trans Mountain will be conducting updated modelling after 80
1912 per cent completion of the design engineering to confirm its assessment and will provide the results
1913 to both the NEB and PMV.

⁴³⁰ Exhibit C234-7-14 - Metro Vancouver - Exhibit 09, Tech Memo-Importance of Land Use Data Applied to CALPUFF Modelling (May 27, 2015) ([A4L7Z5](#)), 2.

⁴³¹ Exhibit C234-23-2 - Metro Vancouver - Written Argument (January 12, 2016) ([A4X4W0](#)), 24.

1914 SO₂

1915 Metro Vancouver argued that sulphur dioxide monitoring is needed in the Queensbury
1916 neighbourhood as a result of the Project until the year 2030 or until multiple years of ambient air
1917 quality data demonstrate that the Metro Vancouver sulphur dioxide interim objective is not
1918 exceeded as a result of the Project.⁴³²

1919 Trans Mountain notes that the maximum sulphur content in fuel oils in emission control areas such
1920 as the Port of Metro Vancouver decreased to 0.1 per cent starting January 1, 2015.⁴³³ Thus, it is
1921 more appropriate to assess SO₂ maximum concentrations using non-Project vessel underway
1922 traffic, berth and anchorage emissions from year 2030 MEIT which accounts for all new
1923 regulations in place as the startup of the Project is after the new regulation comes into force. The
1924 maximum predicted SO₂ concentration for combined effects of emissions from the Burnaby
1925 Terminal,⁴³⁴ the Westridge Marine Terminal and all marine transportation traffic (using the GoC
1926 EC MEIT for year 2030), including Trans Mountain boiler emissions from tankers at berths, is
1927 about a third of the Metro Vancouver interim one-hour objective of 196 µg/m³.⁴³⁵ Therefore, there
1928 is no expectation to support the assertion that there will be any predicted exceedances of the SO₂
1929 ambient objective from the Project and no reason to suggest that any additional monitoring beyond
1930 that described in NEB Draft Condition No. 19 is required.⁴³⁶

⁴³² Exhibit C234-23-2 - Metro Vancouver - Written Argument (January 12, 2016) ([A4X4W0](#)), 24.

⁴³³ Exhibit B290-45 - Trans Mountain Pipeline ULC - Part 3 Marine AQ Supp Technical Report 2 Pt01 (December 1, 2014) ([A4F5H8](#)), 31.

⁴³⁴ Note: The only continuous emission sources of interest at Burnaby Terminal are VOCs from the product storage tanks; therefore, there were no SO₂ emissions modeled from Burnaby Terminal.

⁴³⁵ Exhibit B417-2 - Trans Mountain Reply Evidence, Section 33 - Air Quality (August 20, 2015) ([A4S7E9](#)), 33-14 - 33-20.

⁴³⁶ Note: This will be confirmed in upcoming dispersion modelling that was requested by Port Metro Vancouver and will be made available to the NEB. The updated Base and Application Cases will be changed to year 2015 from 2010 to capture the lower sulphur content in marine fuel and verify ongoing compliance with the MV interim ambient SO₂ objective.

1931 The evidence on the record indicates that the Project will continue to meet all applicable ambient
1932 air quality objectives and regulatory requirements.⁴³⁷ Trans Mountain will consult with the Lower
1933 Fraser Valley agencies on the Air Emissions Management Plan. In addition, Trans Mountain will
1934 be conducting ambient monitoring at Westridge Marine Terminal during operations pursuant to
1935 NEB Draft Condition Nos. 19, 21 and 54.⁴³⁸ Trans Mountain submits that the air quality
1936 assessments are accurate and provide sufficient information to fulfill the NEB's requirements.

1937 **4.7 Acoustic Environment**

1938 Intervenors raised concerns regarding the increase in noise emissions as a result of the Project,
1939 primarily in the Lower Mainland.⁴³⁹ Trans Mountain provided a detailed discussion regarding the
1940 acoustic environment in Final Argument.⁴⁴⁰ Specifically, Trans Mountain acknowledged that the
1941 operation of the pump stations, terminal facilities and Westridge Marine Terminal will result in an
1942 increase in continuous sound levels. This is an unavoidable fact of operating the Project. However,
1943 Trans Mountain has detailed the various mitigation measures to mitigate the adverse effects that
1944 may occur including compliance with NEB Draft Conditions regarding noise.⁴⁴¹ For these reasons,
1945 Trans Mountain is confident that any noise emissions from the Project facilities will comply with
1946 applicable noise objectives.

⁴³⁷ Exhibit B417-2 - Trans Mountain Reply Evidence, Section 33 - Air Quality (August 20, 2015) ([A4S7E9](#)), 33-14.

⁴³⁸ Exhibit B417-2 - Trans Mountain Reply Evidence, Section 33 - Air Quality (August 20, 2015) ([A4S7E9](#)), 33-2 - 33-4.

⁴³⁹ Exhibit C107-14 - District of West Vancouver - Final Argument in Chief (January 11, 2016) ([A4X3Y6](#)), 20; Exhibit C259-17-2 - North Shore NOPE - Final Written Argument (January 12, 2016) ([A4X4Y4](#)), 6.

⁴⁴⁰ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 260-262.

⁴⁴¹ For example: Trans Mountain will develop noise management plans for the Project construction which will incorporate the components of Draft Condition Nos. 63 (Pipeline EPP), 96 (Tunnel Construction Noise Management Plan for Burnaby Mountain), 147 (Horizontal directional drilling (HDD) Noise Management Plan) and 148 (Noise Management Plan for construction at pump stations, tank terminals and the Westridge Marine Terminal) with the goal of limiting the effect of noise at sensitive receptors and include a monitoring component to verify effectiveness of controls.

1947 Further concerns regarding the acoustic environment were raised by NSNOPE.⁴⁴² Trans Mountain
1948 notes that all of the issues raised by NSNOPE are dealt with in evidence on the public record,
1949 including in Reply Evidence⁴⁴³ and in Trans Mountain's response to NSNOPE IR No. 1.10.⁴⁴⁴
1950 After design and mitigation details are further developed, Trans Mountain will prepare an updated
1951 Westridge Marine Terminal EPP, a Noise Management Plan, a Horizontal directional drilling
1952 Noise Management Plan, a Noise Management Plan for construction at pump stations, terminals
1953 and the Westridge Marine Terminal, and conduct post-construction noise surveys as required by
1954 NEB Draft Conditions Nos. 31, 33, 147, 148 and 57, respectively. The objective of the monitoring
1955 program is to ensure that noise is kept within guideline limits at the most affected receptors. Noise
1956 controls that reduce noise for the residences closest to Westridge Marine Terminal will also reduce
1957 noise at residences farther away from the Westridge Marine Terminal. Any verification of
1958 operations noise from the Westridge Marine Terminal will include tanker movements in Burrard
1959 Inlet as part of the cumulative noise levels.⁴⁴⁵ Based on the foregoing, Trans Mountain is confident
1960 that it can mitigate Project noise emissions to acceptable levels.

⁴⁴² Exhibit C259-17-2 - North Shore NOPE - Final Written Argument (January 12, 2016) ([A4X4Y4](#)), 6.

⁴⁴³ Exhibit B417-2 - Trans Mountain Reply Evidence, Section 34 - Acoustic Environment/Noise (August 20, 2016) ([A4S7E9](#)).

⁴⁴⁴ Exhibit B182-2 - Trans Mountain Response to NSNOPE IR No. 1 (July 4, 2014) ([A3Y8X8](#)), 30-32.

⁴⁴⁵ Exhibit B417-2 - Trans Mountain Reply Evidence, Section 34 - Acoustic Environment/Noise (August 20, 2016) ([A4S7E9](#)).

1961 **4.8 Human Health Risk Assessment**

1962 Intervenor raised concerns regarding Trans Mountain's Human Health Risk Assessments
1963 ("HHRAs").⁴⁴⁶ Trans Mountain discussed and dealt with these concerns in Final Argument.⁴⁴⁷
1964 Trans Mountain has presented extensive evidence in the HHRAs regarding the nature and extent
1965 to which peoples' health could be affected from exposure to the chemicals emitted from the Project
1966 and Project-related marine traffic.⁴⁴⁸ Trans Mountain conducted four HHRAs to assess potential
1967 impacts and provided comprehensive evidence regarding the HHRAs in Reply Evidence.⁴⁴⁹ Trans
1968 Mountain submits that the evidence on the record supports its HHRAs, and provides the following
1969 responses to certain intervenors arguments.

1970 *B.C. and Federal Guidance Documents*

1971 The City of North Vancouver alleged that the HHRAs are inadequate and that they fail to conform
1972 to the requirements of the B.C. Ministry of Environment. In addition, the City of North Vancouver

⁴⁴⁶ Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 98; Exhibit C73-10-1 - City of North Vancouver - Final Written Argument in Chief (January 11, 2016) ([A4X3V3](#)), 15; Exhibit C404-12-2 - Simon Fraser University - Final Argument (January 4, 2016) ([A4X2V3](#)), 8-11, 21; Exhibit C379-11-1 - Andrew Weaver - Written Argument-in-Chief (January 8, 2016) ([A4X3L0](#)), 30; Exhibit C340-17-1 - Calvin Taplay - Written Argument-in-Chief (January 12, 2016) ([A4X5J1](#)), 4; Exhibit C259-17-2 - North Shore NOPE - Final Written Argument (January 12, 2016) ([A4X4Y4](#)), 26, 46; Exhibit C41-13-2 - Burnaby Residents Opposing Kinder Morgan Expansion - BROKE Written Argument-in-Chief (January 12, 2016) ([A4X4Z7](#)), 25; Exhibit C319-40 - Squamish Nation - Final Argument (January 12, 2016) ([A75108](#)), 74.

⁴⁴⁷ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 375-396.

⁴⁴⁸ Exhibit B5-7 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 4C (December 16, 2013) ([A3S1L1](#)); Exhibit B5-8 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 5A (December 16, 2013) ([A3S1L2](#)); Exhibit B5-11 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 5A (December 16, 2013) ([A3S1L5](#)); Exhibit B5-13 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 5A (December 16, 2013) ([A3S1L7](#)); Exhibit B5-22 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 5A (December 16, 2013) ([A3S1R1](#)); Exhibit B107-1 - Trans Mountain Pipeline ULC - HHRA Westridge Marine Terminal Part 1 (June 16, 2014) ([A3Y1F4](#)); Exhibit B107-2 - Trans Mountain Pipeline ULC - HHRA Westridge Marine Terminal Part 2 (June 16, 2014) ([A3Y1F5](#)); Exhibit B108-1 - Trans Mountain Pipeline ULC - HHRA Marine Transportation Part 1 (June 16, 2014) ([A3Y1F7](#)); Exhibit B108-2 - Trans Mountain Pipeline ULC - HHRA Marine Transportation Part 2 (June 16, 2014) ([A3Y1F8](#)).

⁴⁴⁹ Exhibit B417-3 - Trans Mountain Reply Evidence, Section 45 - Human Health Risk Assessment (August 20, 2015) ([A4S7F0](#)).

1973 submitted that the HHRA does not refer to Health Canada guidance documents.⁴⁵⁰ These views
1974 are not supported by the evidence. Trans Mountain's approach for the HHRA's of various spill
1975 scenarios was adequate and in-line with guidance provided by the B.C. Ministry of Environment
1976 and Health Canada for contaminated sites.⁴⁵¹

1977 Consideration of Risk, Benzene and 1,3-Butadiene

1978 BROKE, relying on Dr. Takaro's report, argued that the HHRA did not adequately consider the
1979 risks in the event of an accident, malfunction or seismic event causing a spill. BROKE argued that
1980 Trans Mountain failed to adequately consider the public health risks associated with accident-
1981 based exposure to benzene and 1,3-butadiene.⁴⁵² This is incorrect. Contrary to BROKE's claim,
1982 the potential impacts on human health of the spillage of oil from a pipeline, facility or marine
1983 vessel associated with the Project have been adequately characterized.⁴⁵³

1984 BROKE's specific concerns⁴⁵⁴ regarding exposure to benzene and 1,3-butadiene following a spill,
1985 outlined in Dr. Takaro's expert report, have been addressed in Reply Evidence.⁴⁵⁵ In the unlikely
1986 event of a spill it is reasonable to expect that 1,3-butadiene would not be emitted in the vapours

⁴⁵⁰ Exhibit C73-10-1 - City of North Vancouver - Final Written Argument in Chief (January 11, 2016) ([A4X3V3](#)), 15.

⁴⁵¹ Exhibit B417-3 - Trans Mountain Pipeline Reply Evidence, Section 45 - Ecological Risk Assessment (August 20, 2015) ([A4S7F0](#)), section 45.2.

⁴⁵² Exhibit C41-13-2 - Burnaby Residents Opposing Kinder Morgan Expansion - BROKE Written Argument-in-Chief (January 12, 2016) ([A4X4Z7](#)), 26-27.

⁴⁵³ Exhibit B18-18 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 7 (December 17, 2013) ([A3S4X2](#)); Exhibit B19-39 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 8B (December 17, 2013) ([A3S4R2](#)); Exhibit B88-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to Surrey Teachers IR No 1.5a-Attachment1 (June 4, 2014) ([A3X6U1](#)); Exhibits B106-1 to B106-4 - Trans Mountain Pipeline ULC - Various Filing Human Health Risk Assessment of Facility and Marine Spill Scenarios Technical Report for the Trans Mountain Pipeline ULC Trans Mountain Expansion Project (June 16, 2014) ([A61083](#)), and summarized in Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 385-386.

⁴⁵⁴ Exhibit C259-9-5 - North Shore NOPE - App B to T. Takaro evidence (report) (May 27, 2015) ([A4L9R1](#)).

⁴⁵⁵ Exhibit B417-3 - Trans Mountain Reply Evidence, Section 45 - Human Health Risk Assessment (August 20, 2015) ([A4S7F0](#)).

1987 from the surface of the spilled oil and there is no indication that peoples' health would be adversely
1988 affected by short-term inhalation exposure to benzene vapours beyond the mild, transient health
1989 effects described above.

1990 Dr. Takaro's claim that no HHRA has been conducted describing potential risks resulting from a
1991 spill in the most heavily populated areas affected by the pipeline is unfounded. To assess the
1992 potential impacts of an accident or malfunction involving a pipeline spill, a HHRA aimed at
1993 identifying and understanding the potential health effects that might be experienced by people
1994 under a set of simulated and unmitigated pipeline oil spill scenarios was completed.⁴⁵⁶ Further
1995 details regarding the HHRA of pipeline spill scenarios are available in the Pipeline Spill Scenarios
1996 Technical Report⁴⁵⁷ and have been summarized in Reply Evidence⁴⁵⁸ and Final Argument.⁴⁵⁹
1997 Trans Mountain submits that, in the unlikely event of an accident, malfunction or seismic event
1998 causing a spill, the risks have been adequately assessed.

1999 Contrary to Simon Fraser University's assertion,⁴⁶⁰ Trans Mountain's HHRAs adequately
2000 characterized the potential risks to human health associated with the Project. In Reply Evidence,⁴⁶¹
2001 Trans Mountain responded to each of the gaps identified by Shum et al. in the letter report entitled

⁴⁵⁶ Exhibit B88-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to Surrey Teachers IR No 1.5a-Attachment1 (June 4, 2014) ([A3X6U1](#)).

⁴⁵⁷ Exhibit B88-2 - Trans Mountain Response to Surrey Teachers IR No. 1.5a-Attachment1 (June 4, 2014) ([A3X6U1](#)); Exhibit B417-3 - Trans Mountain Reply Evidence, Section 45 - Human Health Risk Assessment (August 20, 2015) ([A4S7F0](#)), section 45.2; Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), section 8.3.3.2.

⁴⁵⁸ Exhibit B417-3 - Trans Mountain Reply Evidence, Section 45 - Human Health Risk Assessment (August 20, 2015) ([A4S7F0](#)), section 45.2.

⁴⁵⁹ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), section 8.3.3.2.

⁴⁶⁰ Exhibit C404-12-2 - Simon Fraser University - Final Argument (January 4, 2016) ([A4X2V3](#)), 19-25.

⁴⁶¹ Exhibit B417-3 - Trans Mountain Reply Evidence, Section 45 - Human Health Risk Assessment (August 20, 2015) ([A4S7F0](#)).

2002 “Trans Mountain Expansion Project – Review of Human Health Risk Assessments, Evidence
2003 Report”.⁴⁶² Trans Mountain has carefully considered each of the points raised by Shum et al. and,
2004 based on the evidence on the record, submits that the potential health risks associated with Project
2005 have been adequately characterized, and that an updated HHRA is not necessary.

2006 Consideration of Diesel Particulate Matter

2007 Metro Vancouver contended that Trans Mountain failed to provide sufficient evidence to support
2008 the conclusion that diesel particulate matter (“DPM”) emitted from Project-related marine vessel
2009 traffic is not expected to adversely affect health in the region.⁴⁶³ This contention is wrong for the
2010 following reasons.

2011 First, Metro Vancouver suggested that it was inappropriate for Trans Mountain to use a
2012 “population level” approach for assessing the potential health risks of DPM. However, in Reply
2013 Evidence,⁴⁶⁴ Trans Mountain explained that its use of DPM air concentrations averaged over a
2014 five km radius centred on the Westridge Marine Terminal is consistent with the approach presented
2015 in the two studies that Metro Vancouver relied on in their evidence, namely Levelton’s 2007 “Air
2016 Toxics Emission Inventory and Health Risk Assessment” and Sonoma Technology’s 2015 “Toxic
2017 Air Pollutants Risk Assessment”.⁴⁶⁵ These studies presented single DPM air concentrations and
2018 carcinogenic risk estimates for the entire Greater Vancouver Regional District and Fraser Valley
2019 Regional District region. Contrary to Metro Vancouver’s assertion, Metro Vancouver’s own

⁴⁶² Exhibit C404-3-3 - Simon Fraser University - PGL Report - May 21, 2015 (May 27, 2015) ([A4Q0X8](#)).

⁴⁶³ Exhibit C234-23-2 - Metro Vancouver - Written Argument (January 12, 2016) ([A4X4W0](#)), 25-27.

⁴⁶⁴ Exhibit B417-3 - Trans Mountain Reply Evidence, Section 45 - Human Health Risk Assessment (August 20, 2015) ([A4S7F0](#)).

⁴⁶⁵ Exhibit C234-7-2 - Metro Vancouver - MV Evidence Submission Final (May 27, 2015) ([A4L7Y3](#)).

2020 evidence supports Trans Mountain’s use of a “population-level” approach when characterizing the
2021 potential risks to DPM.

2022 Second, although Metro Vancouver acknowledged the uncertainty in the California Office of
2023 Environmental Health Hazard Assessment (“OEHHA”) unit risk value for DPM, it reiterated its
2024 position that an “appropriately conservative risk assessment approach would be to use the
2025 OEHHA’s cancer unit in the Trans Mountain risk assessment, while acknowledging the inherent
2026 uncertainty raised by the United States Environmental Protection Agency and others.” Metro
2027 Vancouver stated that “the uncertainty in the California [OEHHA] unit risk provides the impetus
2028 for a more detailed investigation into the potential for [DPM] related health impacts associated
2029 with the Project, as well as for the design of a monitoring program that would track DPM emissions
2030 and ambient concentrations associated with the Project should it be approved.”⁴⁶⁶ The facts are
2031 that: (a) Trans Mountain used the OEHHA’s cancer unit risk value and offered a more detailed
2032 assessment than its initial response to Fraser Valley Regional District IR No. 2⁴⁶⁷ in its Reply
2033 Evidence;⁴⁶⁸ and, (b) Trans Mountain supports NEB Draft Condition No. 19 which includes
2034 construction and operation of a new ambient air monitoring station at the Westridge Marine
2035 Terminal that will measure a number of contaminants of potential concern such as DPM (possibly
2036 as elemental carbon) and speciated PM_{2.5}.

2037 Third, Metro Vancouver contended that standard HHRA practice requires that “any risk that
2038 exceeds cancer and non-cancer screening levels by even a small margin is considerable enough to
2039 warrant further investigation.” Metro Vancouver’s assertion appears to stem from their

⁴⁶⁶ Exhibit C234-23-2 - Metro Vancouver - Written Argument (January 12, 2016) ([A4X4W0](#)), 27.

⁴⁶⁷ Exhibit B315-44 - Trans Mountain Pipeline ULC - Trans Mountain Response to FVRD IR No. 2 (February 18, 2015) ([A4H8S0](#)).

⁴⁶⁸ Exhibit B417-3 - Trans Mountain Reply Evidence, Section 45 - Human Health Risk Assessment (August 20, 2015) ([A4S7F0](#)).

2040 interpretation of the estimated incremental lifetime cancer risk associated with the maximum
2041 predicted DPM concentration near the Westridge Marine Terminal.⁴⁶⁹ Metro Vancouver's use of
2042 the maximum DPM air concentrations to make its point is inconsistent with the approach employed
2043 in the Levelton and Sonoma Technology studies it relied on in its intervenor evidence. Trans
2044 Mountain followed the same approach used in those studies by using an average DPM air
2045 concentration to characterize the incremental lifetime cancer risk in the area. The resulting DPM-
2046 related cancer risk does not exceed the cancer screening level of 1 in 100,000. Trans Mountain
2047 supports NEB Draft Condition No. 19, which will allow for further investigation of DPM-related
2048 risk in the vicinity of the Westridge Marine Terminal.

2049 Trans Mountain's discussion of annual cancer incidence data was intended to highlight the
2050 uncertainty that surrounds the use of the OEHHA unit risk value for DPM. Trans Mountain
2051 acknowledges the value in using lifetime probabilities of developing cancer when comparing to
2052 the DPM-related cancer risks. However, this does not change Trans Mountain's position that
2053 DPM-related cancer predictions based on the OEHHA unit risk need to be interpreted with a degree
2054 of caution, wherein the uncertainty of the risk estimates are fully recognized. Trans Mountain's
2055 position with respect to this uncertainty is consistent with the United States Environmental
2056 Protection Agency's assessment of DPM.⁴⁷⁰

2057 Trans Mountain has presented a comprehensive and detailed analysis of the potential health risks
2058 associated with DPM. Based on the findings of this analysis, Project-related marine vessel traffic
2059 is not expected to adversely affect health in the region.

⁴⁶⁹ Exhibit B417-3 - Trans Mountain Reply Evidence, Section 45 - Human Health Risk Assessment (August 20, 2015) ([A4S7F0](#)).

⁴⁷⁰ Exhibit B417-3 - Trans Mountain Reply Evidence, Section 45 - Human Health Risk Assessment (August 20, 2015) ([A4S7F0](#)).

2060 Risks to Public Areas

2061 (a) Routine Operations

2062 Calvin Taplay expressed concerns regarding: (1) the risk of diluted bitumen facilitates to public
2063 safety through potential fugitive emissions and spills; (2) the threat to conservation areas and
2064 public parks through potential diluted bitumen spills; (3) the threat of health effects due to spill
2065 emissions; and (4) the threat to residents of an urban environment through potential diluted
2066 bitumen spills.⁴⁷¹

2067 Trans Mountain conducted a pair of HHRAs aimed at identifying and understanding the potential
2068 risks to human health associated with chemical emissions, including fugitive emissions, from the
2069 Project under routine operating conditions.⁴⁷²

2070 The HHRAs revealed that, notwithstanding the conservative assumptions employed, the maximum
2071 predicted levels of exposure to the chemicals of potential concern remained below the levels of
2072 exposure that would be expected to cause health effects for even the most sensitive individuals in
2073 the population.

2074 Additionally, Trans Mountain commits to design each terminal such that the ground-level air
2075 concentrations of the chemicals of potential concern, including those chemicals identified to be of
2076 particular concern by intervenors and Health Canada (e.g., benzene, nitrogen dioxide, and fine
2077 particulate matter), are below the lowest applicable Ambient Air Quality Objective established in
2078 B.C. or Alberta.⁴⁷³ To ensure that these objectives are met, Trans Mountain has also agreed to

⁴⁷¹ Exhibit C340-17-1 - Calvin Taplay - Written Argument-in-Chief (January 12, 2016) ([A4X5J1](#)).

⁴⁷² Exhibit B417-3 - Trans Mountain Reply Evidence, Section 45 - Human Health Risk Assessment (August 20, 2015) ([A4S7F0](#)), section 45.1; Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), section 8.3.3.1.

⁴⁷³ Exhibit B306-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to NEB IR No. 3 (February 3, 2015) ([A4H1V2](#)).

2079 update its air quality assessment as the Project's engineering design nears or reaches completion,
2080 and to conduct ambient air quality monitoring and reporting at a new station to be installed at the
2081 Westridge Marine Terminal.⁴⁷⁴ That the findings and conclusions of the HHRAs remain valid and
2082 accurately reflect the manner and extent to which peoples' health could be affected by exposure to
2083 the chemical emissions associated with the Project. Trans Mountain submits that, the potential
2084 health risks that could be presented to the general public from exposure to the emissions will be
2085 negligible and no adverse health effects are anticipated.⁴⁷⁵

2086 (b) Accidents and Malfunctions

2087 Trans Mountain also conducted a series of HHRAs with the aim of identifying and understanding
2088 the potential health effects that might be experienced by people in the unlikely event of an oil
2089 spill.⁴⁷⁶ Some of the major conclusions that emerged from the HHRAs⁴⁷⁷ were:

2090 (i) in the unlikely event of an oil spill, there was no obvious indication that
2091 people's health would be seriously adversely affected by acute inhalation
2092 exposure to the chemical vapours released during the early stages of a spill
2093 under any of the simulated oil spill scenarios examined; and

⁴⁷⁴ Exhibit B316-33 - Trans Mountain Pipeline ULC - Trans Mountain Response to PMV IR No. 2 (February 18, 2015) ([A4H8W5](#)), 57-59.

⁴⁷⁵ Note: in Exhibit B384-18 - Trans Mountain Pipeline ULC - Trans Mountain Response to GoC F-IR No. 2 (May 4, 2015) ([A4L0A5](#)), 6-7, Trans Mountain has committed to update its HHRA of the Westridge Marine Terminal should the updated air quality assessment reveal further increases in the predicted ground-level air concentrations of the chemicals of potential concern over populated areas under the Base, Application, or Cumulative cases.

⁴⁷⁶ Exhibit B18-18 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 7 (December 17, 2013) ([A3S4X2](#)); Exhibit B88-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to Surrey Teachers IR No. 1.5a-Attachment1 (June 4, 2014) ([A3X6U1](#)); B106-1 - B106-4 - Trans Mountain Pipeline ULC - Various Filing Human Health Risk Assessment of Facility and Marine Spill Scenarios Technical Report for the Trans Mountain Pipeline ULC Trans Mountain Expansion Project (June 16, 2014) ([A61083](#)).

⁴⁷⁷ The manner by which the HHRAs were performed, the results that emerged, and the conclusions that were reached were summarized in Trans Mountain's Reply Evidence and Final Argument: Exhibit B417-3 - Trans Mountain Reply Evidence, Section 45 - Human Health Risk Assessment (August 20, 2015) ([A4S7F0](#)), section 45.2; Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), section 8.3.3.2.

2094 (ii) in the unlikely event of an oil spill, the health effects that could be
2095 experienced by people in the area would likely be confined to mild, transient
2096 sensory and/or non-sensory effects, attributable largely to the irritant and
2097 central nervous system depressant properties of the chemicals. Odours also
2098 might be noticed, which could contribute to added discomfort and
2099 irritability.

2100 The HHRAs conducted by Trans Mountain adequately address the concerns raised by Mr. Taplay.

2101 **4.9 Increased Marine Traffic**

2102 Intervenors raised concerns regarding the increase in marine traffic and the impact that increased
2103 marine traffic may have on their existing use of the land and marine environment, as well as
2104 impacts on marine tourism.⁴⁷⁸ Trans Mountain submits that these concerns have been addressed
2105 in Final Argument and the corresponding evidence on the record and that no further response is
2106 required.⁴⁷⁹

⁴⁷⁸ Exhibit C219-13-1 - Lyackson First Nation - Written Submissions (January 12, 2016) ([A4X5K1](#)), 12; Exhibit C277-6-1 - Pauquachin First Nation - Final Argument (January 12, 2016) ([A4X4F8](#)), 5; Exhibit C355-38-1 - Tsawout First Nation - Final Written Submissions (January 12, 2016) ([A4X5W3](#)), 61; Exhibit C359-9-2 - T'Souke Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4W6](#)); Exhibit C318-5-2 - Snuneymuxw First Nation - Written Argument-in-chief (January 12, 2016) ([A4X4Z4](#)); Exhibit C358-30-2 - Tsleil-Waututh Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4V2](#)), 87; Exhibit C354-14-2 - Tsartlip First Nation - Argument in Chief Final (January 12, 2016) ([A4X5I1](#)); Exhibit C69-61-2 - Final Argument of Burnaby (January 12, 2016) ([A4X4I6](#)); Exhibit C108-6-2 - Ditidaht First Nation - Final Argument (January 12, 2016) ([A4X4T8](#)).

⁴⁷⁹ Trans Mountain addressed concerns relating to the increase in marine traffic in Final Argument. In addition, Trans Mountain addressed concerns regarding marine commercial, recreational and tourism use in Final Argument. With respect to vessel wake, Trans Mountain addressed these concerns in Final Argument: see Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), section 8.3.2.

2107 **4.10 Accidents and Malfunctions (Pipeline and Facilities)**

2108 Intervenors raised concerns regarding accidents and malfunctions related to the pipeline and
2109 facilities.⁴⁸⁰ Trans Mountain addressed the concerns regarding accidents and malfunctions
2110 (pipeline and facilities) in Final Argument and adequately assessed the potential spill-related
2111 effects that could result from a large oil spill at almost any location along the proposed corridor,
2112 including spills that could affect smaller streams.⁴⁸¹

2113 **4.11 Accidents and Malfunctions (Marine Spill)**

2114 Intervenors raised concerns with Trans Mountain's assessment of marine incidents as well as the
2115 methodology applied by Trans Mountain to evaluate the potential effects of accidents and
2116 malfunctions, particularly worst-case and smaller tanker spills.⁴⁸² Trans Mountain notes that
2117 intervenors' arguments largely relied on their own evidence with only minimal reference to the
2118 extensive evidence put on the record by Trans Mountain throughout this proceeding. While Trans
2119 Mountain acknowledges the concerns of Aboriginal groups, governments and stakeholders

⁴⁸⁰ Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 90; Exhibit C400-13 - Cheam and Chawathil First Nations - Written Argument (January 12, 2016) ([A4X5K4](#)), 4-5; Exhibit C187-20-2 - Katzie First Nation - Final Argument (January 12, 2016) ([A4X4E4](#)); Exhibit C232-9-1 - Metis Nation of Alberta Gunn Metis Local 55 - GML 55 Final Argument (January 11, 2016) ([A4X3Z6](#)).

⁴⁸¹ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 288 - 294.

⁴⁸² Exhibit C318-5 - Snuneymuxw First Nation - Written Argument-in-chief (January 12, 2016) ([A4X4Z4](#)), 17; Exhibit C319-40 - Squamish Nation - Final Argument (January 12, 2016) ([A75108](#)); Exhibit C277-6-1 - Pauquachin First Nation - Final Argument (January 12, 2016) ([A4X4F8](#)); Exhibit C356-14-2 - Tsawwassen First Nation - Final Argument (January 12, 2016) ([A4X5L0](#)); Exhibit C379-11-1 - Andrew Weaver - Written Argument-in-Chief (January 8, 2016) ([A4X3L0](#)); Exhibit C214-40-1 - Living Oceans Society and Raincoast Conservation Foundation - Final Argument (January 12, 2016) ([A4X5C0](#)); Exhibit C288-36-1 - Pro Information Pro Environment United People Network - Written Submissions (Pipeup) (January 12, 2016) ([A4X5A8](#)); Exhibit C86-33-1 - Cowichan Tribes - Cowichan Written Argument (January 12, 2016) ([A4X5E2](#)), 11; Exhibit C84-6-2 - Corporation of the City of Victoria - Written Argument (January 12, 2016) ([A4X4C9](#)), 6; Exhibit C107-14 - District of West Vancouver - Final Argument in Chief (January 11, 2016) ([A4X3Y6](#)); Exhibit C73-10-1 - City of North Vancouver Final Written Argument in Chief (January 11, 2016) ([A4X3V3](#)); Exhibit C358-30-2 - Tsleil-Waututh Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4V2](#)); Exhibit C74-18-2 - City of Port Moody - Final Argument (January 12, 2016) ([A4X4G3](#)); Exhibit C355-38-1 - Tsawout First Nation - Final Written Submissions (January 12, 2016) ([A4X5W3](#)).

2120 regarding spills, Trans Mountain reiterates that its diligent and comprehensive assessment of
2121 accidents and malfunctions follows NEB guidance is robust and meets the legal requirements of
2122 the CEEA 2012. Therefore, Trans Mountain submits that the evidence on the record regarding
2123 accidents and malfunctions in the marine environment adequately assessed the potential for, and
2124 effects of, a marine spill.⁴⁸³ Notwithstanding this fact, Trans Mountain provides the following
2125 responses to specific concerns raised by intervenors.

2126 Total Loss Scenario

2127 Many intervenors raised concerns regarding the absence of a total loss of cargo scenario.⁴⁸⁴ Trans
2128 Mountain proposes, and is required to use, only tankers that are of double hull construction. To
2129 date, not a single total loss of cargo accident involving a double hull tanker is on record
2130 internationally; furthermore, the environmental and navigational conditions in the study area do
2131 not support developing such a scenario even for theoretical purposes. As such, a total loss of cargo
2132 scenario is not a viable scenario as it is not credible.⁴⁸⁵ Instead, the credible worst case scenario
2133 used by Trans Mountain is a breach in both of the tanker's double hulls at the waterline along the
2134 shipping route outside the harbour and subsequently total loss of the entire contents of two cargo
2135 tanks.⁴⁸⁶ Trans Mountain is confident that the evaluation of potential environmental effects
2136 applying this methodology fulfills NEB requirements, is highly conservative, and describes the
2137 range of potential environmental effects that could result from an oil spill along the marine

⁴⁸³ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 330-348.

⁴⁸⁴ Exhibit C379-11-1 - Andrew Weaver - Written Argument-in-Chief (January 8, 2016) ([A4X3L0](#)); Exhibit C33-14-1 - Board of Friends of Ecological Reserves- Written Argument-in-Chief FINAL Jan 12 (January 12, 2016) ([A4X4W3](#)); Exhibit C107-14 - District of West Vancouver - Final Argument in Chief (January 11, 2016) ([A4X3Y6](#)).

⁴⁸⁵ Exhibit B172-1 - Trans Mountain Pipeline ULC - Trans Mountain Response to Weaver A IR No. 1 (June 18, 2014) ([A3Y3W4](#)), 3.

⁴⁸⁶ Exhibit B21-9 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 8C (December 17, 2013) ([A3S5G9](#)), section 9.1.5.

2138 shipping route outside the harbour. In addition to the contribution of credible worst case to
2139 consequence assessment, risk results of a credible worst case scenario assessment have been
2140 diligently used for response planning purposes as well.

2141 Using credible worst case as a response planning standard,⁴⁸⁷ does not mean that larger spills
2142 cannot be addressed or prepared for using the same equipment along with plans to cascade in
2143 additional equipment from other sources and areas that are accessible and have arrangements with
2144 Western Canada Marine Response Corporation (“WCMRC”). Such an approach is also
2145 recommended in the Tanker Panel Expert Panel Report, “A Review of Canada’s Ship-source Oil
2146 Spill Preparedness and Response Regime.”⁴⁸⁸ In essence, appropriate and credible oil spill
2147 modelling has been included with the Application to meet NEB requirements.⁴⁸⁹ Trans Mountain
2148 submits that no additional modelling or assessment is required and the Board has sufficient
2149 information on which to base its assessment.

2150 Oil Spill Modelling

2151 The City of North Vancouver pointed to two alleged shortcomings in Trans Mountain’s oil spill
2152 model that were identified in the Genwest Report, namely: (1) that the beaching algorithm in the
2153 model does not allow for refloating of oil that is beached; and (2) the “unreasonable and
2154 inappropriate assumption” that the containment boom at the Westridge Marine Terminal will
2155 always be in place and will be 100 per cent effective. Trans Mountain responded to both of these
2156 issues in Reply Evidence. Regarding the first issue, the spill modelling that was conducted for the

⁴⁸⁷ Exhibit B18-32 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 8A (December 17, 2013) ([A3S4Y6](#)), 8A-608.

⁴⁸⁸ Exhibit B119-1 – Trans Mountain Response to City of Vancouver IR No. 1 (June 18, 2014) ([A3Y2G6](#)), 124.

⁴⁸⁹ NEB - Filing Requirements Related to the Potential Environmental and Socio-Economic Effects of Increased Marine Shipping Activities - Trans Mountain Expansion Project (September 10, 2013) ([A3K9I2](#)).

2157 Project and presented in the Application is wholly appropriate. Serious shortcomings identified in
2158 the simplified study presented in the Genwest Report cast doubt on the representativeness of the
2159 modelling results presented in their evidence. Specifically, the Genwest Report re-floatation process
2160 is based on an arbitrary half-life of 18 hours, regardless of the viscosity and weathering state of
2161 the oil and regardless of shore characteristics.⁴⁹⁰ In addition, the beaching algorithm and the
2162 associated determination of the half-life for oil re-floatation, as used in the General NOAA
2163 Operational Modelling Environment, are not described in peer reviewed journals and do not appear
2164 to have adequate theoretical underpinning.⁴⁹¹

2165 With respect to the second issue, for spill modelling at the Westridge Marine Terminal, the total
2166 amount of oil released was 160 m³, with 32 m³ escaping the containment boom. Therefore the
2167 statement that Trans Mountain used 100 per cent boom efficiency is incorrect; the Application
2168 assumed a conservative 80 per cent efficiency. Furthermore, although deployment of the second
2169 boom is not instantaneous, once the spill area was double-boomed, any further leakage of the
2170 spilled oil outside double-boomed area would be practically negligible.⁴⁹²

2171 Intervenors argued that Trans Mountain has not properly assessed the risk of an oil spill in Burrard
2172 Inlet.⁴⁹³ This is not accurate. Det Norske Veritas (“DNV”) included a comprehensive review of
2173 the entire shipping route between the Westridge Marine Terminal and Buoy J (western entrance to

⁴⁹⁰ Exhibit B418-7 - Trans Mountain Reply Evidence, Attachment 1.08-Reply to Oil Spill Trajectory Modeling Genwest (August 20, 2016) ([A4S7K5](#)), 31.

⁴⁹¹ Exhibit B418-7 - Trans Mountain Reply Evidence, Attachment 1.08-Reply to Oil Spill Trajectory Modeling Genwest (August 20, 2016) ([A4S7K5](#)), 2.

⁴⁹² Exhibit B418-7 - Trans Mountain Reply Evidence, Attachment 1.08-Reply to Oil Spill Trajectory Modeling Genwest (August 20, 2016) ([A4S7K5](#)), 30.

⁴⁹³ Exhibit C77-61 - City of Vancouver - Written Argument (January 12, 2016) ([A75082](#)); Exhibit C234-23-2 - Metro Vancouver - Written Argument (January 12, 2016) ([A4X4W0](#)), 8; Exhibit C73-10-1 - City of North Vancouver Final Written Argument in Chief (January 11, 2016) ([A4X3V3](#)), 9-10; Exhibit C259-17-2 - North Shore NOPE - Final Written Argument (January 12, 2016) ([A4X4Y4](#)), 44; Exhibit C107-14 - District of West Vancouver - Final Argument in Chief (January 11, 2016) ([A4X3Y6](#)), 28

2174 Juan de Fuca Strait), which included a quantitative risk analysis. Several intervenors expressed
2175 concerns regarding the potential consequences of spills but failed to adequately consider the
2176 probability of a spill occurring.⁴⁹⁴ An accident in Burrard Inlet⁴⁹⁵ that can lead to spillage of entire
2177 oil cargo from two cargo tanks in an Aframax tanker, is a very low probability event, due in large
2178 part to the extensive set of risk reducing measures in place, including the slow speed of tankers,
2179 other vessels and escorts in this area.⁴⁹⁶ The likelihood for a spill of this size occurring in Burrard
2180 Inlet, which is specific to a vessel grounding or collision is considered to not be credible by virtue
2181 of the detailed analysis carried out by DNV which shows that the probability for a collision causing
2182 an oil spill in Burrard Inlet is 1 in 19,286 years. DNV did, however, properly identify the credible
2183 worst case scenario for an oil spill as one that might occur during tanker loading as a representative
2184 credible worst case oil spill within Burrard Inlet. The credible worst-case scenario during tanker
2185 loading was calculated as a spillage of 103 m³ oil occurring once every 234 years within the pre-
2186 boomed area surrounding the tanker at berth.⁴⁹⁷ This amount is less than the spill size modelled,
2187 which is again a conservative approach. Trans Mountain is confident that it has adequately and
2188 sufficiently assessed the risk of an oil spill in Burrard Inlet based on DNV's identification of a
2189 credible worst case scenario as a result of a spill during tanker loading, and submits that the Board
2190 should prefer its evidence over that contained in the Genwest Report.

⁴⁹⁴ See e.g., Exhibit C259-17-2 - North Shore NOPE - Final Written Argument (January 12, 2016) ([A4X4Y4](#)), 44.

⁴⁹⁵ Metro Vancouver requested a 16,500 m³ oil spill to be modelled within Burrard Inlet or English Bay

⁴⁹⁶ Exhibit B93-1 - Trans Mountain Pipeline ULC - Trans Mountain Response to PMV IR No. 1 (June 4, 2014) ([A3X6V4](#)).

⁴⁹⁷ Exhibit B335-2 - Trans Mountain Pipeline ULC - Response to City of Vancouver IR No. 2 Notice of Motion (March 12, 2015) ([A4J5D2](#)), 66; Exhibit B316-25 - Trans Mountain Pipeline ULC - Trans Mountain Response to NDP IR No. 2 (February 18, 2015) ([A4H8V7](#)), 34.

2191 Fate and Behaviour of Diluted Bitumen

2192 Numerous intervenors raised concerns related to diluted bitumen and specifically, the fate and

2193 behaviour of diluted bitumen in the unlikely event of an accident.⁴⁹⁸ Trans Mountain's evidence

2194 regarding the physical and chemical properties of diluted bitumen as well as its fate, transport and

2195 toxicity in the case of a spill in the marine environment is based on its own research (Gainford

2196 Study), corroborated by a growing body of evidence regarding the environmental fate and

2197 behaviour of diluted bitumen. As was discussed in Final Argument, intervenors did not consider

2198 or research available studies on the properties, fate and behaviour of diluted bitumen and instead

2199 have drawn conclusions from unsubstantiated or inappropriate information sources on material

2200 properties, or from observed or anecdotal historic oil spills that are not relevant to the Project.

2201 Many of the intervenors ignored NEB Ruling No. 105⁴⁹⁹ and have improperly referenced and/or

2202 relied on the pre-publication report entitled *Spills of Diluted Bitumen from Pipelines: A*

2203 *Comparative Study of Environmental Fate, Effects, and Response* which is not on the record in

⁴⁹⁸ Exhibit C289-13-2 - Province of BC - Final Argument (January 11, 2016) ([A4X3T3](#)); Exhibit C135-12-1 - Friends of the Earth US - Written Argument in Chief (January 12, 2015) ([A4X5F2](#)), 7; Exhibit C379-11-1 - Andrew Weaver - Written Argument-in-Chief (January 8, 2016) ([A4X3L0](#)), 17; Exhibit C336-11-2 - Swinomish, Tulalip, Suquamish, and Lummi Indian Nations - US Tribes Final Written Argument (January 12, 2016) ([A4X4I0](#)), 25; Exhibit C319-40 - Squamish Nation - Final Argument (January 12, 2016) ([A75108](#)), 62; Exhibit C363-42-1 - Upper Nicola Band - Final Written Submissions (January 12, 2016) ([A4X5V5](#)), 68-71; Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 92- 93; Exhibit C277-6-1 - Pauquachin First Nation - Final Argument (January 12, 2016) ([A4X4F8](#)), 10; Exhibit C214-40-1 - Living Oceans Society and Raincoast Conservation Foundation - Final Argument (January 12, 2016) ([A4X5C0](#)), 54; Exhibit C86-33-1 - Cowichan Tribes - Cowichan Written Argument (January 12, 2016) ([A4X5E2](#)), 15, 19; Exhibit C358-30-2 - Tsleil-Waututh Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4V2](#)), 70; Exhibit C359-9-2 - T'Sou-ke Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4W6](#)), 45; Exhibit C73-10-1 - City of North Vancouver - Final Written Argument in Chief (January 11, 2016) ([A4X3V3](#)), 14.

⁴⁹⁹ Exhibit A241-1 - National Energy Board - Ruling No. 105 Living Oceans Society and Raincoast Conservation Foundation - Notice of Motion to file late evidence (December 17, 2015) ([A4X0Z7](#)).

2204 this proceeding.⁵⁰⁰ Trans Mountain's evidence, including the Gainford Study,⁵⁰¹ provides
2205 appropriate and credible information on oil fate and behaviour to enable Trans Mountain to
2206 conduct the appropriate level of risk assessment. The body of evidence cited in Final Argument⁵⁰²
2207 supports the conclusion that higher viscosity oils such as diluted bitumen do not readily disperse
2208 as fine droplets into the water column, and are less likely to form oil mineral aggregates than light
2209 conventional crude oils. This is a difference that facilitates rather than hinders oil recovery in the
2210 unlikely event of spill. Put simply, the flotation of diluted bitumen is not an assumption but, rather,
2211 is a fact that has been quantified by the Gainford Study and Environment Canada's work.⁵⁰³ The
2212 influence of weathering on spilled oils and Trans Mountain's evidence regarding the fate and
2213 behaviour of diluted bitumen in marine waters is found in Final Argument,⁵⁰⁴ the Application⁵⁰⁵
2214 and Trans Mountain's written evidence.⁵⁰⁶

⁵⁰⁰ Exhibit C135-12-1 - Friends of the Earth US - Written Argument in Chief (January 12, 2015) ([A4X5F2](#)), 7; Exhibit C379-11-1 - Andrew Weaver - Written Argument-in-Chief (January 8, 2016) ([A4X3L0](#)), 19; Exhibit C336-11-2 - Swinomish, Tulalip, Suquamish, and Lummi Indian Nations - US Tribes Final Written Argument (January 12, 2016) ([A4X4I0](#)), 25; Exhibit C319-40 - Squamish Nation - Final Argument (January 12, 2016) ([A75108](#)), 72; Exhibit C363-42-1 - Upper Nicola Band - Final Written Submissions (January 12, 2016) ([A4X5V5](#)), 68; Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 93.

⁵⁰¹ Exhibit B21-5 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 8C (December 17, 2013) ([A3S5G2](#)).

⁵⁰² Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 342.

⁵⁰³ Exhibit C73-10-1 - City of North Vancouver - Final Written Argument in Chief (January 11, 2016) ([A4X3V3](#)), 14; Exhibit B318-40 - Trans Mountain Pipeline ULC - Trans Mountain Response to Weaver A IR No. 2 (February 18, 2015) ([A4H9J8](#)), 45.

⁵⁰⁴ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 341 - 345.

⁵⁰⁵ Exhibits B21-9 to B21-17 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 8C (December 17, 2013) ([A56029](#)).

⁵⁰⁶ Exhibit B417-2 - Trans Mountain Reply Evidence, Section 25 - Fate and Behaviour of Oil (August 20, 2015) ([A4S7E9](#)), 25-5, 25-6; Exhibits B21-5 to B21-7 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 8C (December 17, 2013) ([A3S5G2](#), [A3S5G4](#), [A3S5G5](#)).

2215 To assist the Board in its determination and to provide clarification regarding evidence on the
2216 record, Trans Mountain provides the following response to the final argument of Dr. Andrew
2217 Weaver regarding the properties, fate and behaviour of diluted bitumen.⁵⁰⁷

2218 Dr. Weaver challenged the validity of the Gainford Study on the basis that it relies on “the faulty
2219 assumption that dilbit floats”.⁵⁰⁸ This statement is incorrect. Dr. Weaver referred to the
2220 Environment Canada report⁵⁰⁹ as support for his position.⁵¹⁰ However, Environment Canada’s
2221 report clearly states that “[t]hese results indicate the evaporation in combination with typical
2222 marine temperature ranges seen in Canada (0-15°C) is not sufficient to cause oil sinking for both
2223 the AWB and CLB products in fully salt marine waters, even at temperatures approaching
2224 freezing.”⁵¹¹ This conclusion is consistent with the Gainford Study and contradicts Dr. Weaver’s
2225 position. The Gainford Study shows that natural weathering of CLB and AWB, without any
2226 agitation and water uptake (static condition), results in one density record of 1,000 kg/m³ (AWB
2227 at 15°C) after 10 days on water. After weathering under mild to moderate agitation conditions for
2228 eight days, AWB diluted bitumen emulsion densities reported from the Gainford Study exceeded
2229 1,000 kg/m³ (at 15°C). Weathered CLB, inclusive of incorporated water, exceeded 1,000 kg/m³ in
2230 two cases: (i) moderate agitation in an interior tank after eight days; and (ii) mild agitation in an
2231 exterior tank after nine days. The weathered oil did not reach the density of seawater. The fate and
2232 behavior modelling study, using evaporation rates based on a pseudo-component decomposition
2233 of the diluted bitumen product, was in agreement with these results—(i) no sinking was observed

⁵⁰⁷ Exhibit C379-11-1 - Andrew Weaver - Written Argument-in-Chief (January 8, 2016) ([A4X3L0](#)).

⁵⁰⁸ Exhibit C379-11-1 - Andrew Weaver - Written Argument-in-Chief (January 8, 2016) ([A4X3L0](#)), 17.

⁵⁰⁹ Exhibit B384-5 - Trans Mountain Pipeline ULC - Trans Mountain Responses to ALIB F-IR No. 2.02.5e-Attachment 1 (May 4, 2015) ([A4K9Z2](#)).

⁵¹⁰ Exhibit C379-11-1 - Andrew Weaver - Written Argument-in-Chief (January 8, 2016) ([A4X3L0](#)), 17.

⁵¹¹ Exhibit B384-5 - Trans Mountain Pipeline ULC - Trans Mountain Responses to ALIB F-IR No. 2.02.5e-Attachment 1 (May 4, 2015) ([A4K9Z2](#)).

2234 in marine waters; and (ii) occasional sinking observed in the Fraser River with, at most, 0.9 per
2235 cent of the diluted bitumen sinking by the end of the several days-long simulation during the winter
2236 stochastic scenario for a hypothetical release at Port Mann Bridge.⁵¹² Accordingly, Dr. Weaver's
2237 comments are contradicted by the published literature, including the Environment Canada report,
2238 and should not be relied on by the Board.

2239 Dr. Weaver pointed to the potential sinking of diluted bitumen due to interaction with suspended
2240 sediments. In the Environment Canada report, Environment Canada used "a rotary end-over-end
2241 mixing of a 1:10 ratio of oil-to-water at a rate of several revolutions per minute for up to 12 hours
2242 at 15°C. This procedure has been shown to provide a high-energy mixing environment."⁵¹³ The
2243 suspended sediment concentration was 10,000 mg/L. A value of 10,000 mg/L is very high for
2244 suspended sediment and not applicable to the Project scenario. In comparison, the Fraser River
2245 total suspended sediment concentration near the surface reaches about 600 mg/L during the freshet
2246 (i.e., less than 10 per cent of concentrations referenced by Dr. Weaver). In the study area, Haro
2247 Strait, presents suspended sediment concentrations well below 100 mg/L, which is at least two
2248 orders of magnitude lower than what was found in the report referenced by Dr. Weaver. The
2249 laboratory concentrations relied on by Dr. Weaver and those in actual water bodies along the
2250 shipping route are simply not comparable. As well, energy dissipation levels, either in the river or
2251 on the water surface arising from wave breaking, are almost too low everywhere.⁵¹⁴ Based on
2252 equations for the rate of Oil-Mineral Aggregate ("OMA") formation (Payne et al. 1987 and Khelifa

⁵¹² Exhibits B21-5 to B21-7 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 8C (December 17, 2013) ([A3S5G2](#), [A3S5G4](#), [A3S5G5](#)).

⁵¹³ Exhibit B318-40 - Trans Mountain Pipeline ULC - Trans Mountain Response to Weaver A IR No. 2 (February 18, 2015) ([A4H9J8](#)), 48; Government of Canada. 2013. Technical Report - Properties, Composition, and Marine Spill Behaviour, Fate and Transport of Two Diluted Bitumen Products from the Canadian Oil Sands. Ottawa, 44-45.

⁵¹⁴ Exhibit B316-34 - Trans Mountain Pipeline ULC - Trans Mountain Response to Province of BC IR No. 2 (February 18, 2015) ([A4H8W6](#)), 214-216.

2253 et al. 2008), at no time did both high sediment concentrations and high energy dissipation rates
2254 combine to cause oil and sediment to interact and form OMA,⁵¹⁵ except as noted above.

2255 In summary, accurate and credible information on oil fate and behaviour has been filed on the
2256 public record and should be relied on by the Board.

2257 Liability and Compensation

2258 Intervenors and commenters raised concerns associated with liability and compensation related to
2259 the costs of a potential oil spill arising from the pipeline, at a facility, or from Project-related
2260 tankers calling at the Westridge Marine Terminal.⁵¹⁶ Trans Mountain addressed these issues,
2261 including the resources available to address these issues, in Reply Evidence.⁵¹⁷

2262 Subduction and Wind Drift

2263 Dr. David Farmer raised concerns regarding subduction in tidal fronts.⁵¹⁸ Trans Mountain
2264 responded to these concerns in Reply Evidence.⁵¹⁹ The Application incorporated the study of oil
2265 in the water column due to submergence or sinking and this behaviour, specifically the
2266 concentration of soluble oil constituents, was part of the ERA.⁵²⁰ Trans Mountain submits that a

⁵¹⁵ Exhibit B316-34 - Trans Mountain Pipeline ULC - Trans Mountain Response to Province of BC IR No. 2 (February 18, 2015) ([A4H8W6](#)), 211-219.

⁵¹⁶ Exhibit C123-6-1 - Esquimalt Nation - Final Argument (January 12, 2016) ([A4X4A2](#)); Exhibit C411-5-1 - First Nations of Maa-nulth Treaty Society - Final Argument (January 11, 2016) ([A4X4A0](#)); Exhibit C308-8-1 - Scia'new First Nation - Final Argument (January 11, 2016) ([A4X3Z8](#)).

⁵¹⁷ Exhibit B417-4 - Trans Mountain Reply Evidence, Section 61 - Marine Spill Liability Compensation (August 20, 2015) ([A4S7F1](#)), 61-1.

⁵¹⁸ Exhibit C124-9-1 - David Farmer - Final Argument in Chief (January 12, 2016) ([A4X5T0](#)), 8.

⁵¹⁹ Exhibit B417-45 - Trans Mountain Reply Evidence, Appendix 52A-Marine Spill Modelling-Response to D Farmer (August 20, 2015) ([A4S7J2](#)); Exhibit B127-1 - Trans Mountain Pipeline ULC - Trans Mountain Response to Farmer D IR No. 1 (June 18, 2014) ([A3Y2K4](#)), 18 - 19; Exhibit B418-7 - Trans Mountain Reply Evidence, Attachment 1.08-Reply to Oil Spill Trajectory Modeling Genwest (August 20, 2015) ([A4S7K5](#)).

⁵²⁰ Exhibit B18-31 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 8A (December 17, 2013) ([A3S4Y5](#)), 2-43 Volume 7, 8A (December 17, 2013), 2-43; Exhibit B18-32 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project (December 17, 2013) ([A3S4Y6](#)), 1-26; Exhibits B19-14 to B19-37 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project - Volume 8B ([A3S4K7](#), [A3S4K8](#), [A3S4K9](#),

2267 slight and temporary increase of oil in the water column due to frontal subduction would not affect
2268 its conclusions.

2269 Trans Mountain notes that in his final argument, Dr. Farmer provides Appendix “A” containing a
2270 “Resolution of Trans Mountain’s misunderstanding of subduction and mixing in tidal fronts.”⁵²¹
2271 Trans Mountain disagrees with Dr. Farmer’s assertions and submits that the document attached as
2272 Appendix “A” to Dr. Farmer’s final argument contains new evidence that is not on the record and,
2273 therefore, the Board should provide no weight to these submissions.

2274 Trans Mountain would, however, like to respond to Dr. Farmer’s specific comments regarding
2275 wind drift.⁵²² Dr. Farmer fails to understand that since the trajectory of surface oil is modelled
2276 using 3-D currents, the surface layer does include wind drag. The ultimate direction and speed of
2277 motion of an oil spill is a response to both winds and currents. Typically less sophisticated models
2278 use, a wind drift coefficient of one per cent, two per cent or three per cent of the wind speed as a
2279 means to account for any differential drift with respect to surface currents, often referred to as the
2280 oil leeway. In fact, leeway is more appropriate for floating bodies that have significant air drag as
2281 well as water drag; due to the low profile of oil on water it does not have significant leeway. The
2282 three per cent rule in oil spill simulation is an often-used empirically-based rule of thumb used to
2283 estimate the speed of the surface current, for cases where either no information is known about the

[A3S4L0](#), [A3S4L1](#), [A3S4L2](#), [A3S4L3](#), [A3S4L4](#), [A3S4L5](#), [A3S4L6](#), [A3S4L7](#), [A3S4L8](#), [A3S4L9](#), [A3S4Q0](#),
[A3S4Q1](#), [A3S4Q2](#), [A3S4Q3](#), [A3S4Q4](#), [A3S4Q5](#), [A3S4Q6](#), [A3S4Q7](#), [A3S4Q8](#), [A3S4Q9](#), [A3S4R0](#)).

⁵²¹ Exhibit C124-9-1 - David Farmer - Final Argument in Chief (January 12, 2016) ([A4X5T0](#)), Appendix “A”.

⁵²² Exhibit C124-9-1 - David Farmer - Final Argument in Chief (January 12, 2016) ([A4X5T0](#)), 13-14.

2284 surface current or in cases where the numerical model providing currents under-represents surface
2285 currents usually because of limited vertical in-water resolution.⁵²³

2286 Contrary to the approach in 2D models, the numerical hydrodynamic 3D model, H3D, used for
2287 this study has 1 m vertical resolution, so resolves the shear in the water column due to wind-driven
2288 currents. Hence, the top layer currents from H3D are a vertical average of currents from 0 m depth
2289 to 1 m depth, (i.e., roughly currents at 0.5 m depth). In a recent paper (Breivik et al., 2011),⁵²⁴
2290 experimental procedures to measure leeway for objects, not oil slicks, measured the surface current
2291 using a current meter suspended at about 0.5 m depth. They noted that HF Radar measures currents
2292 at an effective depth of about 0.5 m, and concluded that HF Radar is therefore a good instrument
2293 to measure surface currents. For these reasons, the top-layer currents from the hydrodynamic
2294 model H3D are a good representation of surface currents and that there is no need to add leeway,
2295 except as discussed immediately below.⁵²⁵

2296 Applying one per cent leeway in the SPILLCALC model for the Application is primarily intended
2297 to represent the effect of wave drift, called Stokes drift, on oil movement. The relationship between
2298 wind speed and Stokes drift is linear, although it depends in a complex way on fetch and duration.
2299 One per cent is a reasonably representative value for the waters in the study area.⁵²⁶

⁵²³ Exhibit B417-4 - Trans Mountain Reply Evidence, Section 52 - Marine Spill Modelling (August 20, 2015) ([A4S7F1](#)), 52-27.

⁵²⁴ Exhibit B417-4 - Trans Mountain Reply Evidence, Section 52 - Marine Spill Modelling (August 20, 2015) ([A4S7F1](#)), 52-27.

⁵²⁵ Exhibit B417-4 - Trans Mountain Reply Evidence, Section 52 - Marine Spill Modelling (August 20, 2015) ([A4S7F1](#)), 52-27.

⁵²⁶ Exhibit B418-7 - Trans Mountain Reply Evidence, Attachment 1.08-Reply to Oil Spill Trajectory Modeling Genwest (August 20, 2015) ([A4S7K5](#)), 29-30.

2300 Dr. Farmer refers to the Genwest Report which describes the oil spill model used by Genwest for
2301 Burrard Inlet.⁵²⁷ The model used in that case is two-dimensional, (i.e., all variables such as currents
2302 are vertically averaged). Consequently, it cannot reproduce wind-drift—in which the surface flow
2303 is with the wind—but flows at depth are generally against the wind, to conserve water volume. As
2304 such, that model has used a randomly-varying wind drift coefficient, ranging from one per cent to
2305 four and a half per cent, in an attempt to emulate realist winds. Without a fundamentally correct
2306 model of currents, such a wide-ranging leeway coefficient can have no effect other than to simply
2307 increase the dispersion in the direction of the wind. Trans Mountain submits the Board should not
2308 rely on the Genwest Report.

2309 H3D Model

2310 Dr. Weaver questioned the validation of the H3D model, the 3-D circulation model used for the
2311 study and submitted that “[i]n the case of oil spill modelling, it’s critical to evaluate the three-
2312 dimensional current fields.”⁵²⁸ In this regard, while Dr. Weaver only mentions the tidal validation
2313 done for the H3D model, he fails to mention validation of the three-dimensional current fields
2314 against current meter data and three-dimensional salinity fields that was also conducted.⁵²⁹ This 3-
2315 D validation was conducted in Juan de Fuca Strait, Haro Strait and the Strait of Georgia. Excellent
2316 results were obtained for the along-channel velocity and acceptable results were obtained for the
2317 cross-channel velocity. In addition, a third validation was performed on the H3D model for salinity
2318 validation in the Strait of Georgia. Observed time series of salinity at VENUS locations located in
2319 central and east of the Strait of Georgia were compared with H3D: the ability of the model to well

⁵²⁷ Exhibit C234-7-6 - Metro Vancouver - Exhibit 02B, Genwest Report-Oil Spill Trajectory Modeling Report in Burrard Inlet for the Trans Mountain Expansion Project (March 27, 2015) ([A4L7Y7](#)).

⁵²⁸ Exhibit C379-11-1 - Andrew Weaver - Written Argument-in-Chief (January 8, 2016) ([A4X3L0](#)), 20.

⁵²⁹ Exhibit B252-19 - Trans Mountain Pipeline ULC - Trans Mountain Follow-Up Response to Weaver A F-IR No. 1.11c-Attachment1 (August 15, 2014) ([A4A2A1](#)).

2320 reproduce the seasonal variability and specific salinity intrusion events confirmed the accuracy of
2321 the model, including the parameterization of diffusivity. Finally the ability of the H3D model to
2322 capture the Fraser River Sediment Plume, which is particularly obvious during the freshet showed
2323 the adequacy of the model to deal with local oceanographic processes typical of the area of study.
2324 This third validation was part of the validation report mentioned above. These results strongly
2325 support the model and its ability to simulate complex oceanographic processes such as estuaries.⁵³⁰

2326 Dr. Weaver acknowledged the ability of the H3D model to simulate the along-channel component
2327 of the currents by mentioning that “evidence exists to suggest that the model does a reasonable job
2328 capturing the magnitude of the long channel flow.”⁵³¹ However, Dr. Weaver also suggested that
2329 the ability of the model to simulate the across-channel component is poor. Dr. Weaver based his
2330 statement on the following numbers taken out of the validation report for the H3D model, which
2331 showed an excellent validation for the along-channel component (model skill > 0.8, a value of 1
2332 being perfect) and a moderate, but deemed satisfactory, validation for the across channel
2333 component (model skill values of about 0.60 for Haro Strait, 0.7 for Roberts Bank and 0.39 for
2334 Juan de Fuca Strait). Trans Mountain notes that, even though model skill values for the cross-
2335 channel component are lower, the impact of this potential error is in fact limited due to much
2336 smaller across-channel velocities compared to the along-channel component.

2337 Finally, Dr. Weaver raised concerns with respect to the suitability of the H3D model used in
2338 hydrostatic mode for the study.⁵³² Phenomenon requiring a non-hydrostatic model to be simulated
2339 are described as small scale processes, in which vertical velocities are of similar magnitude to

⁵³⁰ Exhibit B252-19 - Trans Mountain Pipeline ULC - Trans Mountain Follow-Up Response to Weaver A F-IR No. 1.11c-Attachment1 (August 15, 2014) ([A4A2A1](#)).

⁵³¹ Exhibit C379-11-1 - Andrew Weaver - Written Argument-in-Chief (January 8, 2016) ([A4X3L0](#)), 20.

⁵³² Exhibit C379-11-1 - Andrew Weaver - Written Argument-in-Chief (January 8, 2016) ([A4X3L0](#)), 20-21.

2340 horizontal velocities. While it is true that a non-hydrostatic model would have the ability to capture
2341 small scale processes such as tidal fronts, it is also true that there is no reason to believe the
2342 modelling that was conducted using H3D is inadequate for the tasks the modelling was required
2343 to do.⁵³³ Specifically, the H3D model is able to reproduce the water mass exchange that is a key
2344 feature of the frontal dynamics in Haro Strait and Boundary Pass. H3D reproduces the movement
2345 of saltier water from Haro Strait into the southern Strait of Georgia by a process of sinking below
2346 the brackish water exiting the Strait. There is no need to incorporate detailed frontal dynamics to
2347 achieve this type of exchange flow. Frontal dynamics as described by Dr. Farmer are more a
2348 consequence of this large scale circulation than a cause of it as suggested by Dr. Weaver.⁵³⁴ Trans
2349 Mountain believes the 3D hydrodynamic model H3D model in its current form is the optimum
2350 model to use under the circumstances and results from the model provide the information from it
2351 adequately supports the NEB's decision making requirements.

2352 Dr. Weaver also alleges that, since the model is hydrostatic, it is incapable of simulating the
2353 movement of vertical tracers.⁵³⁵ As shown in the H3D validation report, the H3D model simulates
2354 very well the intrusion of a tongue of denser waters from the Pacific Ocean into Haro Strait. This
2355 tongue of dense water is vertically mixed in Haro Strait prior to entering the mid-depths of the
2356 Strait of Georgia via Boundary Pass. In the TMEP report "Modelling the Fate and Behavior of
2357 Marine Oil Spills"⁵³⁶ – Appendix A, a simulation of internal seiches in Okanagan Lake was
2358 presented. Whether the water body is a lake, an estuary or an ocean, the hydrodynamics of internal
2359 seiching is the same, relying on significant vertical movement of water, and vertical displacement

⁵³³ Exhibit B127-1 - Trans Mountain Pipeline ULC - Response to Farmer D IR No. 1 (June 18, 2016) ([A3Y2K4](#)), 17.

⁵³⁴ Exhibit C379-11-1 - Andrew Weaver - Written Argument-in-Chief (January 8, 2016) ([A4X3L0](#)), at para 81.

⁵³⁵ Exhibit C379-11-1 - Andrew Weaver - Written Argument-in-Chief (January 8, 2016) ([A4X3L0](#)), 20.

⁵³⁶ Exhibits B24-1 to B24-5 - Trans Mountain Pipeline ULC - Trans Mountain Expansion Project Volume 8C Part 5 (December 17, 2013) ([A3S5I3](#), [A3S5I4](#), [A3S5I5](#), [A3S5I6](#), [A3S5I7](#)).

2360 of pycnoclines. The H3D model did an excellent job of simulating these motions, as evidenced by
2361 the comparison with thermistor data. In summary, the H3D model successfully simulated the major
2362 and most important oceanographic features of the area of study. Hence, the results using H3D were
2363 deemed credible and relevant to conducting the risk assessment.

2364 Trans Mountain submits that the H3D model is accurate and provides the Board with reliable
2365 information regarding the predictions of surface currents and other information used for the oil
2366 spill simulations; and that the results from its use are wholly appropriate and credible for the
2367 purpose intended and meet NEB requirements.⁵³⁷

2368

⁵³⁷ NEB - Filing Requirements Related to the Potential Environmental and Socio-Economic Effects of Increased Marine Shipping Activities - Trans Mountain Expansion Project (September 10, 2013) ([A3K9I2](#)).

2369 **5. EMERGENCY RESPONSE**

2370 **5.1. Emergency Response Training and Assistance**

2371 Intervenor pointed out that Trans Mountain's EMP relies on local governments to assist in
2372 emergency response. These intervenors submitted, however, that Trans Mountain's EMP does not
2373 define the roles and responsibilities that local governments may play in emergency response.⁵³⁸
2374 Intervenor also raised concerns with respect to the ability to review and provide input into the
2375 enhanced EMP and constituent ERPs.⁵³⁹

2376 Emergency response training is not a new concept for Trans Mountain. As part of its ongoing
2377 operations, Trans Mountain has been involved in multi-modal emergency training activities with
2378 communities and responders along the pipeline route. These practices are evidence of the NEB's
2379 effective life-cycle regulation, which is detailed in the *National Energy Board Onshore Pipeline*
2380 *Regulations*.⁵⁴⁰ Trans Mountain provides Community Awareness for Emergency Response
2381 sessions to first responders along the pipeline system. These sessions provide information with
2382 regard to the type and properties of petroleum transported through the pipeline and how to respond
2383 safely. The sessions focus on key information transfer between Trans Mountain and emergency
2384 responders along the route including defining the roles and responsibilities of first responders.
2385 These programs recognize that local first responders will likely assist in some aspects of incident
2386 management.⁵⁴¹

⁵³⁸ Exhibit C106-11 - District of North Vancouver - Final Argument (January 12, 2016) ([A75089](#)), 29; Exhibit C73-10-1 - City of North Vancouver - Final Written Argument in Chief (January 11, 2016) ([A4X3V3](#)), 17.

⁵³⁹ Exhibit C72-10-1 - City of New Westminster - Comments to NEB on Draft Conditions (January 12, 2015) ([A4X5S2](#)); Exhibit C404-12-2 - Simon Fraser University - Final Argument (January 4, 2016) ([A4X2V3](#)), 12.

⁵⁴⁰ *National Energy Board Onshore Pipeline Regulations*, SOR/99-294, ss 32-35; Guidance Notes for the *National Energy Board Onshore Pipeline Regulations*, Annex A. Further Information for Emergency Management Program, online: <https://www.neb-one.gc.ca/bts/ctrg/gnnb/nshrppln/gdncntnshrpplnrgltn-eng.html#nxxa>.

⁵⁴¹ Exhibit B417-4 - Trans Mountain Pipeline Reply Evidence, Section 63 - Emergency Management Program (August 20, 2015) ([A4S7F1](#)), 63-9.

2387 Trans Mountain will continue to develop these existing, well established programs to ensure first
2388 responders within local communities and Aboriginal groups are aware of their roles and
2389 responsibilities, receive adequate training with respect to emergency incidents that could occur
2390 along the pipeline, and have the opportunity to consult and provide input with respect to the
2391 enhanced EMP for the Project. The Board can be confident that Trans Mountain's ongoing
2392 programs will provide the proper level of advice and instruction to ensure emergency responders,
2393 particularly local governments, are prepared in the event of an emergency on the Trans Mountain
2394 Pipeline system.

2395 Some local governments stated that they believe there is a lack of funding for emergency response
2396 planning or have raised concerns regarding the financial burden emergency response may have on
2397 local governments; specifically, since the EMP relies on local governments to assist in emergency
2398 response.⁵⁴² As noted above, external agencies are invited to participate in emergency response
2399 exercises, continuing education programs and consultation meetings. Trans Mountain is also
2400 willing and able to review emergency response plans, share information on operations and provide
2401 advice on response techniques. Trans Mountain covers the costs associated with instruction, but
2402 does not cover costs associated with attendance, such as responder wages, benefits and
2403 employment costs.⁵⁴³ Trans Mountain submits this is a reasonable approach given the limited time
2404 commitment associated with attending the sessions, and in light of the fact that the emergency
2405 management instruction and training provided is a benefit to those in attendance. Regarding
2406 compensation in the event of an emergency, Trans Mountain submits that it cannot speculate as to
2407 the different conditions under which costs may arise as a result of an emergency, but will work

⁵⁴² Exhibit C106-11 - District of North Vancouver - Final Argument (January 12, 2016) ([A75089](#)), 40; Exhibit C68-21-1 - Local Governments Joint Submission Final Argument (January 12, 2016) ([A4X5F4](#)).

⁵⁴³ Exhibit B48-1 - Trans Mountain Pipeline ULC - Trans Mountain Response to City of Abbotsford IR No. 1 (June 4, 2014) ([A3X5Z2](#)), 35-36.

2408 with any affected party regarding compensation in the event of an accident or malfunction on the
2409 Trans Mountain Pipeline system.⁵⁴⁴

2410 Cheam and Chawathil First Nations (“Cheam and Chawathil”) stated that “[w]hile local First
2411 Nations may be invited to be part of Unified Command, there is no guarantee that they will be in
2412 a meaningful way.”⁵⁴⁵ Trans Mountain confirms that these communities will be invited to
2413 participate in Unified Command and acknowledges that local Aboriginal communities hold
2414 knowledge that is critical to emergency response.⁵⁴⁶

2415 Port Moody stated in oral argument that “[i]f Trans Mountain intends to rely on the City for
2416 firefighting response, has this been clearly communicated to the City, and the City has not assessed
2417 if it is in a position to provide assistance.”⁵⁴⁷ Trans Mountain notes that it is involved in a number
2418 of mutual aid agreements with various organizations which are useful tools in emergency planning;
2419 however, Trans Mountain does not rely upon the agreements for initial response actions. Trans
2420 Mountain is interested in pursuing mutual aid agreements with fire departments that are situated
2421 to provide rapid response to Trans Mountain facilities, including Port Moody. Trans Mountain
2422 intends to discuss this issue with Port Moody and other interested emergency response providers
2423 as part of its consultation on the enhanced EMP.⁵⁴⁸

2424 **5.2. Pipeline and Facilities Spill Response**

2425 Several intervenors raised concerns regarding Trans Mountain’s ability to respond to a spill along

⁵⁴⁴ Exhibit B49-1 - Trans Mountain Pipeline ULC - Trans Mountain Response to City of Coquitlam IR No. 1 (June 4, 2014) ([A3X5Z4](#)), 32.

⁵⁴⁵ Exhibit C400-13-1 - Cheam and Chawathil First Nations – Written Argument (January 12, 2016) ([A4X5K4](#)), 34.

⁵⁴⁶ Exhibit B417-4 - Trans Mountain Pipeline ULC - Reply Evidence-Part 3 (August 20, 2105) ([A4S7F1](#)), 63-64.

⁵⁴⁷ Exhibit C74-18-2 - City of Port Moody - Final Argument (January 12, 2016) ([A4X4G3](#)), 26.

⁵⁴⁸ Exhibit B314-24 - Trans Mountain Pipeline ULC - Trans Mountain Response to City of Port Moody IR No. 2 (February 18, 2015) (A4H8G7) (stricken in part), 50.

2426 the pipeline route or at a facility.⁵⁴⁹ Trans Mountain has thoroughly addressed these concerns in
2427 detail in Final Argument and evidence.⁵⁵⁰

2428 **5.3. Marine Spill Response**

2429 Intervenors expressed concerns regarding Trans Mountain's ability to respond to a spill in the
2430 marine environment.⁵⁵¹ Trans Mountain comprehensively discusses marine spill response in Final
2431 Argument.⁵⁵²

2432 Burnaby argued that densely populated suburbs and the busiest port in the country are the worst
2433 places to transport bitumen to, and the worst places to ship bitumen out of.⁵⁵³ Contrary to
2434 Burnaby's assertions, PMV, as one of Canada's largest ports, has extensive emergency response
2435 and safety management systems in place to regulate, monitor and enforce the safety of vessel

⁵⁴⁹ Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)); Exhibit C68-21-1 - Local Governments Joint Submission Final Argument (January 12, 2016) ([A4X5F4](#)); Exhibit C289-13-2 - Province of BC - Final Argument (January 11, 2016) ([A4X3T3](#)); Exhibit C329-3-1 - Strata NW313 - Final Argument (January 12, 2016) ([A4X5S8](#)); Exhibit C288-36-1 - Pro Information Pro Environment United People Network - Written Submissions (Pipeup) (January 12, 2016) ([A4X5A8](#)); Exhibit C355-38-1 - Tsawout First Nation - Final Written Submissions (January 12, 2016) ([A4X5W3](#)); Exhibit C258-14-2 - Nooaitch Indian Band - Argument in Chief Final (January 12, 2016) ([A4X5J5](#)); Exhibit C400-13 - Cheam and Chawathil First Nations - Written Argument (January 12, 2016) ([A4X5K4](#)); Exhibit C363-42-1 - Upper Nicola Band - Final Written Submissions (January 12, 2016) ([A4X5V5](#)).

⁵⁵⁰ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 173-174; Exhibit B417-4 - Trans Mountain Pipeline ULC - Reply Evidence-Part 3 (August 20, 2015) ([A4S7F1](#)), 63.

⁵⁵¹ Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)); Exhibit C289-13-2 - Province of BC - Final Argument (January 11, 2016) ([A4X3T3](#)); Exhibit C77-61-1 - City of Vancouver - Written Argument (January 12, 2016) ([A4X4I9](#)); Exhibit C24-19-2 - BC Nature and Nature Canada - Written Argument-in-Chief (January 12, 2016) ([A4X5A0](#)); Exhibit C84-6-2 - Corporation of the City of Victoria - Written Argument (January 12, 2016) ([A4X4C9](#)); Exhibit C107-14 - District of West Vancouver - Final Argument in Chief (January 11, 2016) ([A4X3Y6](#)); Exhibit C318-5-2 - Snuneymuxw First Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4Z4](#)); Exhibit C86-33-1 - Cowichan Tribes - Cowichan Written Argument (January 12, 2016) ([A4X5E2](#)); Exhibit C138-8-1 - Georgia Strait Alliance - Written Argument-in-Chief (January 8, 2016) ([A4X3R0](#)); Exhibit C355-38-1 - Tsawout First Nation - Final Written Submissions (January 12, 2016) ([A4X5W3](#)); Exhibit C359-9-2 - T'Sou-ke Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4W6](#)); Exhibit C135-12-1 - Friends of the Earth US - Written Argument in Chief (January 12, 2015) ([A4X5F2](#)); Exhibit C108-6-2 - Ditidaht First Nation - Final Argument (January 12, 2016) ([A4X4T8](#)); Exhibit C74-18-2 - City of Port Moody - Final Argument (January 12, 2016) ([A4X4G3](#)).

⁵⁵² Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 174-177.

⁵⁵³ Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 90.

2436 operations within the harbour and prevent accidents. PMV's emergency response capabilities will
2437 also be enhanced as a result of the Project.⁵⁵⁴

2438 The City of Vancouver argued that Trans Mountain has failed to identify and assess the risk posed
2439 by, or demonstrate preparedness to mitigate and respond to, the range of hazards that could impact
2440 the pipeline or terminal operations.⁵⁵⁵ Trans Mountain previously addressed the City of
2441 Vancouver's concerns.⁵⁵⁶ An effective process for identifying and analyzing all hazards and
2442 potential hazards used for developing the procedures and processes to avoid emergencies have
2443 been established for the Project. Thus, this concern is without merit.

2444 Several intervenors cited the report entitled "Technical Analysis of Oil Spill Response Capabilities
2445 and Limitations for the Trans Mountain Expansion Project ("Nuka Report")" in support of their
2446 concerns relating to oil spill response.⁵⁵⁷ Trans Mountain provided a detailed and comprehensive
2447 response to the Nuka Report in Reply Evidence.⁵⁵⁸ In short, Trans Mountain submits that given
2448 the lack of an assessment of likelihood and the various errors and omissions, the Nuka Report is
2449 flawed and should not be relied upon.⁵⁵⁹

⁵⁵⁴ Exhibit B334-2 – Trans Mountain Pipeline ULC - Response to City of Port Moody IR No. 2 Notice of Motion (March 12, 2015) ([A4J5C9](#)).

⁵⁵⁵ Exhibit C77-61-1 - City of Vancouver - Written Argument (January 12, 2016) ([A4X4I9](#)), 122-130.

⁵⁵⁶ Exhibit B384-12 - Trans Mountain Pipeline ULC - Trans Mountain Responses to City of Vancouver F-IR No. 2 (May 4, 2015) ([A4K9Z9](#)), 1-9.

⁵⁵⁷ Exhibit C318-5-2 - Snuneymuxw First Nation - Argument In Chief (January 12, 2016) ([A4X4Z4](#)), 21; Exhibit C73-10-1 - City of North Vancouver Final Written Argument in Chief (January 11, 2016) ([A4X3V3](#)), 26; Exhibit C355-38-1 - Tsawout First Nation - Final Written Submissions (January 12, 2016) ([A4X5W3](#)); Exhibit C-289-13-2 - Province of BC - Final Argument (January 11, 2016) ([A4X3T3](#)), 25; Exhibit C363-42-1 - Upper Nicola Band - Final Written Submissions (January 12, 2016) ([A4X5V5](#)).

⁵⁵⁸ Exhibit B418-9 - Trans Mountain Reply Evidence, Attachment - 1.10-Reply to Technical Analysis of Oil Spill Response (August 20, 2015) ([A4S7K7](#)); Exhibit B440-1-1 - Trans Mountain Pipeline ULC - Clean - 1.10 Reply to Technical Analysis of Oil Spill Response Capabilities and Limitations (December 8, 2015) ([A4W3I7](#)).

⁵⁵⁹ Exhibit B418-9 - Trans Mountain Reply Evidence, Attachment - 1.10-Reply to Technical Analysis of Oil Spill Response (August 20, 2015) ([A4S7K7](#)); Exhibit B440-1-1 - Trans Mountain Pipeline ULC - Clean - 1.10 Reply to Technical Analysis of Oil Spill Response Capabilities and Limitations (December 8, 2015) ([A4W3I7](#)).

2450 Dr. Weaver submits in argument that “[b]ased on the information provided, it is clear that
2451 WCMRC currently has no capacity to recover submerged or sunken oils. Furthermore, not a single
2452 proposed enhancement, as laid out in the Future Oil Spill Response Approach Plan, would add this
2453 capacity.”⁵⁶⁰ Trans Mountain submits that Dr. Weaver’s statement is incorrect. The spill model
2454 demonstrates that oil does not immediately sink – sinking was not observed in the marine
2455 environment because oil does not weather enough to become denser than the surrounding seawater.
2456 These observations are consistent with the results of both the Gainford Study and Environment
2457 Canada’s studies.⁵⁶¹

2458 In addition, Dr. Weaver argues that the assumptions used for the Arachne Reef oil spill scenario
2459 are not adequately representative of conditions that response crews will likely encounter in the
2460 event of a spill along the Trans Mountain tanker sailing route.⁵⁶² Trans Mountain provided
2461 comprehensive responses to these concerns in evidence.⁵⁶³ Contrary to Dr. Weaver’s assertions,
2462 Trans Mountain has properly accounted for possible spill response conditions in the oil spill
2463 scenarios.

⁵⁶⁰ Exhibit C379-11-1 - Andrew Weaver - Written Argument-in-Chief (January 8, 2016) ([A4X3L0](#)), 22.

⁵⁶¹ Exhibit B172-1 - Trans Mountain Pipeline ULC - Trans Mountain Response to Weaver A IR No. 1 (June 18, 2014) ([A3Y3W4](#)), 146

⁵⁶² Exhibit C379-11-1 - Andrew Weaver - Written Argument-in-Chief (January 8, 2016) ([A4X3L0](#)), 24.

⁵⁶³ Exhibit B32-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to NEB IR No. 1 1 of 2 (May 14, 2015) ([A3W9H8](#)) (stricken in part), 365-372.

2464 **6. ABORIGINAL**

2465 **6.1 Interests, Concerns and Mitigation**

2466 **6.1.1 Project Impacts on Aboriginal Title and Rights**

2467 Aboriginal intervenors expressed concerns in argument regarding Project impacts on Aboriginal
2468 rights and title.⁵⁶⁴ These concerns related to the exercise of domestic and commercial rights to fish
2469 and harvest, restrictions on the times and locations in which Aboriginal rights can be exercised
2470 and adverse impacts on the terrestrial and marine environment. Aboriginal intervenors also raised
2471 concerns related to the disruption of spiritual and cultural practices and the loss and contamination
2472 of food and medicinal plants along the pipeline right-of-way.

2473 Trans Mountain acknowledges the importance of the environment to Aboriginal communities and
2474 understands that the ability to participate in TLRU and TMRU activities is an important component
2475 of the exercise of these rights.⁵⁶⁵ Trans Mountain assessed the potential adverse effects of the

⁵⁶⁴ Exhibit C108-6-2 - Ditidaht First Nation - Final Argument (January 12, 2016) ([A4X4T8](#)), 2; Exhibit C246-9 - Musqueam Indian Band - Written Argument (January 11, 2016) ([A4X3U3](#)), 1, 3-4; Exhibit C267-10-2 - Adam Olsen - Final Written Argument (January 11, 2016) ([A4X3Z1](#)), lines 38-40, 331 - 346; Exhibit C310-6 - Shackan Indian Band - Written Argument (January 12, 2016) ([A4X5E4](#)), 3-5; Exhibit C400-13 - Cheam and Chawathil First Nations - Written Argument (January 12, 2016) ([A4X5K4](#)), 6, 35; Exhibit C325-18 - Stk'emlupsemc te Secwepemc - Written Argument (January 12, 2016) ([A4X4T2](#)), 5-6; Exhibit C358-30 - Tsleil-Waututh Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4V1](#)), 87-91; Exhibit C330-22 - Stz'uminus First Nation - Final Argument (January 12, 2016) ([A4X5I8](#)), 23; Exhibit C199-2 - Kwikwetlem First Nation - Final Written Argument (January 12, 2016) ([A4X5I3](#)), 1, 12; Exhibit C198-19 - Kwantlen First Nation - Written Argument (January 12, 2016) ([A4X4H7](#)), 58-66; Exhibit C336-11 - Swinomish, Tulalip, Suquamish, and Lummi Indian Nations - US Tribes Final Written Argument (January 12, 2016) ([A4X4I0](#)), 6-11; Exhibit C359-9 - T'sou-ke Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4W5](#)), 27-34; Exhibit C277-6 - Pauquachin First Nation - Final Argument (January 12, 2016) ([A4X4F8](#)), lines 11 - 35; Exhibit C308-8 - Scia'new First Nation - Final Argument (January 12, 2016) ([A4X3Z8](#)), lines 21 to 38; Exhibit C363-42 - Upper Nicola Band - Final Written Submissions (January 12, 2016) ([A4X5V5](#)), 45-48; Exhibit C354-14-2 - Tsartlip First Nation - Argument in Chief Final ([A4X5I1](#)); Exhibit C86-33-1 - Cowichan Tribes - Cowichan Written Argument (January 12, 2016) ([A4X5E2](#)); Exhibit C356-14 - Tsawwassen First Nation - Final Argument (January 12, 2016) ([A4X5L0](#)), 47; Exhibit C411-5 - Maa-nulth Treaty Society - Final Argument (January 11, 2016) ([A4X4A0](#)), 6; Exhibit C258-14-2 - Nooaitch Indian Band - Argument in Chief Final (January 12, 2016) ([A4X5J5](#)), 26; Exhibit C333-9-2 - Sunchild First Nation - Argument (January 12, 2016) ([A4X5K7](#)), 5.

⁵⁶⁵ Exhibit B417-3 - Trans Mountain Reply Evidence, Section 40 - Aboriginal Traditional Use (August 20, 2015) ([A4S7F0](#)), 40-2.

2476 Project on valued components that support Aboriginal rights and interests.⁵⁶⁶ The assessment
2477 considered the potential environmental effects of the construction, operation and maintenance of
2478 the pipeline, the ways in which these effects could be minimized or avoided altogether, and
2479 mitigation and reclamation strategies that would further reduce these effects. To minimize Project-
2480 related impacts on Aboriginal interests and traditional practices, Trans Mountain developed a
2481 comprehensive suite of mitigation measures designed to protect the environment. The entire suite
2482 of mitigation measures can be found in the Pipeline EPP,⁵⁶⁷ the Facilities EPP⁵⁶⁸ and the Westridge
2483 Marine Terminal EPP.⁵⁶⁹

2484 Trans Mountain conducted detailed assessments of Project-related effects on Aboriginal rights and
2485 interests. In Final Argument, Trans Mountain described its approach to assessing these effects.⁵⁷⁰

2486 Trans Mountain's responses to concerns regarding Project planning issues, such as twinning an
2487 existing pipeline, erosion and geo-hazard and seismic risks⁵⁷¹ are addressed in Section 3 – Project
2488 Design of this reply.

⁵⁶⁶ Exhibit B5-20 - Trans Mountain Pipeline ULC - VOL 5A ESA 12of16 BIOPHYSICAL (June 12, 2015) ([A3S1Q9](#)), 7.2; Exhibit B5-38 - Trans Mountain Pipeline ULC - VOL 5B ESA 13of16 SOCIOEC (June 12, 2015) ([A3S1S7](#)), 7.2; Exhibit B18-29 - Trans Mountain Pipeline ULC - V8A 4.2.12.2 TO T5.2.2 MAR TRANS ASSESS (June 12, 2015) ([A3S4Y3](#)), 4.

⁵⁶⁷ Exhibit B11-4 - Trans Mountain Pipeline ULC - V6B 1of2 PIPELINE EPP (December 16, 2013) ([A3S2S3](#)); Exhibit B11-5 - Trans Mountain Pipeline ULC - V6B 2of2 PIPELINE EPP (December 16, 2013) ([A3S2S4](#)).

⁵⁶⁸ Exhibit B11-7 - Trans Mountain Pipeline ULC - V6C 1of2 FACILITIES EPP (December 16, 2013) ([A3S2S6](#)); Exhibit B11-8 - Trans Mountain Pipeline ULC - V6C 2of2 FACILITIES EPP (December 16, 2013) ([A3S2S7](#)).

⁵⁶⁹ Exhibit B11-10 - Trans Mountain Pipeline ULC - V6D WRIDGE EPP (December 16, 2013) ([A3S2S9](#)).

⁵⁷⁰ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 348, 360-366.

⁵⁷¹ Exhibit C363-42 - Upper Nicola Band - Final Written Submissions (January 12, 2016) ([A4X5V5](#)), 48-50.

2489 **6.1.2 Traditional Ecological Knowledge**

2490 Aboriginal intervenors submitted that Trans Mountain failed to collect and incorporate Aboriginal
2491 Traditional Ecological Knowledge (“TEK”) into Project planning.⁵⁷² According to Katzie, Trans
2492 Mountain conducted an environmental assessment and developed mitigation measures without the
2493 benefit of traditional use information needed to avoid certain sites.⁵⁷³

2494 Trans Mountain conducted an environmental assessment of Project effects on TLRU and TMRU
2495 using all traditional use information available at the time of the assessment.⁵⁷⁴ Additional
2496 traditional use information was reviewed as it was received in the context of the ESA.⁵⁷⁵ With the
2497 application of mitigation measures, Trans Mountain determined that the ESA’s significance
2498 conclusions regarding TLRU and TMRU remained unchanged by the results of the supplemental
2499 traditional use information received for Project-related effects and the Project’s contribution to
2500 cumulative effects.⁵⁷⁶

2501 Counter to Katzie’s assertion, sites identified within the proposed corridor were incorporated into
2502 Project planning. This is supported by the fact that Katzie participated in the Aboriginal oral
2503 traditional evidence hearings and filed a traditional use study confidentially with the NEB.⁵⁷⁷ Trans
2504 Mountain filed a confidential response to Katzie’s study which addressed the traditional use

⁵⁷² Exhibit C199-2 - Kwikwetlem First Nation - Final Written Argument (January 12, 2016) ([A4X5I3](#)), 2; Exhibit C217-9-2 - Lower Nicola Indian Band - TMEP Closing Arguments (January 12, 2016) ([A4X5T8](#)), 2; Exhibit C219-13-1 - Lyackson First Nation - Written Submissions (January 12, 2016) ([A4X5K1](#)), 31; Exhibit C258-14-2 - Nooaitch Indian Band - Argument in Chief Final (January 12, 2016) ([A4X5J5](#)), 48.

⁵⁷³ Exhibit C187-20 - Katzie First Nation - Final Argument (January 12, 2016) ([A4X4E4](#)); Hearing transcript Vol. 27 (January 20, 2016) ([A4X7G2](#)) at line 13005.

⁵⁷⁴ Exhibit B5-38 - Trans Mountain Pipeline ULC - V5B ESA 13of16 SOCIOEC (June 12, 2015) ([A3S1S7](#)), 7.10.2.

⁵⁷⁵ Exhibit B5-38 - Trans Mountain Pipeline ULC - V5B ESA 13of16 SOCIOEC (June 12, 2015) ([A3S1S7](#)).

⁵⁷⁶ Exhibit B5-38 - Trans Mountain Pipeline ULC - V5B ESA 13of16 SOCIOEC (June 12, 2015) ([A3S1S7](#)), 7.10.2; Exhibit B5-41 - Trans Mountain ULC - V5B ESA 16of16 SOCIOEC (June 12, 2015) ([A3S1T0](#)), 8.2.3.

⁵⁷⁷ Exhibit C187-11 - Katzie First Nation - Motion for Confidential Filing (May 4, 2015) ([A4L0H8](#)); Exhibit C187-12 - Katzie First Nation - Letter Re- Katzie Motion for Confidentiality (May 22, 2015) ([A4L4R7](#)).

2505 information. The Board can be confident that Trans Mountain has adequately assessed the
2506 environmental effects of the Project and has included TEK in its assessment where applicable.

2507 Cheam and Chawathil submitted that Trans Mountain refused to modify the Project based on the
2508 traditional use information it received.⁵⁷⁸ This is unfounded. Trans Mountain reviewed the
2509 traditional use information filed by Cheam and Chawathil (both publically and confidentially) with
2510 the Board. In response to Cheam and Chawathil's confidential report, Trans Mountain indicated
2511 that should specific sites be identified through on-going engagement, the sites would be
2512 incorporated into Project planning and mitigation measures would be used to reduce Project-
2513 related effects at those locations. Trans Mountain will file a description of the concerns raised and
2514 Trans Mountain's responses in its TLRU and TMRU Investigation Report, including details of its
2515 recent engagement with Cheam and Chawathil.⁵⁷⁹

2516 Stó:lō submitted that Trans Mountain engaged in a series of actions in breach of commitments to
2517 Stó:lō.⁵⁸⁰ With respect to Lightning Rock, Stó:lō took issue with the fact that Trans Mountain's
2518 currently mapped site boundary is the archaeology site boundary, not the cultural heritage site
2519 boundary. Stó:lō indicated that the cultural heritage site boundary is much larger than the
2520 archaeology site boundary. Therefore, Stó:lō argued that the adjustment Trans Mountain
2521 committed to is inadequate and insufficient.

2522 Trans Mountain acknowledges Stó:lō's concerns regarding the location of these sites. Trans
2523 Mountain notes that the cultural heritage site boundary covers most of Sumas Mountain where a
2524 number of developments are located, including Trans Mountain's existing pipeline and the Sumas

⁵⁷⁸ Hearing transcript Vol. 29 (January 22, 2016) ([A4X7Q9](#)) at line 14827.

⁵⁷⁹ Exhibit A199 - National Energy Board - Procedural Direction No. 17 - Draft conditions for comment (August 12, 2015) ([A4S1G2](#)), 34.

⁵⁸⁰ Exhibit C326-18 - Stó:lō Collective - Final Argument (January 12, 2016) ([A4X5T3](#)), 24.

2525 Terminal. As a result, it is not possible for Trans Mountain to completely avoid this cultural site.
2526 To minimize Project impacts during construction, pipeline installation will take place within the
2527 existing 18 m wide easement with only 7 m of additional temporary work space for a combined
2528 total width of 25 m. This workspace has been significantly reduced from the original 42 m width
2529 to avoid the known archaeological boundaries at Lightning Rock. Trans Mountain is not proposing
2530 a staging area for this segment of the Project. Trans Mountain looks forward to working with Stó:lō
2531 to develop mitigation measures for Lightning Rock.

2532 Stó:lō indicated that it met with Trans Mountain and provided materials and that Trans Mountain
2533 did not respond.⁵⁸¹ Stó:lō also asserted that Trans Mountain has not supported the involvement of
2534 the Stó:lō Research and Resource Management Centre (“SRRMC”) in Trans Mountain’s
2535 Archaeological Impact Assessment. Stó:lō claimed that, despite committing to protect Stó:lō’s
2536 cultural sites, Trans Mountain has made no effort to do so.⁵⁸² In order to ensure that cultural sites
2537 are protected, Stó:lō would like to be directly involved in the Project development process.⁵⁸³

2538 Trans Mountain has made numerous attempts to respond to Stó:lō’s concerns. In September 2015
2539 Trans Mountain held two workshops to discuss the EPPs and proposed mitigation measures.
2540 Invitations to the first workshop, held in Abbotsford, B.C. on September 9, 2015, were extended
2541 to Aboriginal groups in the Lower Mainland including Stó:lō. The second workshop took place in
2542 Chilliwack, B.C. on September 24, 2015, and was for Stó:lō members exclusively. Since these
2543 workshops, Trans Mountain has maintained open lines of communication with the First Nations
2544 attendees.

⁵⁸¹ Hearing transcript Vol. 28 (January 21, 2016) ([A4X7K0](#)) at line 14035.

⁵⁸² Hearing transcript Vol. 28 (January 21, 2016) ([A4X7K0](#)) at line 14086.

⁵⁸³ Hearing transcript Vol. 28 (January 21, 2016) ([A4X7K0](#)) at lines 14107 to 14113.

2545 Trans Mountain refutes the assertion that SRRMC has not received support to participate in the
2546 Archaeological Impact Assessment for the Project. Trans Mountain included SRRMC staff as
2547 Field Directors on its Heritage Inspection Permit, issued under the provincial *Heritage*
2548 *Conservation Act*.⁵⁸⁴ Trans Mountain also applied for a Stó:lō Heritage Investigation Permit
2549 (“SHIP”). During summer 2015, Trans Mountain worked with Stó:lō to make revisions to the SHIP
2550 to address Stó:lō’s concerns. After the permit was revised, Trans Mountain notified Stó:lō of all
2551 archaeology field work that occurred in Stó:lō territory. At Stó:lō’s discretion, Stó:lō
2552 representatives were included as members of Trans Mountain’s archaeology field crews. Trans
2553 Mountain’s efforts to develop the archaeology program are ongoing. Trans Mountain is planning
2554 to meet with Stó:lō to discuss the program, related findings and potential mitigation measures in
2555 Q1 2016. Trans Mountain remains committed to the protection of Stó:lō’s archaeological and
2556 cultural sites.

2557 GML 55 indicated that they were not provided with an opportunity to participate in field studies
2558 at any time regarding the Project.⁵⁸⁵ In fact, dozens of Aboriginal groups participated in Trans
2559 Mountain’s field participation program. Trans Mountain and its consultant collaborated with
2560 participating Aboriginal communities to develop a field participation program to allow interested
2561 Aboriginal groups to contribute TEK, share concerns and review proposed mitigation measures
2562 during the biophysical field studies for the Project. The methods used to determine participant
2563 involvement in Project field studies were common to all Aboriginal communities.⁵⁸⁶ The
2564 information gathered through the program was presented to the NEB and used in Project planning.

⁵⁸⁴ *Heritage Conservation Act*, RSBC 1996, c 187.

⁵⁸⁵ Exhibit C232-09 - Metis Nation of Alberta Gunn Metis Local 55 - GML 55 Final Argument (January 11, 2016) ([A4X3Z6](#)), 5.

⁵⁸⁶ Exhibit B417-3 - Trans Mountain Reply Evidence, Section 40 - Aboriginal Traditional Use (August 20, 2015) ([A4S7F0](#)), 40-10.

2565 The evidence demonstrates that Aboriginal intervenors have been provided with meaningful
2566 opportunities to participate in field studies for the Project.

2567 Tsartlip First Nation (“Tsartlip”) raised concerns regarding the content of Trans Mountain’s
2568 TMRU Supplemental Technical Report.⁵⁸⁷ Trans Mountain acknowledges that it inadvertently
2569 included information about Ditidaht First Nation in the section of the report on Tsartlip. As soon
2570 as Trans Mountain became aware of the error, it filed both an errata letter regarding the error and
2571 a corrected Supplemental TMRU Technical Report for Tsartlip.⁵⁸⁸

2572 **6.1.3 Mitigation Measures**

2573 Aboriginal intervenors submitted that Trans Mountain failed to adequately identify and assess
2574 mitigation measures. They stated that non-committal mitigation measures should not be relied on
2575 to conclude that environmental impacts are mitigated.⁵⁸⁹ Some Aboriginal intervenors submitted
2576 that Trans Mountain did not engage in discussions about potential mitigation and instead advised
2577 that “in all cases no mitigation was requested”.⁵⁹⁰ This is an incorrect characterization of how
2578 Trans Mountain reviewed traditional use information and developed mitigation measures.

2579 Trans Mountain reviewed TLRU and TMRU information from Aboriginal groups to identify
2580 TLRU sites, mitigation measures requested for those sites and concerns regarding Project-related
2581 effects on traditional use. Trans Mountain reported instances where Aboriginal groups requested

⁵⁸⁷ Exhibit C354-14 - Tsartlip First Nation - Argument in Chief Final (January 12, 2016) ([A4X5I1](#)), 19.

⁵⁸⁸ Exhibit B251-1 - Trans Mountain Pipeline ULC - TMRU Errata Cover Letter (August 13, 2014) ([A4A0W0](#));
Exhibit B251-2 - Trans Mountain Pipeline ULC - Traditional Marine Use (August 13, 2014) ([A4A0W1](#)).

⁵⁸⁹ Exhibit C86-33-1 - Cowichan Tribes - Cowichan Written Argument (January 12, 2016) ([A4X5E2](#)), 43; Exhibit
C359-9 - T'sou-ke Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4W6](#)), 50.

⁵⁹⁰ Exhibit C354-14 - Tsartlip First Nation - Argument in Chief Final (January 12, 2016) ([A4X5I1](#)), 20.

2582 specific mitigation measures to the NEB.⁵⁹¹ Trans Mountain's approach to developing mitigation
2583 measures is discussed in Final Argument.⁵⁹²

2584 Lyackson First Nation ("Lyackson") indicated that Trans Mountain has not made any attempts to
2585 come forward and develop mitigation strategies.⁵⁹³ Trans Mountain understands the importance of
2586 TMRU activities to Lyackson and remains committed to working with Lyackson to develop
2587 appropriate mitigation measures. Trans Mountain reported on TMRU sites identified by Lyackson
2588 in TMRU Supplemental Technical Report No 2. In September 2015, Trans Mountain tentatively
2589 planned an EPP workshop for Westridge Marine Terminal which was to include the topic of
2590 mitigation measures. Lyackson was invited to the workshop and confirmed that it would
2591 attend. However, the workshop was subsequently delayed until Q2/Q3 of 2016 as Trans Mountain
2592 continued to work on detailed design of the Westridge Marine Terminal. Trans Mountain notified
2593 Lyackson of the delay and indicated that details regarding the re-scheduled workshop would be
2594 provided when available. On January 28, 2016, Trans Mountain contacted Lyackson and offered
2595 to meet to discuss TMEP's proposed mitigation measures for increased marine shipping. Trans
2596 Mountain looks forward to meeting with Lyackson to discuss these proposed mitigation measures.

2597 Stó:lō correctly submitted that the identification of Aboriginal interests and mitigation measures
2598 should arise as a result of the Crown's duties to Aboriginal people, not as a reward for entering
2599 into an agreement with a private party.⁵⁹⁴ Trans Mountain confirms that mitigation is not

⁵⁹¹ For example, in Section 5.4 of the Supplemental Traditional Marine Resource Use- Marine Transportation Technical Report (Exhibit B241-2 - Trans Mountain Pipeline ULC - Traditional Marine Use (July 21, 2014) ([A3Z4Z1](#)), 5-12) mitigation measures requested by Halalt First Nation are identified. Trans Mountain also provided a concordance table for these mitigations in Section 6 of this report.

⁵⁹² Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 206-213, 348.

⁵⁹³ Exhibit C219-13-1 - Lyackson First Nation - Written Submissions (January 12, 2016) ([A4X5K1](#)); Hearing transcript Vol. 31 (January 25, 2016) ([A4X7W0](#)) at line 16055.

⁵⁹⁴ Exhibit C326-18-2 - Stó:lō Collective - Final Argument (January 12, 2016) ([A4X5T3](#)), 7; Hearing transcript Vol. 28 (January 21, 2016) ([A4X7K0](#)) at line 14038.

2600 dependent on whether a Mutual Benefits Agreement has been executed. The proposed mitigation
2601 measures apply to all Project-related effects, regardless of the traditional territory in which they
2602 occur.⁵⁹⁵

2603 **6.1.4 Cumulative Effects**

2604 Aboriginal intervenors raised concerns regarding cumulative effects of the Project when
2605 considered along with other industrial development that has occurred in their traditional
2606 territories.⁵⁹⁶ As discussed in Final Argument⁵⁹⁷ and Reply Evidence,⁵⁹⁸ the cumulative effects
2607 assessment that was undertaken for the Project followed the requirements of the CEEA 2012. This
2608 methodology has been before the Board on numerous occasions and the Board has found it
2609 acceptable.⁵⁹⁹

⁵⁹⁵ A summary of recommended mitigation measures can be found in Table 6.1 of Volume 8B-5, Marine Traditional Resource Use Technical Report at Exhibit B19-10 - Trans Mountain Pipeline ULC - V8B TR 8B5 MAR TRAD RESOURCE (December 17, 2013) ([A3S4K3](#)).

⁵⁹⁶ Exhibit C246-9 - Musqueam Indian Band - Written Argument (January 11, 2016) ([A4X3U3](#)), 4; Exhibit C198-19 - Kwantlen First Nation - Written Argument (January 12, 2016) ([A4X4H7](#)), 58; Exhibit C232-09 - Metis Nation of Alberta Gunn Metis Local 55 - GML 55 Final Argument (January 11, 2016) ([A4X3Z6](#)), 7; Exhibit C258-14-2 - Nooaitch Indian Band - Argument in Chief Final (January 12, 2016) ([A4X5J5](#)), 4; Exhibit C219-13-1 - Lyackson First Nation - Written Submissions (January 12, 2016) ([A4X5K1](#)), 21; Exhibit C217-9-2 - Lower Nicola Indian Band - TMEP Closing Arguments (January 12, 2016) ([A4X5T8](#)), 12; Exhibit C363-42 - Upper Nicola Band - Final Written Submissions (January 12, 2016) ([A4X5V5](#)), 53; Exhibit C355-38-1 - Tsawout First Nation - Final Written Submissions (January 12, 2016) ([A4X5W3](#)), 69; Exhibit C354-14 - Tsartlip First Nation - Argument in Chief Final (January 12, 2016) ([A4X5I1](#)), 22.

⁵⁹⁷ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 348.

⁵⁹⁸ Exhibit B417-3 - Trans Mountain Reply Evidence, Section 40 - Aboriginal Traditional Use (August 20, 2015) ([A4S7F0](#)) 40-5.

⁵⁹⁹ See e.g. NEB - NEB Report - NOVA Gas Transmission Ltd. - GH-001-2014 (April 2015); NEB - Reasons for Decision - NOVA Gas Transmission Ltd. - GH-001-2012 (January 2013); NEB - Reasons for Decision - NOVA Gas Transmission Ltd. - GH-001-2011 (July 2012); NEB - Reasons for Decision - NOVA Gas Transmission Ltd. - GH-2-2011 (February 2012); NEB - Reasons for Decision - NOVA Gas Transmission Ltd. - GH-2-2010 (January 2011).

2610 **6.1.5 Baseline Data**

2611 Aboriginal intervenors submitted that Trans Mountain has not collected sufficient baseline data to
2612 assess Project-related impacts.⁶⁰⁰ GML 55 indicated that Trans Mountain has insufficient baseline
2613 knowledge of traditional land use by GML 55 in the Edmonton-Hinton corridor with which to
2614 assess impacts despite explicit scoping requirements to obtain such baseline information.⁶⁰¹
2615 Stk'emlupsemc te Secwepemc Nation indicated that Trans Mountain's failure to provide adequate
2616 biophysical baseline information for Stk'emlupsemc te Secwepemc Nation Territory is evidenced
2617 by the lack of information in the Application regarding key wildlife species.⁶⁰²

2618 Trans Mountain made significant efforts to collect and incorporate baseline data into Project
2619 planning. Trans Mountain completed an extensive field program of biophysical surveys, including
2620 aquatics and wildlife surveys to obtain baseline information. Aboriginal groups were given the
2621 opportunity to participate in field studies and provide TEK to inform the baseline information
2622 collected. Trans Mountain also funded TLRU and TMRU studies with Aboriginal groups
2623 potentially affected by the Project. Trans Mountain's efforts to collect and incorporate baseline
2624 data into Project planning are discussed in Final Argument.⁶⁰³ Trans Mountain submits that the
2625 Board has sufficient information on which to base its assessment.

2626 **6.1.6 Project Benefits**

2627 Several Aboriginal intervenors expressed concerns regarding access to Project benefits and
2628 opportunities where a First Nation has not entered into a Mutual Benefits Agreement with Trans

⁶⁰⁰ Exhibit C3-16-1 - Adams Lake Indian Band - Written Argument (January 11, 2016) ([A4X3Y8](#)), 3.

⁶⁰¹ Exhibit C232-09 - Metis Nation of Alberta Gunn Metis Local 55 - GML 55 Final Argument (January 11, 2016) ([A4X3Z6](#)), 8.

⁶⁰² Exhibit C325-18 - Stk'emlupsemc te Secwepemc - Written Argument (January 12, 2016) ([A4X4T3](#)), 25.

⁶⁰³ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 362-364.

2629 Mountain.⁶⁰⁴ Trans Mountain acknowledges that certain benefits are made available to specific
2630 Aboriginal groups by way of agreements that are the result of confidential commercial negotiations
2631 between the two parties. However, a number of other Project benefits are available to all
2632 Aboriginal groups, as well as local communities. These benefits are detailed in Final Argument.⁶⁰⁵

2633 **6.1.7 Marine Spills**

2634 Many Aboriginal intervenors expressed concerns regarding Project-related accidents and
2635 malfunctions. These concerns related to spill probability, spill prevention, spill preparedness and
2636 emergency response.⁶⁰⁶ Trans Mountain considered the potential effects of spills on elements of
2637 the environment that support Aboriginal rights and interests, including TLRU and TMRU, in the
2638 Application.⁶⁰⁷ Trans Mountain's responses to intervenor concerns regarding marine spills are
2639 discussed in Section 5 – Emergency Response of this reply.

2640 **6.2 Aboriginal Consultation and the NEB's Process**

2641 Aboriginal intervenors expressed a variety of concerns regarding Trans Mountain's engagement
2642 efforts, Crown consultation and the NEB's process. The public record demonstrates that each
2643 potentially affected Aboriginal group had numerous meaningful opportunities to provide input to

⁶⁰⁴ Exhibit C232-09 - Metis Nation of Alberta Gunn Metis Local 55 - GML 55 Final Argument (January 11, 2016) ([A4X3Z6](#)), 6; Exhibit C258-14-2 - Nooaitch Indian Band - Argument in Chief Final (January 12, 2016) ([A4X5J5](#)), 65.

⁶⁰⁵ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 213-217.

⁶⁰⁶ Exhibit C289-13-2 - Province of BC - Final Argument - Jan. 11, 2016 (January 11, 2016) ([A4X3T3](#)); Exhibit C123-6-1 - Esquimalt Nation - Final Argument (January 12, 2016) ([A4X4A2](#)), 8; Exhibit C411-5 - First Nations of Maa-nulth Treaty Society - Final Argument (January 11, 2016) ([A4X4A0](#)), 15; Exhibit C277-6 - Pauquachin First Nation - Final Argument (January 12, 2016) ([A4X4F8](#)), 8; Exhibit C308-8 - Scia'new First Nation - Final Argument (January 12, 2016) ([A4X3Z8](#)), 8; Exhibit C86-33-1 - Cowichan Tribes - Cowichan Written Argument (January 12, 2016) ([A4X5E2](#)), 10; Exhibit C318-5-2 - Snuneymuxw First Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4Z4](#)), 16; Exhibit C330-22 - Stz'uminus First Nation - Final Argument (January 12, 2016) ([A4X5I8](#)), 33; Exhibit C356-14 - Tsawwassen First Nation - Final Argument (January 12, 2016) ([A4X5L0](#)), 49.

⁶⁰⁷ Exhibit B18-1 to B18-2 - Trans Mountain Pipeline ULC - V7 RISK ASSESS MGMT SPILLS (June 12, 2015) ([A3S4V5](#), [A3S4V6](#)); Exhibit B18-29 to B18-37 - Trans Mountain Pipeline ULC - V8A MAR TRANS ASSESS (June 12, 2015) ([A3S4Y3](#), [A3S4Y4](#), [A3S4Y5](#), [A3S4Y6](#), [A3S5Q3](#), [A3S4Y7](#), [A3S4Y8](#), [A3S4Y9](#), [A3S4Z0](#)).

2644 Trans Mountain, the Board and the Crown during the regulatory process. The Crown may, and has
2645 indicated that it will, rely on the consultative process established by the Board to discharge its duty
2646 to consult, to the extent possible. Implicit in the concept of “to the extent possible” is that there is
2647 more and that the Crown is not delegating the duty.

2648 The Major Projects Management Office (Natural Resources Canada) (“MPMO”) has indicated
2649 that Crown consultation will continue after the close of the public record, and has advised on its
2650 specific process as discussed in Section 6.2.3 – Considerations of the Adequacy of Crown
2651 Consultation are Premature of this reply.⁶⁰⁸ The Governor in Council will only be constitutionally
2652 capable of approving the Project if doing so upholds the honour of the Crown, including that the
2653 Crown has discharged its duty to consult and accommodate if required. Trans Mountain submits
2654 that the process that has been followed satisfies the common law requirements for Aboriginal
2655 consultation and ensures that Aboriginal interests are respected.

2656 **6.2.1 Trans Mountain Made Significant Efforts to Consult with Aboriginal Groups**

2657 Aboriginal intervenors raised concerns with Trans Mountain’s consultation in respect of the
2658 Project.⁶⁰⁹ Stó:lō submitted that Trans Mountain’s consultation is inconsistent with the
2659 expectations of the Crown and the Board.⁶¹⁰

⁶⁰⁸ Exhibit C249-17-2 - Natural Resources Canada - Written Argument in Chief (January 11, 2016) ([A4X3Y1](#)), 4.

⁶⁰⁹ Exhibit C15-9-1 - Asini Wachi Nehiyawak Traditional Band - Final Argument (January 11, 2016) ([A4X3V5](#)), 13; Exhibit C78-21-2 - Coldwater Indian Band - Final Argument (January 12, 2016) ([A4X5J8](#)), 9; Exhibit C319-40 - Squamish Nation - Final Argument (January 12, 2016) ([A75108](#)), 36; Exhibit C354-14 - Tsartlip First Nation - Argument in Chief Final (January 12, 2016) ([A4X5I1](#)), 19; Exhibit 356-14 - Tsawwassen First Nation - Final Argument (January 12, 2016) ([A4X5L0](#)), 43; Exhibit C258-14 - Nooaitch Indian Band - Argument in Chief Final (January 12, 2016) ([A4X5J5](#)), 22.

⁶¹⁰ Hearing transcript Vol. 28 (January 21, 2016), ([A4X7K0](#)) at line 14015.

2660 The public record demonstrates that Trans Mountain made significant efforts to consult with all
2661 Aboriginal groups that expressed an interest in the Project.⁶¹¹ These efforts are discussed in Final
2662 Argument⁶¹² and are detailed in Trans Mountain's Aboriginal consultation updates filed on the
2663 public record.⁶¹³ The success of Trans Mountain's Aboriginal engagement initiatives is
2664 underscored by the fact that as of February 17, 2016, 34 Aboriginal groups located along the
2665 Project corridor in Alberta and British Columbia (including Vancouver Island) have provided
2666 written letters of support for the Project.⁶¹⁴

2667 The law is clear that the duty to consult does not require a project proponent to offer any particular
2668 form of accommodation to Aboriginal groups, nor does it provide any Aboriginal group with an
2669 effective veto over a proposed project.⁶¹⁵

⁶¹¹ Exhibit B1-39 - Trans Mountain Pipeline ULC - V3B 1.0 TO 3.0 ABOR ENGAG (December 16, 2013) ([A3S0U5](#)), 3B-11.

⁶¹² Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 191-217.

⁶¹³ Exhibit B306-2 - Trans Mountain Pipeline ULC - Trans Mountain Response to NEB IR No. 3 (February 3, 2015) ([A4H1V2](#)), 44. Part 2, Aboriginal Engagement, which is attached to NEB IR No. 3.008a (NEB IR No. 3.008a - Attachment 1); Exhibit B417-21 - Trans Mountain Reply Evidence, Appendix 7A: Consultation Update No. 4 - Aboriginal Engagement (August 20, 2015) ([A4S7G8](#)).

⁶¹⁴ Exhibit B417-21 - Trans Mountain Reply Evidence, Appendix 7A: Consultation Update No. 4 - Aboriginal Engagement (August 20, 2015) ([A4S7G8](#)), 9; Exhibit C120-3-1 - Enoch Cree Nation - Regulatory Support Letter (November 10, 2015) ([A4V2W0](#)); Exhibit C189-10-1 - Kelly Lake Cree Nation - KLCN Regulator Support Letter (December 7, 2015) ([A4W3E0](#)); Exhibit C302-14 - Samson Cree Nation - Letter of support to NEB (December 14, 2015) ([A4W6C1](#)); Exhibit C312-19-1 - Shxw'owhamel First Nation - Letter of Support (December 18, 2015) ([A4X1J0](#)); Exhibit C227-13-1 - Matsqui First Nation - Letter of Support (January 8, 2016) ([A4X3L2](#)); Exhibit C399-7-1 - Peters Band - Letter of Support (January 25, 2016) ([A4X7U5](#)); Exhibit C269-29-1 - Pacheedaht First Nation - Letter of Support (January 29, 2016) ([A4X8V8](#)).

⁶¹⁵ *Haida Nation v British Columbia (Minister of Forests)*, 2004 SCC 73 at paras 47-49.

2670 **6.2.2 The NEB's Process Ensures that Aboriginal Interests are Respected**

2671 Upper Nicola, Squamish Nation ("Squamish"), TWN and T'Sou-ke Nation ("T'Sou-ke")
2672 submitted that they were not consulted regarding the Board's regulatory process.⁶¹⁶ Some
2673 Aboriginal intervenors suggested the NEB has a duty to consult.⁶¹⁷

2674 The NEB is neither the Crown nor its agent. The NEB is a court of record, with the powers, rights
2675 and privileges of a superior court of record in relation to matters necessary or proper for the due
2676 exercise of its jurisdiction.⁶¹⁸ The NEB Act gives the Board the unequivocal jurisdiction to
2677 establish rules concerning the conduct of its hearings.⁶¹⁹ As a specialized tribunal with particular
2678 expertise conducting a hearing with a large number of intervenors and specialized evidence, the
2679 NEB has the authority and discretion to determine its own process.⁶²⁰

2680 The NEB must exercise its decision-making functions in accordance with both the NEB Act and
2681 section 35(1) of the *Constitution Act, 1982* and does so through the broad consultation obligations
2682 it imposes on the proponent. Specifically, the proponent must consult with Aboriginal groups,
2683 determine their concerns, and attempt to address those concerns.⁶²¹ The NEB fulfilled these legal

⁶¹⁶ Exhibit C363-42 - Upper Nicola Band - Final Written Submissions (January 12, 2016) ([A4X5V5](#)), 14; Exhibit C359-9-2 - T'Sou-ke Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4W6](#)), 40; Exhibit C358-30-2 - Tseil-Waututh Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4V2](#)), 128-129.

⁶¹⁷ Exhibit C358-30 - Tseil-Waututh Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4V1](#)), 39; Hearing transcript Vol. 29 (January 22, 2016), ([A4X7Q9](#)) at line 14930; Hearing transcript Vol. 32 (January 26, 2016), ([A4X8C7](#)) at lines 16532, 17234.

⁶¹⁸ NEB Act, ss 11(1), 11(3); *Québec (Attorney General) v Canada (National Energy Board)*, [1994] 1 SCR 159 at paras 40-41; *Standing Buffalo Dakota First Nation v Enbridge Pipelines Inc*, 2009 FCA 308, leave to appeal to SCC refused, 33480 (December 2, 2010).

⁶¹⁹ NEB Act, s 8; *National Energy Board Rules of Practice and Procedure, 1995*, SOR/95 - 208, s 22.

⁶²⁰ *Baker v Canada (Minister of Citizenship and Immigration)*, [1999] 2 SCR 817 at paras 21-28.

⁶²¹ *Standing Buffalo Dakota First Nation v Enbridge Pipelines Inc*, 2009 FCA 308, leave to appeal to SCC refused, 33480 (December 2, 2010), at paras 34, 40; *Québec (Attorney General) v Canada (National Energy Board)*, [1994] 1 SCR 159 at para 44; *Constitution Act, 1982*, being Schedule B to the *Canada Act 1982* (UK), 1982, c 11, s 35(1).

2684 requirements by providing Aboriginal groups with an opportunity to participate in a robust and
2685 accessible regulatory process in a meaningful way.⁶²²

2686 In *Standing Buffalo Dakota First Nation v Enbridge Pipelines Inc.* (“*Standing Buffalo*”),⁶²³ the
2687 Federal Court of Appeal made clear that the Board is not the Crown, nor its agent, in the context
2688 of a section 52 application before the NEB.⁶²⁴ *Standing Buffalo* involved appeals by the Standing
2689 Buffalo Dakota First Nation, Sweetgrass First Nation and Moosomin First Nation of NEB
2690 decisions approving the Keystone Project, Southern Lights Project and Alberta Clipper Project.
2691 The primary issue on appeal related to whether the NEB was required to undertake a *Haida*
2692 analysis in the context of an application for a section 52 certificate. In dismissing the appeals, the
2693 Court provided the following reasons:

- 2694 (a) the NEB’s process already ensures that the applicant for project approval has due
2695 regard for Aboriginal rights protected by section 35 of the *Constitution Act, 1982*;
- 2696 (b) there are no provisions in the NEB Act or other legislation preventing the NEB
2697 from issuing a section 52 certificate without first undertaking a *Haida* analysis or
2698 empowering it to order the Crown to undertake *Haida* consultations;
- 2699 (c) the NEB lacks jurisdiction to undertake a *Haida* analysis; and
- 2700 (d) there is recourse to the courts to adjudicate matters relating to the existence, scope
2701 and fulfillment of a *Haida* duty.⁶²⁵

⁶²² *Brokenhead Ojibway Nation v Canada (Attorney General)*, 2009 FC 484 at para 42.

⁶²³ *Standing Buffalo Dakota First Nation v Enbridge Pipelines Inc.*, 2009 FCA 308, leave to appeal to SCC refused, 33480 (December 2, 2010).

⁶²⁴ *Standing Buffalo Dakota First Nation v Enbridge Pipelines Inc.*, 2009 FCA 308, leave to appeal to SCC refused, 33480 (December 2, 2010) at para 34, citing *Québec (Attorney General) v Canada (National Energy Board)*, [1994] 1 SCR 159 at paras 40-41.

⁶²⁵ *Standing Buffalo Dakota First Nation v Enbridge Pipelines Inc.*, 2009 FCA 308, leave to appeal to SCC refused, 33480 (December 2, 2010) at paras 36-38, 40-43.

2702 *Standing Buffalo* is directly analogous to the Project since the Court considered a section 52
2703 pipeline application before the NEB. In *Standing Buffalo*, the Court confirmed that the NEB does
2704 not owe the Crown's duty to consult. The Court also confirmed that the NEB's process ensures
2705 that the proponent has due regard for existing Aboriginal rights, and provides a practical and
2706 efficient framework within which the Aboriginal group can request assurances regarding project
2707 impacts.⁶²⁶ *Standing Buffalo* was recently affirmed by the Federal Court of Appeal in *Chippewas*
2708 *of the Thames First Nation v Enbridge Pipelines Inc.*⁶²⁷

2709 Although the Board does not owe the Crown's duty to consult, it expected Trans Mountain to
2710 consult with potentially affected Aboriginal groups early in the Project planning and design phases.
2711 Aboriginal groups raised their concerns about the Project with Trans Mountain and had
2712 opportunities to bring outstanding concerns or views about the Project directly to the attention of
2713 the NEB through the regulatory process. The MPMO has solicited information regarding concerns
2714 and mitigations directly from First Nations through the IR process.⁶²⁸

2715 The NEB is required to take all relevant concerns into account when determining whether the
2716 Project is in the overall public interest and what conditions should be placed on the approval.⁶²⁹

2717 The Crown has indicated that the feedback it receives will refine the Crown's understanding of

⁶²⁶ *Standing Buffalo Dakota First Nation v Enbridge Pipelines Inc.*, 2009 FCA 308, leave to appeal to SCC refused, 33480 (December 2, 2010) at paras 34, 40-44.

⁶²⁷ *Chippewas of the Thames First Nation v Enbridge Pipelines Inc.*, 2015 FCA 222.

⁶²⁸ Exhibit C249-11 - Natural Resources Canada (MPMO) - Information Requests to Intervenors (Part 1/2) (June 22, 2015) ([A70837](#)); Exhibit C249-12 - Natural Resources Canada (MPMO) - Information Requests to Intervenors (Part 2/2) (June 22, 2015) ([A70838](#)).

⁶²⁹ *Hamlet of Clyde River v TGS-NOPEC Geophysical Company ASA (TGS)*, 2015 FCA 179 at para 68.

2718 potential Project impacts on Aboriginal interests, including any adverse impacts the Project may
2719 have on potential or established Aboriginal and treaty rights.⁶³⁰

2720 **6.2.3 Considerations of the Adequacy of Crown Consultation are Premature**

2721 Aboriginal intervenors submitted that in order for the Board to legally issue a recommendation
2722 under section 52 of the NEB Act, it must first address and decide all necessary questions of fact
2723 and law, including whether the Crown has discharged its duty to consult and accommodate.⁶³¹
2724 Aboriginal intervenors further argued that the Board must hold its recommendation in abeyance
2725 until the Crown's duty to consult is fulfilled. According to TWN, if the NEB determines that there
2726 has not been adequate consultation, it must request an extension of time from the Minister of
2727 Natural Resources and consult with and accommodate Aboriginal groups to the extent possible
2728 before it can issue its report.⁶³²

2729 The role of tribunals in relation to consultation depends on the powers conferred on them by their
2730 governing legislation. In *Rio Tinto Alcan Inc v Carrier Sekani Tribal Council* ("Rio Tinto"), the
2731 Supreme Court of Canada stated that both the powers of the tribunal to consider questions of law
2732 and the remedial powers granted to it by the legislature are relevant to determining whether a
2733 particular tribunal has a duty to consult, a duty to consider consultation, or no duty at all.⁶³³ In *Rio*
2734 *Tinto*, the Court rejected the argument that every tribunal with jurisdiction to consider questions
2735 of law has a constitutional duty to consider whether adequate consultation has occurred and, if not,

⁶³⁰ Exhibit C249-11 - Natural Resources Canada (MPMO) - Information Requests to Intervenors (Part 1/2) (June 22, 2015) ([A70837](#)); Exhibit C249-12 - Natural Resources Canada (MPMO) - Information Requests to Intervenors (Part 2/2) (June 22, 2015) ([A70838](#)); Exhibit C249-9-1 - NRCan - NRCan Written Evidence Submission (May 27, 2015) ([A4Q0V2](#)), 5.

⁶³¹ Exhibit C330-22 - Stz'uminus First Nation - Final Argument (January 12, 2016) ([A4X5I8](#)), 44; Exhibit C400-13 - Cheam and Chawathil First Nations - Written Argument (January 12, 2016) ([A4X5K4](#)), 42; Exhibit C358-30 - Tsleil-Waututh Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4V2](#)), 135.

⁶³² Exhibit C358-30-2 - Tsleil-Waututh Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4V2](#)), 134.

⁶³³ *Rio Tinto Alcan Inc v Carrier Sekani Tribal Council*, 2010 SCC 43 at paras 58, 64.

2736 to fulfill that requirement itself. A tribunal has only those powers that are conferred on it by statute.
2737 Consultation itself is not a question of law; it is a distinct and often complex constitutional process.
2738 The tribunal seeking to engage in consultation itself must possess remedial powers necessary to
2739 do what it is asked to do in connection with the consultation.⁶³⁴

2740 The Crown consultation process with Aboriginal groups regarding the Project is not over and an
2741 adequacy determination at the NEB recommendation stage would effectively usurp the Crown's
2742 role in the consultation process that will follow the NEB's regulatory process. As set out in
2743 NRCan's written evidence, Crown consultation will occur in four phases:

- 2744 (a) **Phase I:** Initial engagement, from submission of the Project description to the start
2745 of the NEB review process;
- 2746 (b) **Phase II:** NEB hearings, from the start of the NEB review process to the close of
2747 the hearing record;
- 2748 (c) **Phase III:** Post-NEB hearings, from the close of the hearing record to a Governor
2749 in Council decision on the Project; and
- 2750 (d) **Phase IV:** Regulatory permitting, from the Governor in Council decision on the
2751 project to issuance of department regulatory approvals, if required.⁶³⁵

2752 Phase III and Phase IV will occur after the close of the public record. This is consistent with the
2753 Crown's goal of reconciliation. The duty to consult and potentially accommodate is an important
2754 part of that process, something that the Crown has recognized by building consultation into every
2755 stage of the Project approval process.⁶³⁶ Following Phase III, the Crown will compile a Crown

⁶³⁴ *Rio Tinto Alcan Inc v Carrier Sekani Tribal Council*, 2010 SCC 43 at para 60.

⁶³⁵ Exhibit C249-09 - NRCan - NRCan's Written Evidence (May 27, 2015) ([A70313](#)), 6.

⁶³⁶ *Haida Nation v British Columbia (Minster of Forests)*, 2004 SCC 73 at paras 27-32, 35.

2756 Consultation Report. Aboriginal groups will have an opportunity to comment on the Crown
2757 Consultation Report before it is provided to the Governor in Council.⁶³⁷ Canadian courts have
2758 repeatedly affirmed this flexible and reasonable approach to consultation.⁶³⁸

2759 The NEB does not have the authority to engage in consultation in order to discharge the Crown's
2760 constitutional duty to consult regarding the Project. The Board is not under a *Rio Tinto* duty to
2761 assess the adequacy of consultation because the Board is not the final decision maker on a section
2762 52 application. As an independent expert tribunal, the Board must consider all relevant evidence
2763 contained on the record, determine the weight to be given to that evidence, and make its
2764 recommendations on that evidence.⁶³⁹ Pursuant to the List of Issues⁶⁴⁰ the Board will consider the
2765 potential impacts of the Project on Aboriginal interests. Trans Mountain submits that it is
2766 premature for the NEB to assess the adequacy of Crown consultation prior to issuing its report to
2767 the Governor in Council because the Crown has expressly stated that the consultation process has
2768 not concluded.

2769 TWN and T'Sou-ke drew a distinction between the NEB's role under the CEAA 2012 and the
2770 NEB Act to argue that the Board was required to consult on its scoping decision.⁶⁴¹ While this
2771 matter is properly before the Federal Court of Appeal at this time, Trans Mountain submits that

⁶³⁷ Exhibit C249-09-1 - NRCan - NRCan Written Evidence Submission TMX (May 27, 2015) ([A4Q0V2](#)), 10; Exhibit C249-09-2 - NRCan - NRCan Written Evidence ANNEX A-K (May 27, 2015) ([A4Q0V3](#)), 93-97.

⁶³⁸ *Taku River Tlingit First Nation v British Columbia (Project Assessment Director)*, 2004 SCC 74; *Council of the Innu of Ekuanitshit v Canada (Attorney General)*, 2014 FCA 189, leave to appeal to SCC refused, 36136 (March 5, 2015); *Beckman v Little Salmon/Caramacks*, 2010 SCC 53; *Gitxaala Nation v Canada (Transport, Infrastructure, Communities)*, 2012 FC 1336; *Hamlet of Clyde River v TGS-NOPEC Geophysical Company ASA (TGS)*, 2015 FCA 179; *Adam v Canada (Environment)*, 2014 FC 1185 at paras 75-78, 86.

⁶³⁹ Report of the Joint Review Panel for the Enbridge Northern Gateway Project - Volume 2 (December 19, 2013) ([A3S7C6](#)), 40.

⁶⁴⁰ Exhibit A15-3 - National Energy Board - Hearing Order OH-001-2014 (April 3, 2014) ([A3V6I2](#)), 18.

⁶⁴¹ Exhibit C358-30-2 - Tsleil-Waututh Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4V2](#)), 26-32, 163, 374; Exhibit C359-9-2 - T'Sou-ke Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4W6](#)), 36.

2772 determining the factors to be considered in the context of an environmental assessment is a matter
2773 squarely within the NEB's authority as a regulator under the NEB Act and as a responsible
2774 authority under the CEAA 2012. The Board's dual roles under the NEB Act and the CEAA 2012
2775 are inextricably linked, not distinct.

2776 **6.3 The Crown's Duty to Consult**

2777 **6.3.1 The Crown May Rely on the NEB's Process to Satisfy its Duty to Consult to the Extent**
2778 **Possible**

2779 Aboriginal intervenors objected to the Crown's reliance on the NEB's process, describing it as
2780 "wholly inadequate" to discharge the Crown's duty to consult.⁶⁴² Some Aboriginal intervenors
2781 raised deficiencies in Crown consultation with Aboriginal groups and the implications this has for
2782 Project approval.⁶⁴³ The NEB's process is not a delegation of the Crown's duty to consult; it is
2783 simply one means for the Crown to consider Aboriginal concerns regarding the impact of a project
2784 and, where appropriate, whether those concerns have been addressed and/or mitigated.

2785 Counter to the assertions of some Aboriginal intervenors, the Crown did not delegate its duty to
2786 consult to Trans Mountain.⁶⁴⁴ The public record provides concrete evidence that the TMEP
2787 regulatory process has allowed the Crown to identify, consider and address the potential adverse
2788 impacts of the Project on established or potential Aboriginal and treaty rights.⁶⁴⁵ Over 130
2789 Aboriginal groups made submissions in relation to their Aboriginal interests during the proceeding.

⁶⁴² Exhibit C318-5 - Snuneymuxw First Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4Z4](#)), 11.

⁶⁴³ Exhibit C310-6 - Shackan Indian Band - Written Argument (January 12, 2016) ([A4X5E4](#)), 3; Exhibit C3-16 - Adams Lake Indian Band - Written Argument (January 11, 2016) ([A4X3Y8](#)), 1; Exhibit C333-9 - Sunchild First Nation - Argument (January 12, 2016) ([A4X5K7](#)).

⁶⁴⁴ Exhibit C249-13-8 - NRCan - NRCan on behalf of Government of Canada Response to Pacheedaht First Nation IRs (July 14, 2015) ([A4R4A0](#)), 5.

⁶⁴⁵ Exhibit A001 - National Energy Board - Letters and Attachments to Aboriginal Groups with Description of the Trans Mountain Expansion Project (Filing 1 of 3) (August 13, 2013) ([A53513](#)).

2790 The Crown is using Issues Tracking Tables to respond to potential impacts and concerns and to
2791 record and monitor whether issues have been addressed in Trans Mountain's commitments, NEB
2792 conditions or other forms of accommodation.⁶⁴⁶ Trans Mountain submits that regulatory processes,
2793 such as the NEB's process, are reasonable and practical means of consultation where Aboriginal
2794 groups may bring outstanding concerns or views directly to the tribunal through a hearing
2795 process.⁶⁴⁷

2796 **6.3.2 The NEB's Process is Not Designed to Address Unresolved Aboriginal Rights and**
2797 **Title Claims**

2798 TWN, Cheam and Chawathil and Kwantlen First Nation ("Kwantlen") submitted that where
2799 evidence goes beyond setting out a *prima facie* claim and actually proves the existence of
2800 Aboriginal rights or title, the Board must treat those rights or title as having been proved for the
2801 purposes of this proceeding.⁶⁴⁸ They further submitted that this involves consideration of whether
2802 the Project would negatively impact Aboriginal title or rights and, if so, whether the relevant First
2803 Nation has consented to those impacts, or, if not, whether the infringement of the Aboriginal title
2804 or rights is justified.⁶⁴⁹

⁶⁴⁶ Exhibit C249-09 - NRCan - NRCan's Written Evidence (May 27, 2015) ([A70313](#)), 8; Exhibit C249-11 - Natural Resources Canada (MPMO) - Information Requests to Intervenors (Part 1/2) (June 22, 2015) ([A70837](#)); Exhibit C249-12 - Natural Resources Canada (MPMO) - Information Requests to Intervenors (Part 2/2) (June 22, 2015) ([A70838](#)).

⁶⁴⁷ *Brokenhead Ojibway Nation v Canada (Attorney General)*, 2009 FC 484 at paras 25-26; *Taku River Tlingit First Nation v British Columbia (Project Assessment Director)*, 2004 SCC 74 at para 40; *Rio Tinto Alcan v Carrier Sekani Tribal Council*, 2010 SCC 43 at para 56; *Clyde River (Hamlet) v TGS-NOPEC Geophysical Co ASA (TGS)*, 2015 FCA 179 at paras 43-47; Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 192.

⁶⁴⁸ Exhibit C358-30-2 - Tsleil-Waututh Nation - Written Argument-in-Chief (January 12, 2016) ([A4X4V2](#)), 34-38; Exhibit C400-13 - Cheam and Chawathil First Nations - Written Argument (January 12, 2016) ([A4X5K4](#)); Hearing transcript Vol. 29 (January 22, 2016), ([A4X7O9](#)) at line 14776; Hearing transcript Vol. 32 (January 26, 2016), ([A4X8C7](#)) at line 16580.

⁶⁴⁹ Exhibit C198-19 - Kwantlen First Nation - Written Argument (January 12, 2016) ([A4X4H7](#)), 20; Exhibit C246-9 - Musqueam Indian Band - Written Argument (January 11, 2016) ([A4X3U3](#)), 6.

2805 The NEB was established by Parliament through the NEB Act to carry out a number of functions
2806 pertaining to energy and energy infrastructure in Canada, including the assessment of applications
2807 for the construction and operation of pipelines and related facilities for the purpose of granting or
2808 denying orders, or issuing certificates subject to Governor in Council approval. The Board does
2809 not have the jurisdiction to settle Aboriginal land claims. In making its public interest
2810 determination, the Board weighs the overall public good a project may create against its potential
2811 negative aspects, including any negative impacts on Aboriginal interests.⁶⁵⁰

2812 The Board's mandate allows it to respond to potential impacts of a project on Aboriginal interests
2813 in a variety of ways, including accepting the impact in light of the benefits associated with the
2814 project, imposing conditions on the approval of the application to minimize the impact or denying
2815 the Application.⁶⁵¹ In the JRP Report for the Northern Gateway Project, the JRP indicated that, "in
2816 keeping with its mandate, the Panel has not made any determinations regarding Aboriginal rights,
2817 including Métis rights, treaty rights, or the strength of an Aboriginal group's claim respecting
2818 Aboriginal rights."⁶⁵²

2819 In *Lax Kw'alaams Indian Band v Canada (Attorney General)*, the Supreme Court of Canada
2820 acknowledged that the NEB's process is not the appropriate forum to address unresolved
2821 Aboriginal rights and title claims:

2822 The courts (including this Court) have long urged the negotiation of
2823 Aboriginal and treaty claims. If litigation becomes necessary, however, we
2824 have also said that such complex issues would be better sorted out in civil

⁶⁵⁰ NEB - Reasons for Decision - Enbridge Southern Lights GP on behalf of Enbridge Southern Lights LP and Enbridge Pipelines Inc. - OH-3-2007 (February 2008), 10.

⁶⁵¹ NEB - Reasons for Decision - Enbridge Southern Lights GP on behalf of Enbridge Southern Lights LP and Enbridge Pipelines Inc. - OH-3-2007 (February 2008), 10.

⁶⁵² Report of the Joint Review Panel Report for the Enbridge Northern Gateway Project - Volume 2 (December 19, 2013) ([A3S7C6](#)), 47.

2825 actions for declaratory relief rather than within the confines of regulatory
2826 proceedings.⁶⁵³ [emphasis added]

2827 The Federal Court has made similar observations. In *Brokenhead Ojibway First Nation v Canada*
2828 (*Attorney General*), the Court acknowledged that while the NEB's process may be well-suited to
2829 address mitigation, avoidance and environmental issues that are site or project specific, "these
2830 regulatory processes appear not to be designed, however, to address the larger issue of unresolved
2831 land claims."⁶⁵⁴

2832 The assertions of TWN, Cheam and Chawathil and Kwantlen are directly contrary to *Haida* which
2833 confirms that the honour of the Crown may require it to consult with and reasonably accommodate
2834 Aboriginal interests pending resolution of an Aboriginal claim.⁶⁵⁵ This principle was confirmed
2835 by the Supreme Court of Canada in *Tsilhqot'in Nation v British Columbia* ("Tsilhqot'in").⁶⁵⁶

2836 Trans Mountain submits that *Tsilhqot'in* provides a compelling example why unproven Aboriginal
2837 rights and title claims should be resolved in civil actions as opposed to regulatory proceedings. In
2838 *Tsilhqot'in*, the trial before the B.C. Supreme Court continued for 339 days over a span of five
2839 years. The trial judge spent time in the claim area and heard extensive evidence from elders,
2840 historians and other experts.⁶⁵⁷ At the end of the trial, the evidence showing regular and exclusive
2841 use of sites or territory was deemed sufficient to establish "occupation" for the purpose of proving
2842 Aboriginal title. The trial judge found that the Tsilhqot'in people were entitled to a declaration of
2843 Aboriginal title to a portion of the claim area as well as a small area outside the claim area.

⁶⁵³ *Lax Kw'alaams Indian Band v Canada (Attorney General)*, 2011 SCC 56 at para 11.

⁶⁵⁴ *Brokenhead Ojibway First Nation v Canada (Attorney General)*, 2009 FC 484 at para 27.

⁶⁵⁵ *Haida Nation v British Columbia (Minister of Forests)*, 2004 SCC 73

⁶⁵⁶ 2014 SCC 44 para 113.

⁶⁵⁷ *Tsilhqot'in Nation v British Columbia*, 2014 SCC 44 at para 7.

2844 On appeal, the B.C. Court of Appeal held that the Tsilhqot'in claim to Aboriginal title had not
2845 been established. The Court of Appeal said that in the future, the Tsilhqot'in might be able to prove
2846 sufficient occupation for Aboriginal title for specific sites within the claim area where the
2847 Tsilhqot'in's ancestors intensively used a definite tract of land with reasonably defined boundaries
2848 at the time of European sovereignty. For the rest of the claimed territory, the Court of Appeal held
2849 that the Tsilhqot'in rights were limited to Aboriginal rights to hunt, trap and harvest.

2850 In its analysis, the Supreme Court of Canada applied the test in *Delgamuukw* for Aboriginal title
2851 to land. The test requires that an Aboriginal group asserting title satisfy the following criteria: (i)
2852 the land must have been occupied prior to sovereignty; (ii) if present occupation is relied on as
2853 proof of occupation pre-sovereignty, occupation must have been continuous since pre-sovereignty;
2854 and (iii) at sovereignty, that occupation must have been exclusive. The trial judge found that the
2855 Tsilhqot'in occupation was both sufficient and exclusive at the time of sovereignty (as supported
2856 by evidence of more recent continuous occupation) and the Supreme Court of Canada agreed with
2857 this conclusion.

2858 *Tsilhqot'in* indicates that the evidentiary burden for Aboriginal title claims is extremely high.
2859 Trials involving unproven Aboriginal rights and title claims may take years and involve extensive
2860 evidence. The NEB does not have the jurisdiction and is not designed—nor appropriately
2861 resourced—to conduct such inquiries. Doing so would significantly detract from its statutory
2862 mandate of determining whether the Project is in the public interest. Moreover, the NEB is subject
2863 to legislated timelines within which it must provide its recommendation to the Governor in
2864 Council. Requiring the Board to make determinations regarding unproven Aboriginal rights and
2865 title claims during the Project review process would result in significant, and unjustifiable,
2866 regulatory delay.

2867 **6.3.3 The Final Decision Regarding Project Approval Rests with the Governor in Council**

2868 Aboriginal intervenors raised concerns regarding Crown consultation after the NEB issues a
2869 recommendation regarding the Project.⁶⁵⁸ According to Squamish, consultation must happen prior
2870 to the NEB's recommendation because consultation that occurs afterwards is meaningless.⁶⁵⁹

2871 Before the Governor in Council makes a decision in reliance on the Board's process, it must assess
2872 the adequacy of consultation. Consultation after the Board's review is not an afterthought but
2873 rather a legitimate step in the process. The conditions that will attach to the Project, if approved,
2874 are not meaningless and are not universally satisfied by filing reports.⁶⁶⁰ As discussed in Appendix
2875 "A" and Appendix "B" of this reply, many of the conditions will be the subject of further
2876 consultation and approval. For example, if the Project is approved, Trans Mountain's worker
2877 accommodation strategy and access management plan must be approved by the NEB before early
2878 works are initiated. These filings will be available for review on the Board's public registry.

2879 In *Adam v Canada (Environment)*, the Federal Court confirmed the importance of consultation
2880 that takes place after the regulatory process.⁶⁶¹ Specifically, in concluding that the Crown fulfilled
2881 its duty to consult the Athabasca Chipewyan First Nation, the Court acknowledged:

2882 Importantly, after the Panel issued its report, the ACFN was invited to
2883 present its opinion on the extent to which the report captured the ACFN's
2884 concerns. The ACFN was consulted on drafts of potential conditions and
2885 on Canada's potential responses to issues that could not be made into
2886 conditions. Where no changes could be made, the Crown provided
2887 reasonable explanations. The evidence also establishes the fact that the

⁶⁵⁸ Exhibit C319-40 - Squamish Nation - Final Argument (January 12, 2016) ([A75108](#)); Exhibit C198-19 - Kwantlen First Nation - Written Argument (January 12, 2016) ([A4X4H7](#)).

⁶⁵⁹ Exhibit C319-40 - Squamish Nation - Final Argument (January 12, 2016) ([A75108](#)).

⁶⁶⁰ Exhibit C246-9 - Musqueam Indian Band - Written Argument (January 11, 2016) ([A4X3U3](#)).

⁶⁶¹ *Adam v Canada (Environment)*, 2014 FC 1185.

2888 ACFN will continue to be consulted in the future. I fail to see what more
2889 could be done to ensure meaningful consultation.⁶⁶²

2890 Here, as in *Gitxaala Nation v Canada*, Aboriginal intervenors presumed that it is “too late in the
2891 process” to have their concerns addressed and that the Crown will not fulfill its legal obligations.

2892 Such inferences are unfounded:

2893 In fact, the record does not support the drawing of such an inference. The
2894 Crown has, from the beginning, acknowledged its consultation obligation
2895 to all of the Aboriginal groups that may be affected by the Gateway Project
2896 including Gitxaala. It also consulted the affected First Nations before it
2897 established the consultation framework that it is now relies upon to fulfill
2898 its consultation obligations. Gitxaala and other First Nations’ participants
2899 have been the beneficiaries of substantial federal funding to ensure their
2900 effective intervention and many of them, including Gitxaala, have
2901 participated in a significant way in the JRP process. The Crown has also
2902 committed to a final consultation with Aboriginal groups in response to
2903 the JRP report and in advance of a GIC decision with respect to the
2904 issuance of a Certificate of Public Convenience and
2905 Necessity.⁶⁶³ [emphasis added]

2906 In the case of the Project the Crown has, from the beginning, acknowledged its consultation
2907 obligations to Aboriginal groups. Aboriginal groups have been granted intervenor status and
2908 funding. The Governor in Council will only be constitutionally capable of approving the Project if
2909 doing so upholds the honour of the Crown, including that the Crown has discharged its duty to
2910 consult and accommodate.⁶⁶⁴ The Governor in Council will consider both the NEB Report and the
2911 Crown Consultation Report in determining whether the Crown has fulfilled its duty.⁶⁶⁵

2912 The NEB Act provides the Governor in Council with broad discretion to respond to the NEB
2913 Report. The Governor in Council may refer the Board’s recommendation—or any of the terms and

⁶⁶² *Adam v Canada (Environment)*, 2014 FC 1185 at para 86.

⁶⁶³ *Gitxaala Nation v Canada (Transport, Infrastructure and Communities)*, 2012 FC 1336 at paras 49-51.

⁶⁶⁴ *Brokenhead Ojibway Nation v Canada (Attorney General)*, 2009 FC 484 at para 21.

⁶⁶⁵ Exhibit C249-9-1 - NRCan - NRCan Written Evidence Submission (May 27, 2015) ([A4Q0V2](#)), 10; Hearing transcript Vol. 28 (January 21, 2016) ([A4X740](#)) at lines 14065.

2914 conditions set out in the NEB Report—back for reconsideration.⁶⁶⁶ If the NEB is ordered to
2915 reconsider any conditions, it must prepare a report confirming, amending, or replacing the
2916 condition.⁶⁶⁷

2917 Ultimately, the Governor in Council makes the final decision regarding whether to approve the
2918 Project. At all phases of the Project’s consideration, and irrespective of whether the NEB
2919 recommends that the Project is in the public interest to consult rests with the Crown. The NEB is
2920 obliged to act as an impartial, quasi-judicial tribunal.⁶⁶⁸

2921 **6.4 The Crown’s Duty of Justification**

2922 Aboriginal intervenors submitted that, in exercise of its fiduciary duty, the Crown must give
2923 serious consideration to each First Nations’ concerns and provide a justification satisfying the
2924 justification test from *Sparrow* for the infringements that will result from Project approval.⁶⁶⁹
2925 Kwantlen submitted that the Board may only approve the construction of the Project through the
2926 Salmon River lands if such trespass is justified.⁶⁷⁰

2927 Supreme Court of Canada decisions confirm that the regulatory approval process with respect to a
2928 project, and the participation of Aboriginal groups in that process, may assist in satisfying the

⁶⁶⁶ NEB Act, s 53.

⁶⁶⁷ Report of the Joint Review Panel on the Enbridge Northern Gateway Project - Volume 2 (December 19, 2013) ([A3S7C6](#)), s 1.6.

⁶⁶⁸ *Québec (Attorney General) v Canada (National Energy Board)*, [1994] 1 SCR 159 at paras 34-37; *Nunatukavut Community Council Inc v Newfoundland and Labrador Hydro-Electric Corporation (Nalcor Energy)*, 2011 NLTD(G) 44 at paras 34-36.

⁶⁶⁹ Exhibit C400-13 - Cheam and Chawathil First Nations - Written Argument (January 12, 2016) ([A4X5K4](#)), 49-51; Exhibit C246-9 - Musqueam Indian Band - Written Argument (January 11, 2016) ([A4X3U3](#)), 10.

⁶⁷⁰ Exhibit C198-19 - Kwantlen First Nation - Written Argument (January 12, 2016) ([A4X4H7](#)); Exhibit C246-9 - Musqueam Indian Band - Written Argument (January 11, 2016) ([A4X3U3](#)).

2929 obligation to consult.⁶⁷¹ Mechanisms for consultation with affected Aboriginal communities
2930 enable these communities to become informed of proposed developments, to identify their
2931 concerns, and to bring them to the attention of both the proponents and government agencies. They
2932 provide an opportunity for Aboriginal groups to participate in the decision-making process, which
2933 may assist in justification of the ultimate government decision.

2934 In cases in which Aboriginal title is unproven, the Supreme Court of Canada has affirmed that the
2935 Crown owes a procedural duty to consult and, if appropriate, to accommodate the unproven
2936 Aboriginal interest. By contrast, where Aboriginal title has been established, the Crown must also
2937 ensure that the proposed government action is substantively consistent with section 35 of the
2938 *Constitution Act, 1982*. To justify infringements of Aboriginal title on the basis of the broader
2939 public good, government must satisfy the infringement and justification framework originally set
2940 out in *Sparrow* and show:

- 2941 (a) that it discharged its procedural duty to consult and accommodate;
- 2942 (b) that its actions were backed by a compelling and substantial legislative objective;
- 2943 and
- 2944 (c) that the governmental action is consistent with any Crown fiduciary obligation to
2945 the group.⁶⁷²

2946 Regarding the first step in the justification analysis (i.e., establishing that in infringing the right,
2947 the government is pursuing a valid objective), the courts have consistently taken a broad and
2948 expansive approach to the type of objectives that will be sufficient to justify an infringement. In

⁶⁷¹ *Taku River Tlingit First Nation v British Columbia (Project Assessment Director)*, 2004 SCC 74; *Haida Nation v British Columbia (Minster of Forests)*, 2004 SCC 73.

⁶⁷² *Tsilhqot'in Nation v British Columbia*, 2014 SCC 44 at para 77.

2949 *Delgamuukw*, where the claim was for Aboriginal title in a large area in the interior of British
2950 Columbia, the Court held:

2951 The development of agriculture, forestry, mining and hydroelectric power,
2952 the general economic development of the interior of British Columbia,
2953 protection of the environment or endangered species, the building of
2954 infrastructure and the settlement of foreign populations to support those
2955 aims, are the kind of objectives that are consistent with this purpose and,
2956 in principle, can justify the infringement of an Aboriginal title.⁶⁷³

2957 Similarly, in *R v Gladstone*, Lamer C.J. acknowledged that, with respect to Aboriginal rights,
2958 objectives such as the pursuit of economic and regional fairness, and the recognition of the
2959 historical reliance upon, and participation in, the resource base by non-Aboriginal groups could
2960 satisfy this standard.⁶⁷⁴

2961 There is no legal basis for the justification requested by Aboriginal intervenors at this stage of the
2962 NEB's process. The NEB's process is not intended, or required, to assess or discharge any required
2963 justification. In considering whether the duty to consult and accommodate has been discharged,
2964 the Governor in Council will consider the process in its entirety.

2965 **6.5 United Nations Declaration on the Rights of Indigenous Peoples**

2966 Aboriginal intervenors submitted that the Board is obligated to honour Canada's commitment to
2967 the United Nations Declaration on the Rights of Indigenous Peoples ("UNDRIP"). However, the
2968 UNDRIP cannot be used to displace Canadian jurisprudence or laws regarding the duty to consult
2969 because the document does not constitute binding law in Canada.⁶⁷⁵ In addition, several aspects of
2970 the UNDRIP, such as the requirement for prior, free and informed consent by Aboriginal groups,
2971 are inconsistent with the common law in Canada which is clear that Aboriginal groups do not have

⁶⁷³ *Delgamuukw v British Columbia*, [1997] 3 SCR 1010 at para 165.

⁶⁷⁴ *R v Gladstone*, [1996] 2 SCR 723 at para 75.

⁶⁷⁵ *Nunatukavut Community Council Inc v Canada (Attorney General)*, 2015 FC 981 at para 104.

2972 a veto over developments within their traditional territories.⁶⁷⁶ As a result, the UNDRIP is not
2973 applicable to the Board's consideration of the Project.

⁶⁷⁶ *Haida Nation v British Columbia (Minister of Forests)*, 2004 SCC 73 at para 48.

2974 **7. ECONOMIC**

2975 **7.1 Need for the Project**

2976 **7.1.1 Relevance of Long-Term Shipper Contracts**

2977 Upper Nicola and Tsawout First Nation (“Tsawout”) took issue with Trans Mountain’s submission
2978 that the long-term firm transportation contracts with shippers are market evidence that the Project
2979 is required. According to Upper Nicola and Tsawout, “long-term contracts from industry cannot
2980 be sufficient in and of themselves to determine whether a project is needed and in the public
2981 interest.”⁶⁷⁷

2982 Trans Mountain agrees that long-term contracts are not sufficient in and of themselves to determine
2983 whether a project is in the public interest. However, the Board has recognized the importance of
2984 long-term contracts as demonstrating the need for and economic feasibility of a project.⁶⁷⁸ The
2985 need for the Project has been established beyond doubt by Trans Mountain’s evidence submitted
2986 on the market, the need for western Canadian producers to diversify, and by the financial
2987 commitments behind the long-term contracts.⁶⁷⁹ Any concerns regarding the shipper contracts
2988 were fully and adequately answered in RH-001-2012.⁶⁸⁰

2989 **7.1.2 Shipper Support for the Project**

2990 Burnaby suggested that the Board should not rely on shipper support for the Project at this stage
2991 of the process.⁶⁸¹ Burnaby submitted that, with increases in the estimated capital cost of the Project,

⁶⁷⁷ Exhibit C355-38 - Tsawout First Nation - Final Written Submissions (January 12, 2016) ([A4X5W3](#)), para 410.

⁶⁷⁸ Exhibit B427-6 - Trans Mountain Pipeline ULC - 4a Direct Evidence of John J. Reed Updated September 25, 2015 Clean (September 25, 2015) ([A4T6F2](#)), 13; Exhibit B418-11 - Trans Mountain Reply Evidence, Attachment 1.12 Reply to Public Interest Evaluation of TMEP (August 20, 2015) ([A4S7K9](#)), 40.

⁶⁷⁹ Exhibit B431-2 - Trans Mountain Pipeline ULC - Muse Market Prospects and Benefits Analysis for TMEP Final Errata Clean (October 28, 2015) ([A4U8F8](#)), 4-5.

⁶⁸⁰ NEB - Reasons for Decision - Trans Mountain Pipeline ULC - RH-001-2012 (May 2015).

⁶⁸¹ Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 113.

2992 shippers may change their commercial intentions. Major energy producers made long-term
2993 decisions and committed to the Project by entering into long-term contracts. Burnaby's speculation
2994 as to what producers may or may not do is not supported by any evidence and is directly
2995 contradicted by the shippers' evidence.⁶⁸²

2996 **7.1.3 Market Analysis Supporting the Need for the Project**

2997 According to Upper Nicola and Tsawout, the Muse Report does not demonstrate a need for the
2998 Project.⁶⁸³ Upper Nicola and Tsawout relied on the the report "Public Interest Evaluation of the
2999 Trans Mountain Expansion Project" by Gunton & Broadbent ("Gunton Report")⁶⁸⁴ to argue that
3000 there will be excess pipeline capacity if the TMEP is built and that this excess capacity will result
3001 in significant costs.⁶⁸⁵

3002 The Gunton Report is based on a serious misunderstanding of the industry and contains significant
3003 methodological flaws. These flaws include: (i) inclusion of other potential pipeline projects in the
3004 Gunton Report's benefit-cost analysis ("BCA") Base Case; (ii) overstatement of prospects for rail
3005 transportation in circumstances where there is available pipeline capacity; (iii) failure to
3006 acknowledge that the Project will influence Western Canadian crude oil prices; and (iv) improper
3007 attribution of "costs" to the Project.⁶⁸⁶ Additional issues identified in the Gunton Report are

⁶⁸² Exhibit C37-8-2 - BP Canada Energy Group ULC - Written Argument (January 12, 2016) ([A4X4D2](#)); Exhibit C49-3-2 - Canadian Natural Resources, Canadian Oil Sands, Cenovus, Devon, Husky Oil, Imperial Oil, Statoil, Suncor, Tesoro and Total - Final Argument (January 12, 2016) ([A4X4C6](#)).

⁶⁸³ Exhibit C355-38 - Tsawout First Nation - Final Written Submissions (January 12, 2016) ([A4X5W3](#)), 113.

⁶⁸⁴ Exhibit C355-31-1 - Tsawout First Nation - Expert Report. Public Interest Evaluation of the TMEP Dec. 2015 (December 1, 2015) ([A4W0Q9](#)); Exhibit C363-36-1 - Upper Nicola Band - Expert Report. Public Interest Evaluation of the TMEP Dec. 2015 (December 1, 2015) ([A4W0R1](#)); Exhibit C214-30-2 - Living Oceans Society - Replacement for Attachment F to written evidence of Living Oceans - Public Interest Evaluation - Dr Gunton et al (December 1, 2015) ([A4W0R4](#)).

⁶⁸⁵ Exhibit C214-30-2 - Living Oceans Society - Replacement for Attachment F to written evidence of Living Oceans - Public Interest Evaluation - Dr Gunton et al (December 1, 2015) ([A4W0R4](#)).

⁶⁸⁶ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 411-415.

3008 discussed in Final Argument.⁶⁸⁷ Based on these numerous shortcomings, the evidence in the
3009 Gunton Report lacks credibility. Counter to the assertions of Upper Nicola and Tsawout, the
3010 Canadian oil industry needs additional pipeline capacity as soon as possible and the benefits of
3011 any potential excess capacity can be expected to far outweigh the costs.⁶⁸⁸

3012 **7.2 Benefit-Cost Analysis**

3013 Upper Nicola and Tsawout asserted that that the TMEP can only be properly assessed through a
3014 full BCA. This assertion is wrong. A quantification of environmental impacts is not required to
3015 evaluate whether the Project is in the public interest, nor is a BCA required.⁶⁸⁹ Trans Mountain
3016 stands behind the evidence it has submitted on this issue.⁶⁹⁰

3017 Living Oceans argued that the Application does not estimate the economic costs of the Project
3018 (e.g., losses from potential excess transportation capacity) or the costs of social and environmental
3019 impacts (e.g., air pollution, greenhouse gas emissions, oil spills or other marine impacts).⁶⁹¹
3020 Burnaby made a similar argument.⁶⁹²

⁶⁸⁷ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 416-418.

⁶⁸⁸ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 405-408; Exhibit C37-8 - BP Canada Energy Group ULC - Written Argument (January 12, 2016) ([A4X4D2](#)), 2-4; Exhibit C49-3-2 - Canadian Natural Resources, Canadian Oil Sands, Cenovus, Devon, Husky Oil, Imperial Oil, Statoil, Suncor, Tesoro and Total - Final Argument (January 12, 2016) ([A4X4C6](#)), paras 7, 14.

⁶⁸⁹ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 522-425.

⁶⁹⁰ Exhibit B40-1 - Trans Mountain Pipeline ULC - Trans Mountain Response to Allan R IR No. 1 (June 4, 2014) ([A3X5V9](#)), 5, 14; Exhibit B418-11 - Trans Mountain Reply Evidence, Attachment 1.12 Reply to Public Interest Evaluation of TMEP (August 20, 2015) ([A4S7K9](#)).

⁶⁹¹ Exhibit C214-40-2 - Living Oceans Society and Raincoast Conservation Foundation - Final Argument (January 12, 2016) ([A4X5C0](#)), para 256.

⁶⁹² Exhibit C69-61-2 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 103-104.

3021 Any attempts to quantify external costs are unnecessary as established in Reply Evidence.⁶⁹³ While
3022 many of the benefits and burdens associated with pipeline projects can be quantified, other impacts
3023 are unquantifiable. Governments regulate externalities and environmental costs by imposing
3024 regulations and, when appropriate, creating regulatory institutions that are charged with oversight
3025 of a particular industry. Regulations ensure that society is protected and address the issues that
3026 some externalities are unquantifiable and subjective. Trans Mountain is required to—and will—
3027 meet the requirements imposed by the comprehensive regulatory regime under the NEB Act and
3028 associated regulations. Trans Mountain’s programs and mitigation will result in higher standards
3029 than would otherwise be required in some cases.⁶⁹⁴ For example, Trans Mountain will achieve a
3030 reduction in greenhouse gas emissions at the Westridge Marine Terminal as a result of the Project
3031 by 3.8 kT CO₂e annually through upgrading existing technology.⁶⁹⁵ Trans Mountain also invested
3032 in environmental benefits for protected areas in close proximity to the Project, such as the Lac du
3033 Bois Grasslands Protected Area.⁶⁹⁶ With support of WCMRC, Trans Mountain has proposed an
3034 enhanced spill response regime for the Project area that represents a response capacity that is
3035 double the minimum capacity and a delivery time that is half the existing planning standards.⁶⁹⁷
3036 The Board will assess the benefits and burdens of the Project and consider economic,
3037 environmental and social interests when determining whether the Project is in the public interest.
3038 Therefore, a BCA is not required.

⁶⁹³ Exhibit B418-11 - Trans Mountain Reply Evidence, Attachment 1.12 Reply to Public Interest Evaluation of TMEP (August 20, 2015) ([A4S7K9](#)), 2.

⁶⁹⁴ Exhibit B418-11 - Trans Mountain Reply Evidence, Attachment 1.12 Reply to Public Interest Evaluation of TMEP (August 20, 2015) ([A4S7K9](#)), 2.

⁶⁹⁵ Exhibit B444-2 - Trans Mountain Pipeline ULC - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 61; Exhibit B306-2 - Trans Mountain Response to NEB IR No. 3 (February 3, 2015) ([A4H1V2](#)), 173-178.

⁶⁹⁶ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 61.

⁶⁹⁷ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 70.

3039 **7.3 Impact on Crude Supply and Canadian Prices**

3040 Upper Nicola and Tsawout argued that the model relied on in the Muse Report assumes the Project
3041 will result in a decrease in crude supply to the United States and does not include the increased
3042 imports from alternative non-Canadian suppliers that will fill the void left by reduced imports from
3043 Canada.⁶⁹⁸ This assertion is incorrect. The Muse Report makes clear that the Muse Stancil Crude
3044 Market Optimization Model does not reduce crude oil runs at any refinery once the Project is
3045 commissioned.⁶⁹⁹ This is confirmed by IR responses.⁷⁰⁰

3046 Upper Nicola and Tsawout took issue with Trans Mountain's assertion that the Project will affect
3047 Western Canadian crude oil prices.⁷⁰¹ However, Trans Mountain's evidence indicates that for
3048 much of 2012 and 2013 severe market disequilibrium was experienced in the Canadian heavy
3049 crude oil market, primarily due to the lack of market diversification available to Canadian oil
3050 producers.⁷⁰² Thus, inadequate pipeline capacity has resulted in extraordinary discounts in crude
3051 oil prices.⁷⁰³ The Project will provide needed access to alternative markets and will help enable
3052 producers capture the full value of their production on an ongoing basis.⁷⁰⁴ The JRP's findings for
3053 the Northern Gateway Project are consistent with the analysis in the Muse Report and contradict
3054 the Gunton Report findings:

⁶⁹⁸ Exhibit C355-38-1 - Tsawout First Nation - Final Written Submissions (January 12, 2016) ([A4X5W3](#)), para 424.

⁶⁹⁹ Exhibit B431-2 - Trans Mountain Pipeline ULC - Muse Market Prospects and Benefits Analysis for TMEP Final Errata Clean (October 28, 2015) ([A4U8F8](#)), 4-5.

⁷⁰⁰ Exhibit B430-7 - Trans Mountain Pipeline ULC - Responses to National Energy Board and Intervenor Information Requests on Replacement Evidence (October 26, 2015) ([A4U6X7](#)), 1.4 b-c, 23.

⁷⁰¹ Exhibit C355-38-1 - Tsawout First Nation - Final Written Submissions (January 12, 2016) ([A4X5W3](#)), para 425.

⁷⁰² Exhibit B431-2 - Trans Mountain Pipeline ULC - Muse Market Prospects and Benefits Analysis for TMEP Final Errata Clean (October 28, 2015) ([A4U8F8](#)), 57-58.

⁷⁰³ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 406.

⁷⁰⁴ Exhibit B427-6 - Trans Mountain Pipeline ULC - 4a Direct Evidence of John J. Reed Updated September 25, 2015 Clean (September 25, 2015) ([A4T6F2](#)), 13.

3055 The Panel finds that, if constructed, the project would significantly expand
3056 and diversify the market options for western Canadian crude oil supply
3057 which would contribute to the realization of full market value pricing over
3058 the long term.

3059 [...]

3060 The Panel notes the perspective of Northern Gateway and the commercial
3061 intervenors that the current state of reliance on the United States market
3062 has contributed to significant price discounting for western Canadian
3063 crude oil. These parties said that market diversification is required to
3064 manage this risk in the future. The Panel accepts this assessment.⁷⁰⁵

3065 **7.4 Production Forecast and CAPP's Position**

3066 The City of Vancouver alleged that the Muse Report analysis is based on CAPP's high production
3067 scenario and neglected to take into account CAPP's low growth scenario in considering production
3068 growth. Consequently, the City of Vancouver submitted that it would be an error for the Board to
3069 accept the Muse Report.⁷⁰⁶

3070 Counter to the City of Vancouver's assertion, CAPP did not produce a low and high production
3071 growth scenario. In its 2015 forecast CAPP states: "this year, we have provided additional detail
3072 underlying our forecast by breaking out the component of the forecast for oil sands production that
3073 includes only projects currently "Operating" or "In Construction.""⁷⁰⁷ The CAPP forecast shows
3074 expected oil production growth: (i) including only those projects currently operating and under
3075 construction; and (ii) with expected growth in production. CAPP further stated that "Canadian oil
3076 supply is increasing and will continue to increase despite current low prices."⁷⁰⁸ The CAPP oil

⁷⁰⁵ Report of the Joint Review Panel Report for the Enbridge Northern Gateway Project - Volume 2 (December 19, 2013) ([A3S7C6](#)), 332.

⁷⁰⁶ Exhibit C77-61 - City of Vancouver - Written Argument (January 12, 2016) ([A4X4I9](#)), para 103.

⁷⁰⁷ Exhibit B427-3 - Trans Mountain Pipeline ULC - 2b CAPP 2015 Forecast (September 25, 2015) ([A4T6E9](#)), 3.

⁷⁰⁸ Exhibit C48-4-1 - Canadian Association of Petroleum Producers - CAPP Written Argument (January 12, 2016) ([A4X4A9](#)), 5.

3077 production forecast relied on in the Muse Report to estimate the market impact and benefits of the
3078 Project is reasonable, having regard to current and future economic and energy market conditions.

3079 Upper Nicola and Tsawout submitted that Trans Mountain has taken certain quotes from the 2015
3080 CAPP Report out of context.⁷⁰⁹ This is not the case. The quote from the 2015 CAPP Report that
3081 Upper Nicola and Tsawout take issue with states:

3082 Pipeline projects to the East, West and South are being developed and all
3083 are needed to provide sufficient market diversification to western
3084 Canadian producers.

3085 This quote is the full introductory paragraph in the crude oil transportation section of the executive
3086 summary of the 2015 CAPP Report. Trans Mountain provides the following context from the
3087 CAPP Report to further demonstrate the baselessness of the accusation:

3088 These projects target three different markets and as such, all will be needed
3089 to provide western Canadian producers with a level of market
3090 diversification that would allow Canada to achieve the maximum value for
3091 its resources. Increasing market optionality is of vital importance to
3092 companies considering investing large amounts of capital in order to
3093 realize the enormous resource potential that Western Canada holds. It
3094 should be noted that the announced timing for all of the pipeline proposals
3095 have been delayed by the proponents from the dates reported last year.
3096 This reflects the challenges associated with large linear infrastructure
3097 projects.⁷¹⁰

3098 CAPP's support for Project is fully detailed in its written argument. This support is significant as
3099 it represents the views of the producers who rely on pipelines to transport their products to
3100 market.⁷¹¹

⁷⁰⁹ Exhibit C355-38-1 - Tsawout First Nation - Final Written Submissions (January 12, 2016) ([A4X5W3](#)), para 414.

⁷¹⁰ Exhibit B427-3 - Trans Mountain Pipeline ULC - 2b CAPP 2015 Forecast (September 25, 2015) ([A4T6E9](#)), v.

⁷¹¹ Exhibit C48-4-1 - Canadian Association of Petroleum Producers - CAPP Written Argument (January 12, 2016) ([A4X4A9](#))

3101 **7.5 Production and Oil Price Forecasts**

3102 The City of Vancouver stated that the Muse Report takes an overly optimistic view of future world
3103 oil prices and relies on a crude oil price forecast that is well above the two price forecasts found in
3104 the International Energy Agency World Energy Outlook 2015 (“WEO 2015”).⁷¹² This
3105 commentary is incorrect. Trans Mountain’s crude oil price projections are reasonable and
3106 consistent with projections used by agencies such as the IEA, as discussed in Final Argument.⁷¹³
3107 The WEO 2015 has not been filed on the public record.⁷¹⁴ Trans Mountain submits that, given the
3108 lack of context on the record, intervenor arguments that rely on the WEO 2015 should be given no
3109 weight.

3110 **7.6 Assumptions about Other Pipeline Projects**

3111 The City of Vancouver critiqued the Muse Report analysis by stating that “Mr. Earnest would have
3112 the Board accept the unreasonable assumption that there will be no new crude oil pipelines built
3113 in Canada between 2015 and 2038 but for Trans Mountain’s current proposed TMEP.”⁷¹⁵
3114 According to the City of Vancouver, “Mr. Earnest’s decision to exclude all other transportation
3115 capacity but the TMEP from his analysis raises serious doubt about the reliability of the other
3116 opinions and conclusions expressed in the Muse Stancil Report.”⁷¹⁶
3117 Predicting if or when various pipeline projects will be constructed is an exercise in futility and
3118 irrelevant to the Board’s consideration of the TMEP. The Board does not have a practice of picking

⁷¹² Exhibit C77-61 - City of Vancouver - Written Argument (January 12, 2016) ([A4X4I9](#)), paras 113, 161, 239.

⁷¹³ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 418-420.

⁷¹⁴ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 404-405.

⁷¹⁵ Exhibit C77-61 - City of Vancouver - Written Argument (January 12, 2016) ([A4X4I9](#)), para 129.

⁷¹⁶ Exhibit C77-61 - City of Vancouver - Written Argument (January 12, 2016) ([A4X4I9](#)), para 132.

3119 winners and losers.⁷¹⁷ The Board can approve pipeline projects that have demonstrated market
3120 support, subject to conditions to ensure that the projects will be built and operated in a manner that
3121 protects the environment and considers other public interests. The market will then determine
3122 which projects should proceed and on what timeline.⁷¹⁸ Therefore, the assumptions in the Muse
3123 Report regarding other pipeline projects are reasonable.

3124 **7.7 Calculation of Edmonton Crude Oil Prices and Producer Benefits**

3125 The City of Vancouver alleged that there are a number of methodological flaws in the way in
3126 which the expected price lift to Western Canadian crude oil prices is calculated in the Muse Report.
3127 The City of Vancouver claimed that Mr. Earnest must acknowledge and account for the fact that
3128 when crude oil arrives in Northeast Asia, the price it attracts will be expected to fall.⁷¹⁹

3129 These concerns are directly addressed in the Muse Report. Mr. Earnest explicitly accounted for
3130 the impacts on the crude oil price of rising delivery volumes of Western Canadian crude oil in
3131 Northeast Asia:

3132 ...increasing volumes of the various Canadian crude oil grades are input
3133 to the model, backing out some volume of the refiner's crude oil
3134 alternatives, thus developing an understanding of the value to the refiner
3135 of the Canadian crude oil as a function of the Canadian crude oil's
3136 throughput. The value of any crude oil grade typically decreases as its
3137 throughput is increases, as all refineries generally experience diminishing
3138 returns as greater volumes of any specific crude oil grade are processed.⁷²⁰

⁷¹⁷ NEB - Reasons for Decision - TransCanada Keystone Pipeline GP Ltd. - OH-1-2009 (March 2010), 32; NEB - Reasons for Decision - Imperial Oil Resources Ventures Limited - GH-1-2004, Volume 2 (December 2010); Exhibit B427-6 - Trans Mountain Pipeline ULC - 4a Direct Evidence of John J. Reed Updated September 25, 2015 Clean (September 25, 2015) ([A4T6F2](#)), 10; Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 406-407.

⁷¹⁸ Exhibit B427-6 - Trans Mountain Pipeline ULC - 4a Direct Evidence of John J. Reed Updated September 25, 2015 Clean (September 25, 2015) ([A4T6F2](#)), 11.

⁷¹⁹ Exhibit C77-61 - City of Vancouver - Written Argument (January 12, 2016) ([A4X4I9](#)), para 138-139, 143.

⁷²⁰ Exhibit B431-2 - Trans Mountain Pipeline ULC - Muse Market Prospects and Benefits Analysis for TMEP Final Errata Clean (October 28, 2015) ([A4U8F8](#)), 47.

3139 The price or value of Canadian crude oil does fall in Northeast Asia as greater volumes are
3140 delivered to Northeast Asia. This market dynamic is explicitly modeled in the Muse Crude Oil
3141 Optimization Model relied on to estimate Project impacts on Canadian crude oil prices.⁷²¹ Trans
3142 Mountain stands by the evidence it has filed on netbacks and price-setting mechanisms.⁷²²

3143 The City of Vancouver asserted that a Canadian pipeline operating at capacity does not generate
3144 any economic benefits for Canada.⁷²³ This assertion is unfounded. As stated in Final Argument,
3145 economic benefits for Canada are largely determined by the difference in the Edmonton crude oil
3146 price with and without the pipeline. The need for westbound pipeline capacity is evidenced by the
3147 apportionment levels on Trans Mountain and the Westridge dock bid premiums.⁷²⁴ Shifting 500
3148 kb/d or more of Canadian crude oil out of the North American market can be expected to change
3149 the Edmonton price as detailed in the Muse Report. If the TMEP operates at capacity once it is
3150 built as projected, that would be unequivocal evidence that it is generating economic benefits for
3151 Canada.⁷²⁵

3152 Alberta Federation of Labour, Upper Nicola and Tsawout asserted that higher netbacks are
3153 attributable to the upstream industry, not the TMEP, and therefore should not be considered.⁷²⁶
3154 Trans Mountain disagrees that the Project-related economic benefits that will result from improved
3155 market access should be ignored. The higher Edmonton crude oil prices resulting from the

⁷²¹ Exhibit B431-2 - Trans Mountain Pipeline ULC - Muse Market Prospects and Benefits Analysis for TMEP Final Errata Clean (October 28, 2015) ([A4U8F8](#)), 46-47.

⁷²² Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 420-421.

⁷²³ Exhibit C77-61 - City of Vancouver - Written Argument (January 12, 2016) ([A4X4I9](#)), para 151.

⁷²⁴ Exhibit B431-2 - Trans Mountain Pipeline ULC - Muse Market Prospects and Benefits Analysis for TMEP Final Errata Clean (October 28, 2015) ([A4U8F8](#)), 13.

⁷²⁵ Exhibit B431-2 - Trans Mountain Pipeline ULC - Muse Market Prospects and Benefits Analysis for TMEP Final Errata Clean (October 28, 2015) ([A4U8F8](#)), 12-13.

⁷²⁶ Exhibit C355-38-1 - Tsawout First Nation - Final Written Submissions (January 12, 2016) ([A4X5W3](#)), 129.

3156 construction and operation of the TMEP are realized because the Project will alleviate
3157 transportation constraints and provide access to higher-value markets. There is no assumption that
3158 Western Canadian oil production will change as a result of the Project. Rather, the value of
3159 production increases as a result of the market diversification that is directly attributable to the
3160 improved market access associated with the Project. Contrary to the intervenors' assertions, the
3161 increased Edmonton prices are appropriately attributable to the Project and should be included in
3162 the assessment of benefits that will flow from the TMEP.⁷²⁷

3163 **7.8 Economic and Fiscal Benefits**

3164 Burnaby alleged that Trans Mountain has overstated the tax benefits that will be paid to Canadian
3165 governments as a result of construction and operation of the TMEP.⁷²⁸ Burnaby argued that
3166 because of the ownership structure of Trans Mountain, the company will pay very little in corporate
3167 tax to Canadian governments. Trans Mountain disagrees with the unfounded allegation that the
3168 company will not pay its fair share of Canadian taxes. As detailed in IR responses, Trans Mountain
3169 will pay the taxes owed under Canadian provincial and federal tax laws during the construction
3170 and operating life of the TMEP.⁷²⁹

3171 The corporate tax and other fiscal benefits associated with the construction and operation of the
3172 Project extend well beyond the corporate taxes payable by Trans Mountain. Trans Mountain's
3173 corporate income taxes for the operational phase are estimated to represent only 8.1 per cent of the
3174 total corporate taxes of \$11.9 billion estimated for the Project (including the development and
3175 operations phases and the taxable corporate income associated with higher crude oil prices realized

⁷²⁷ Exhibit B431-2 - Trans Mountain Pipeline ULC - Muse Market Prospects and Benefits Analysis for TMEP Final Errata Clean (October 28, 2015) ([A4U8F8](#)).

⁷²⁸ Exhibit C69-61 - City of Burnaby - Final Argument (January 12, 2016) ([A4X4I6](#)), 116.

⁷²⁹ Exhibit B316-25 - Trans Mountain Pipeline ULC - Responses to Intervenor Information Request No. 2 - Part 4 of 6 (February 18, 2015) (stricken in part) ([A4H8V7](#)), 2.1.4, n-m.

3176 by the producers). The corporate income taxes that Trans Mountain is estimated to pay represent
3177 only 5.2 per cent of the \$18.5 billion in total fiscal benefits that are estimated for the Project. Total
3178 fiscal benefits include corporate and personal income taxes, royalties and indirect taxes, associated
3179 with the development, operations and higher producer prices.⁷³⁰ Trans Mountain has specifically
3180 committed to municipalities, including Burnaby, to pay municipal taxes that are in excess of
3181 municipal services required and received by Trans Mountain.⁷³¹

3182 Burnaby and Alberta Federation of Labour argued that the construction of the Project will result
3183 in the displacement of other economic activity, such as rail transport, and that these costs should
3184 be deducted from any estimate of benefits flowing from the TMEP.⁷³² As indicated in Trans
3185 Mountain's IR responses, any negative impact on the rail sector would be small and temporary.⁷³³
3186 More fundamentally, as pipeline transportation is generally more efficient than rail, displacement
3187 of rail by pipeline makes economic sense and will result in overall economic gains to the Canadian
3188 economy.⁷³⁴

3189 PIPE UP raised a concern that "Trans Mountain is double-counting existing employment arising
3190 from the operation of Line 1 and anticipated marginal increase in employment arising from the

⁷³⁰ Exhibit B316-25 - Trans Mountain Pipeline ULC - Responses to Intervenor Information Request No. 2 - Part 4 of 6 (February 18, 2015) (stricken in part) ([A4H8V7](#)), 2.1.4, n-m; Exhibit B427-4 - Trans Mountain Pipeline ULC - 3a Conference Board of Canada, TMEP Understanding the Economic Benefits for Canada and its Regions, September 21, 2015 Clean (September 25, 2015) ([A4T6F0](#)).

⁷³¹ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 116; Exhibit B418-4 - Trans Mountain Reply Evidence, Attachment 1.05-Reply to Cost Impacts on Municipalities (August 20, 2015) ([A4S7K2](#)), 7.

⁷³² Exhibit C5-4 - Alberta Federation of Labour - Written final argument (January 12, 2016) ([A4X4F3](#)), lines 171-180.

⁷³³ Exhibit B430-4 - Trans Mountain Pipeline ULC - Trans Mountain Response to City of Vancouver Replacement Evidence IR (October 26, 2015) ([A4U6X4](#)), 4.11, g-i.

⁷³⁴ Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) ([A4W6L8](#)), 439-440.

3191 operation of Line 2.”⁷³⁵ This concern is unfounded. The Conference Board of Canada clearly
3192 indicated that the operational activity of the existing pipeline is not included in the economic
3193 impact estimates for the TMEP. Trans Mountain further clarified this issue in response to Allan IR
3194 1.3 (l).⁷³⁶

3195 PIPE UP quoted the Conference Board of Canada’s response to an IR in which the Conference
3196 Board notes that the supply of labour is an ever-changing figure. PIPE UP goes on to interpret this
3197 statement as “a relatively clear expression by Trans Mountain that at least some of the purported
3198 employment benefits are uncertain.”⁷³⁷ This is a misinterpretation of the Conference Board of
3199 Canada’s response. The Conference Board’s response is not that the employment impacts are
3200 uncertain. Rather, it was stating that labour markets are flexible. If there is job creation in B.C. as
3201 a result of the Project, more people will be available for work by entering the workplace.⁷³⁸

⁷³⁵ Exhibit C288-36-1 - Pro Information Pro Environment United People Network - Written Submissions (Pipeup) (January 12, 2016) ([A4X5A8](#)), para 120.

⁷³⁶ Exhibit B040-1 - Trans Mountain Pipeline ULC - Responses to Information Requests from Robyn Allan Round 1 (June 4, 2014) (stricken in part) ([A3X5V9](#)); Exhibit B427-4 - Trans Mountain Pipeline ULC - 3a Conference Board of Canada, TMEP Understanding the Economic Benefits for Canada and its Regions, September 21, 2015 Clean (September 25, 2015) ([A4T6F0](#)).

⁷³⁷ Exhibit C288-36-1 - Pro Information Pro Environment United People Network - Written Submissions (Pipeup) (January 12, 2016) ([A4X5A8](#)), paras 127-128.

⁷³⁸ Exhibit C288-36-1 - Pro Information Pro Environment United People Network - Written Submissions (Pipeup) (January 12, 2016) ([A4X5A8](#)), paras 127-128.

3202 **8. CONCLUSION**

3203 The concept of sustainable development is about balancing interests, ensuring that Canada benefits
3204 from a strong economy, protecting the environment and providing social benefits and opportunities
3205 to those who are most impacted. Trans Mountain submits that when the benefits and burdens of
3206 the Project are fairly balanced, it meets that test and is in the public interest.

3207 The Project has been subject to one of the most comprehensive regulatory processes in NEB
3208 history. Over the course of the proceeding, intervenors raised numerous issues and concerns with
3209 the Project. Some of the issues raised by intervenors in argument are addressed in this reply;
3210 however, the vast majority of issues were directly addressed during the proceeding, in Final
3211 Argument or in Reply Evidence.

3212 The public record contains detailed evidence regarding the long-term social, environmental and
3213 economic effects of the Project, and Trans Mountain's extensive engagement with Aboriginal
3214 groups, communities and other stakeholders. It is now up to the Board to consider the evidence
3215 critically and determine what is credible and what is not credible. The Board's task is to balance
3216 the burdens and benefits of the Project in arriving at its public interest determination. Trans
3217 Mountain's evidence goes beyond supporting the Board in making its public interest
3218 recommendation—it unequivocally demonstrates that the Project is critical to the future of this
3219 country and all Canadians.

3220 The fact of the matter is that Canadian petroleum resources sell at a discount to the world price.
3221 The Project represents a significant opportunity for producers to access the highest value end
3222 markets, and for the Canadian public to receive full value for its resources, increased employment
3223 and tax revenues for these resources. Canada needs this opportunity for increased market access
3224 now more than ever.

3225 The Project is an expansion of an existing system that has operated successfully for more than 60
3226 years. By paralleling the existing right-of-way and implementing well known and proven
3227 mitigation, environmental and social impacts will be mitigated. If approved, the Project will be
3228 operated in a safe manner by a proponent with decades of experience and overseen by an expert
3229 regulator. These facts ensure the protection of the public and the environment.

3230 Trans Mountain has made every effort to meaningfully engage Aboriginal groups, communities
3231 and other stakeholders in the planning of the Project to make sure that they are informed and that
3232 their concerns are understood and considered. The evidence on the record demonstrate Trans
3233 Mountain's success: 34 Aboriginal groups located along the Project corridor in Alberta and British
3234 Columbia (including Vancouver Island) have provided written letters of support for the Project;
3235 local governments representing over 87 per cent of the proposed pipeline corridor executed
3236 Memorandums of Understanding for Community Benefit Agreements with Trans Mountain; and,
3237 Trans Mountain made more than 400 commitments to address concerns raised by the public.

3238 The Project is the safest, most viable and most appropriate option to meet the needs of Canadian
3239 oil production while minimizing environmental and social impacts. In Trans Mountain's view, the
3240 argument submitted by intervenors during this process does not raise significant doubt that the
3241 Project is not in the overall public interest. Trans Mountain requests that the Board approve the
3242 Project as applied-for and grant the requests set out in Final Argument.

3243 The Trans Mountain Expansion Project is the right project, at the right time, for Canada.

3244 All of which is respectfully submitted.