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Trans Mountain Expansion Project

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January 13, 2022

FILED ELECTRONICALLY

Canada Energy Regulator  
Suite 210, 517 10 Ave SW  
Calgary, AB T2R 0A8

Attention: Ms. Ramona Sladic  
Secretary of the Commission of the  
Canada Energy Regulator ("**Commission**")

Dear Ms. Sladic:

Re: Trans Mountain Pipeline ULC ("**Trans Mountain**")  
Trans Mountain Expansion Project ("**Project**" or "**TMEP**")  
File OF-Fac-Oil-T260-2013-03 60  
Section 211 Deviation Application for PPBoR Sheet M002-PM03025-001  
**Response to CER Information Request No. 1**

On December 22, 2021, Trans Mountain submitted a deviation under Section 211 of the *Canadian Energy Regulatory Act* for PPBoR Sheet M002-PM03025-001 ("**Application**") ([C16963](#)). The Application seeks approval of a deviation in respect of tracts PC 7605.06 and 7605.07.

On January 6, 2022, the Commission issued Information Request No. 1 to Trans Mountain in relation to the Application ("**CER IR**") ([C17028](#)). Trans Mountain's response to the CER IR is attached as an Appendix.

If you have any questions, please contact the undersigned.

Yours truly,



Scott Stoness  
Vice President, Regulatory and Compliance  
Trans Mountain Canada Inc.

Encl.

cc: Lynn Perrin, Pro Information Pro Environment United People Network  
Tim Takaro  
Cara Fisher  
Christine Thuring  
Rod Marining, BC Environmental Network  
Musqueam First Nation  
Kwikwetlem First Nation

## Appendix A

### Trans Mountain's Response to CER IR

Party asking the IR	Commission of the Canada Energy Regulator
Party being asked the IR	Trans Mountain Pipeline ULC
IR #	1

#### Topic: Engagement with Indigenous peoples

**Cross Reference:** CER IR, Section 1.1 Engagement with Indigenous peoples

#### Reference:

- i. [C16963-1](#), Trans Mountain, Application, PDF pages 1-2 of 18
- ii. [C16963-1](#), Trans Mountain, Application, PDF page 4 of 18

#### Preamble:

In Reference i), Trans Mountain submits that the proposed deviation on Tracts PC 7605.06 and PC 7605.07 is to support a second attempt at the horizontal directional drill crossing of the Fraser River.

In Reference ii), Trans Mountain states that it voluntarily engaged with certain Indigenous communities with an interest in the areas surrounding the Fraser River crossing. Table 2 provides a summary of Trans Mountain's engagement with both Musqueam First Nation and Kwikwetlem First Nation regarding Tract PC 7605.07.

The Commission of the Canada Energy Regulator notes that other Indigenous communities' traditional territories overlap Tracts 7605.06 and 7605.07

#### Request 1.1:

Explain how Trans Mountain decided upon the Indigenous communities with which it would engage regarding the revised route that is the subject of the Application.

#### Response 1.1:

As set out in Trans Mountain's application for a deviation under Section 211 of the *Canadian Energy Regulatory Act* ("**CER Act**") for PPBoR Sheet M002-PM03025-001 ("**Application**") ([C16963](#)), Trans Mountain has met the landowner consultation requirements set out in Guide D of the CER Filing Manual and pursued additional engagement with both Musqueam First Nation ("**MFN**") and Kwikwetlem First Nation ("**KFN**"); as per our relationship and commitments with each.

In its June 4, 2020 Order OPL-004-2020, the Commission approved the PPBoR Sheet M002-PM03025-001, which is the same sheet subject to the Application ("**Approval Order**") ([C06676](#)). In the Approval Order, the Commission noted that Trans Mountain provided notice in accordance

with its regulatory requirements, and stated that the Commission's predecessor, the National Energy Board, had provided notices to Indigenous peoples and placed Trans Mountain's published notices on its website.

Throughout its ongoing engagement, Trans Mountain identified MFN and the KFN as having specific interests in this area, with the Fraser River Crossing being located within each of the First Nations' core territory. Trans Mountain made its decision to engage with MFN and KFN more thoroughly based on this information, as well as MFN and KFN having identified specific archeological and environmental interests regarding the Fraser River Crossing. Trans Mountain is continuing its ongoing engagement with MFN and KFN regarding these matters.

## **Topic: Letters Received**

**Cross Reference:** CER IR, Section 1.2 Letters received

### **Reference:**

- i. [C17007](#), Pro Information Pro Environment United People Network, Letter filed 3 January 2022
- ii. [C17008](#), Tim Takaro, Letter filed 4 January 2022
- iii. [C17016](#), Cara Fisher, Letter filed 4 January 2022
- iv. [C17017](#), Christine Thuring, Letter filed 4 January 2022

### **Preamble:**

References i) through iv) are letters received by the Canada Energy Regulator in relation to the revised route that is the subject of the Application. The letters describe certain concerns and make certain requests in relation to, among other things, the design and feasibility of the proposed revised route.

### **Request 1.2:**

Provide a detailed response to the concerns raised and requests made in each of References i) through iv).

### **Response 1.2:**

The letters referenced in Request 1.2 ("**Revised Route Letters**") raise concerns and requests regarding the Application, which relates to the portion of the TMEP crossing the Fraser River ("**Fraser River Crossing**"). The revised route of the Fraser River Crossing described in the Application requires an 8 m deviation from the previously filed route ("**Revised Route**"). In Trans Mountain's view, the concerns raised in the Revised Route Letters within the scope of the Application have been reasonably addressed, as detailed below.

#### **Scope of Application**

The CER Filing Manual, Guide D requires that a deviation application include the rationale for the deviation, as well as information with respect to the proposed route, the landowner's comments (if any), the service of notices on landowners and the land acquisition process.

Trans Mountain has followed the requirements of the CER Act and the CER Filing Manual for filing a deviation. Trans Mountain has engaged with the owners of affected lands and has additionally engaged with relevant stakeholders and Indigenous communities with an interest in the areas surrounding the Fraser River Crossing, as set out at Table 2 (PDF pages 4-6) of the Application. Also refer to Trans Mountain's response to IR No. 1-1.

## Summary of Concerns

### *i. PIPE UP Letter*

The Pro Information Pro Environment United People Network ("**PIPE UP**") letter filed January 3, 2022 ("**PIPE UP Letter**") ([C17007](#)) raises the following concerns:

1. Whether Trans Mountain conducted sufficient bore hole testing to study the soil structures at the Fraser River Crossing and requests that Trans Mountain drill additional test bores at the site.
2. Whether the Revised Route will result in further pipeline stress effects, due in part to pipeline curvature and pipeline relocation associated with the Revised Route, and requests that Trans Mountain conduct additional studies regarding these potential impacts.
3. Whether Trans Mountain sufficiently considered alternative trenchless construction methods, such as Direct Pipe Installation or Intersect, in addition to the proposed Horizontal Directional Drill ("**HDD**") method relied on for the Fraser River Crossing, and requests that Trans Mountain provide a report on these alternative methods.

### *ii. Takaro Letter, Fisher Letter and Thuring Letter*

The letters filed by Tim Takaro ("**Takaro Letter**") ([C17008](#)), Cara Fisher ("**Fisher Letter**") ([C17016](#)) and Christine Thuring ("**Thuring Letter**") ([C17017](#)) on January 4, 2022 raise concerns similar to concerns 1, 2 and 3 from the PIPE UP Letter. These letters also raise a fourth concern:

4. Whether the speed at which the TMEP being built is resulting in increased risks, such as sink holes on the Mary Hill bypass.

### *iii. BC Environmental Network Letter*

The BC Environmental Network filed a letter with the Commission on January 7, 2022 ("**BC Environmental Network Letter**") ([C17055](#)). The BC Environmental Network Letter raises concerns similar to the Takaro Letter, Fisher Letter, and Thuring Letter. The letter also raises a fifth concern:

5. Whether there is bonding and insurance in place for the TMEP in the event of spills and construction incidents.

Although the BC Environmental Network Letter was not included in the CER IR, Trans Mountain has included a response to the concerns raised in the letter below.

## **Trans Mountain's Response to the Revised Route Letters**

### ***1. Geotechnical Testing***

Concern 1: Whether Trans Mountain conducted sufficient bore hole testing to study the soil structures at the Fraser River Crossing and requests that Trans Mountain drill additional test bores at the site.

The HDD Feasibility Reports for the Fraser River Crossing were filed on February 27, 2015 ("**Feasibility Reports**") ([A4I6E9](#) and [A416F1](#)). Condition 67 of the Reconsideration Report ([A98021](#)) required Trans Mountain to file, 3 months prior to commencing construction, Geotechnical Reports and HDD Feasibility and Design Reports, along with final design drawings, for any river crossings where HDD or other trenchless crossing methods are being considered. On March 28, 2018, Trans Mountain confirmed in its response to Information Request No. 77 for Condition 67 ([A92138](#)), the scope and feasibility of the Fraser River Crossing has not changed significantly since studies were filed with the NEB and therefore Trans Mountain does not intend to provide updated feasibility reports under Condition 67.

Ongoing assessment of the Fraser River Crossing has confirmed that the conclusions of the Fraser River HDD Feasibility Reports from 2015 remain valid. Trans Mountain confirmed in the Application that "pursuant to Certificate Condition 67, the conclusions in the geological feasibility studies [the Feasibility Reports] for the Fraser River HDD are not affected by this deviation application and remain applicable." As a result, in Trans Mountain's view, additional geotechnical analysis is unnecessary.

### ***2. Pipeline Stress Effects***

Concern 2: Whether the Revised Route will result in further pipeline stress effects, due in part to pipeline curvature and pipeline relocation associated with the Revised Route, and requests that Trans Mountain conduct additional studies regarding these potential impacts.

Trans Mountain considered potential construction-related and operational stress-effects in preparation of the Application. While it is correct that the Revised Route will increase certain stresses on the pipe, other stresses will actually be reduced, mainly due to a decreased length of 86m for the Revised Route. As a result, the calculated installation stresses and installation tension safety factors are similar to the previous design. Further, the stress associated with the Revised Route is acceptable during operation when the product is pumping through the pipe at the highest design pressure and temperature. The pipeline curvature associated with the Revised Route is not a compound bend: the horizontal design radius introduced to meet the Revised Route occurs in a section that does not contain a vertical radius.

In comparison to the Feasibility Reports, the finalized design exceeds certain assumed parameters contained in the Feasibility Reports. The assumed wall thickness was 19mm pipe, and the actual installed pipe will be 21.5mm thickness, which is able to withstand additional stress within tolerance as an additional safety measure.

### **3. Alternative Trenchless Construction Methods**

Concern 3: Whether Trans Mountain sufficiently considered alternative trenchless construction methods, such as Direct Pipe Installation or Drill Intersect, in addition to the proposed Horizontal Directional Drill ("**HDD**") method relied on for the Fraser River Crossing, and requests that Trans Mountain provide a report on these alternative methods.

#### Proposed Method

Trans Mountain has proposed a conventional Horizontal Directional Drill ("**HDD**") construction method. The movement of the HDD exit associated with the Revised Route by 8 m does not necessitate changing the proposed trenchless construction methodology for the entire crossing.

The Revised Route will use approximately 80% of the previously bored hole and completing the final 20% required for the deviation can be done using the same HDD method that previously completed the bore hole. The proposed design will be drilled from the north end and will intersect the existing 54 inch reamed borehole at a distance out of about 330 m from the north end.

Trans Mountain proposes to use casing pipe for 130 m from the north exit point of the HDD for the Revised Route. Since the HDD associated with the Revised Route is 86 m shorter, the end of the casing will be 216 m south of the previous north exit point. Surface casing can only be installed along the straight tangent which is approximately 130 m from the north exit point of the HDD for the Revised Route. Installing surface casing beyond this point is not technically feasible.

One of the Feasibility Reports ([A416E9](#)) notes at section 5.1 that if the HDD installation is unsuccessful, the proposed HDD alignment could be modified using the same HDD entry/exit locations to accommodate an additional HDD attempt.

#### Drill Intersect

The HDD undertaken at the site was successfully completed: as noted in the Application, the issue was a mechanical failure of the HDD drill pipe as it was pulling the product pipe into the bore hole ([C16963](#)). The feasible alternative trenchless method, drill intersect, would also produce a bore hole that requires subsequent operations for completion and would therefore not reduce the risk of potential failure during those operations.

Drill Intersect methodology is required when a bore hole is required of excess length or when surface casing is required at both ends of the HDD. This is not the case for the Fraser River Crossing, as the HDD is feasible over the approximately 1,400 m length and was completed as a finished bore hole end to end. The Revised Route will in fact involve intersecting the existing bore hole, with the HDD method rather than drill intersect.

### Direct Pipe Method

Direct Pipe utilizes a microtunnel boring machine using the installed pipe to advance the tunneling apparatus. Direct Pipe is not feasible with the diameter of pipe (36 inch / 0.91 m) and length of drill (approximately 1,400 m). The longest direct pipe installation to date we are aware of was 1,400 m, in a situation with a less complex installation profile and the pipe diameter in that instance was 48 inch (1.2 m) pipe. In the context of the Revised Route it is also not suitable for completing only the required 330 m of new section.

#### **4. Speed of Construction and Management of Geotechnical Risks**

Concern 4: Whether the speed at which the TMEP being built is resulting in increased risks, such as sink holes on the Mary Hill bypass.

Trans Mountain recognizes the Fraser River is an important ecosystem for a variety of species, including salmon, and the importance of mitigating risk and avoiding serious harm to fish and fish habitat when constructing the Fraser River Crossing. While the schedule for the Project has been adjusted to accommodate complexities encountered, the timeline for the Fraser River Crossing has not been compressed. Sinkholes are a known risk in the area of the Mary Hill Bypass that are related to ground conditions, and not the speed at which drilling is undertaken, which has not changed.

#### **5. Bonding and Insurance in Place for the TMEP**

Concern 5: Whether there is bonding and insurance in place for the TMEP in the event of spills and construction incidents.

Trans Mountain has extensively considered bonding and insurance for the Project, and these issues have been reviewed by the Commission, as set out at section 13.3.2.1 (Table 21) of the Reconsideration Report ([A98021](#)). The Reconsideration Report states that Trans Mountain has \$750 million of spill liability insurance in place and it plans to keep its insurance at this level once the Project is operating.

Further, as stated at Condition 121 (Financial Assurances Plan), Trans Mountain is required to file a Financial Assurances Plan and a third-party assessment of the Financial Assurances Plan at least 6 months prior to applying for leave to open the TMEP. The Financial Insurances Plan will include details of the financial resources and secured sources of funds that will be necessary to pay, without limitation, all actual loss or damage, costs, and expenses, including cleanup and remediation.