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#### VIA HAND DELIVERY

11 August 2017

National Energy Board Suite 210, 517 Tenth Avenue S.W. Calgary, Alberta T2R 0A8

To:

Ms. Sheri Young, Secretary, National Energy Board

Dear Ms. Young:

Re:

**Trans Mountain Pipeline ULC** 

Response to Draft Audit Report of the Trans Mountain Pipeline ULC (TMPU) Pre-Construction

**Compliance Draft Audit Report** 

NEB File: OF-Surv-OpAud-T260-2016-2017 0101

Trans Mountain Pipeline ULC ("Trans Mountain") is in receipt of the National Energy Board's ("the Board") Draft Audit Report and Amended Draft Audit Report dated 4 August 2017 with respect to the Trans Mountain Expansion Project ("Project") to determine if TMPU has established the necessary oversight measures to manage construction-related safety and environmental protection for construction of the Project (the "Draft Audit Report"). In this letter, Trans Mountain provides its comments on the Draft Audit Report, for the consideration of the Board. Please ensure a copy of this response is provided to Mark Tinney, Lead Auditor.

#### Section 2.0 Project Overview

In Section 2.0 "Project Overview", the Draft Audit Report states that "TMPU is a subsidiary of KMC". This is incorrect as Trans Mountain is an affiliate of KMC and as such this should state that "TMPU is an affiliate of KMC". For reference, Trans Mountain filed a corporate structure chart with the Board on 23 June 2017 that reflects this.<sup>2</sup>

# Section 3.2 Organizational Structure, Roles and Responsibilities

"In Section 3.2 "Organizational Structure, Roles and Responsibilities", the Draft Audit Report states that Trans Mountain "would be retaining the services of a construction management and inspection contractor who would be responsible for the provision of quality, safety and environmental oversight of general construction contractors".<sup>3</sup> This should state that Trans Mountain "would be retaining the services of a

<sup>&</sup>lt;sup>1</sup> Draft Audit Report, Section 2.0, p. 7.

<sup>&</sup>lt;sup>2</sup> June 23, 2017 Trans Mountain Pipeline ULC, Financial Resource Requirement Plan, Notification of Change in Financial Resources, Attachment 1, Corporate Structure [NEB Filing ID: A84602].

<sup>&</sup>lt;sup>3</sup> Draft Audit Report, Section 3.2, p. 9.

construction management and inspection contractor who would work under direction of TMEP staff to provide quality, safety and environmental oversight of general construction contractors ensuring that all contractors will follow the Trans Mountain approved execution plans".

Within this section the Draft Audit Report also states that "...development of the organizational structure for the construction management and inspection organization...will include the determination of the required number and types of positions; establishment of the roles, responsibilities and competencies for each position; and the submission of the package to the Project management team for review and approval". This should state that "development of the organizational structure for the construction management inspection organization will be directed by Trans Mountain, in consultation with the construction management and inspection contractors and will include determination of the required number and types of positions as well as the establishment of the roles, responsibilities and competencies for each position."

## Section 3.3 Integration with the TMPU Management System

In Section 3.3 "Integration with the TMPU Management System", the Draft Audit Report states that "The document goes on to say the following "The Major Projects Management Plan is responsible for the technical development, design, construction, and commissioning of a portfolio of growth related pipeline projects, facilities projects, and integrated projects that include both pipelines and facilities" [emphasis added]. <sup>5</sup> Trans Mountain notes that the term "Major Projects Management Plan" is incorrect and should state "Major Projects Management Program".

#### Section 3.4 Competency, Training and Evaluation

In Section 3.4 "Competency, Training and Evaluation", the Draft Audit Report states "Company personnel and consultants will be trained using the corporate TMPU Keep Program. TMPU Keep was identified as an on-line management system...". <sup>6</sup> Trans Mountain notes that the KEEP is a Kinder Morgan Canada program, and for this reason, this should state "Company personnel and consultants will be trained under the Kinder Morgan Canada (KMC) KEEP Canada Practice (Training Implementation Plan. KMC KEEP was identified as an on-line management system...".

Within this section the Draft Audit Report also discusses the four levels of training to be completed by employees, contractors and visitors. Level 0 is said to "...consist of a short video to ensure visitors know the basics of site safety". Trans Mountain notes that Level 0 does provide information on safety as well as security matters and environmental protection. For this reason, this should state Level 0 training "provides visitors with basic information on safety, security and environment." Levels 2 and 3 are specific to Environmental training for foremen and managers (Level 2) and inspectors and monitors (Level 3). Outlined descriptions of training in the Draft Audit Report, it states that Level 2 and Level 3 are to provide a "...detailed understanding of health, safety and environmental issues followed by a competency test." Trans Mountain notes that both Level 2 and Level 3 training are intended to provide more detailed

<sup>&</sup>lt;sup>4</sup> Draft Audit Report, Section 3.2, p. 9.

<sup>&</sup>lt;sup>5</sup> Draft Audit Report, Section 3.3, p. 10.

<sup>&</sup>lt;sup>6</sup> Draft Audit Report, Section 3.4, p. 12.

<sup>&</sup>lt;sup>7</sup> Draft Audit Report, Section 3.4, p. 12.

information on environmental protection matters only, and as such, Level 2 and Level 3 should be revised to state "...detailed understanding of environmental issues followed by a competency test."

### Section 3.9 Health and Safety Management Plan

In Section 3.9 "Health and Safety Management Plan", the Draft Audit Report makes four references to the "Contractor Environment / Safety Manual (CESM)". \* Trans Mountain notes that these are incorrect and that these references be revised to "Project Specific Safety Plan (PSSP)".

### Appendix 4 - Abbreviations

In Appendix 4 – Abbreviations, KMC is provided as the abbreviation for Kinder Morgan Canada. This is incorrect and should state Kinder Morgan Canada Inc.

Trans Mountain appreciates the opportunity to provide comments on the Draft Audit Report. Should you have any questions or require additional information, please contact Regulatory Advisor at

Yours truly,

Hugh Harden Chief Operating Officer Kinder Morgan Canada Inc.

Cc. National Energy Board – Mark Tinney, Lead Auditor

<sup>&</sup>lt;sup>8</sup> Draft Audit Report, Section 3.9, p. 15.

udit eport NC	Audit Protocol	Requirement	Draft Audit Finding	Category	Responsible	CAP#	Corrective Actions	Deliverable(s)	Due Date
inding umber	(AP) Number								
C-4 TMF	TMPU-12	2 Has the company identified hazards and potential hazards related to the TMX pipeline construction project?	TMPU provided their operational hazard inventory which has some construction related hazards, but it is not specific to the Project. TMPU has not yet developed a process to identify and analyze all hazards and potential hazards related to the Project in accordance with the requirements of the OPR s. 6.5(1)(c) (Refer to Appendix 1 Protocol Item AP-TMPU-12).		Senior Project Director Senior Director, Compliance Director, Lower Mainland	TMPU-12-1	The Trans Mountain Hazard Coordinator will work with the applicable project team members to establish a TMEP Unified Hazard List (UHL) by reviewing Trans Mountain's UHL to identify existing hazards applicable to the construction project.	No Deliverable - process step to develop the TMEP UHL.	Complete
						TMPU-12-2	Directors and SMEs) to identify and document in Trans Mountain's Hazard Application any additional hazards	No Deliverable - process step to develop the TMEP UHL. Please refer to CAP# TMPU -13-1	Complete
C-5	TMPU-13	Does the company have an inventory of hazards and potential hazards related to the pipeline construction project?	TMPU provided their operational hazard inventory which has some construction related hazards, but it is not specific to the Project. TMPU has not developed an inventory of the hazards and potential hazards related to the Project in accordance with the requirements of the OPR s. 6.5(1)(d) (Refer to Appendix 1 Protocol Item APTMPU-13).	Risk Assessment	Senior Project Director Senior Director Compliance Director, Lower Mainland	TMPU-13-1	print course described personal resources are assumed to resource and a constructive contraction of a construction of a	TMEP Unified Hazard List embedded in the TMEP Unified Hazard and Risk Register.	Complete
C-6	TMPU-14	I Has the company assessed the risks associated with the identified hazards?		Risk Assessment	Senior Project Director  Senior Director, Compliance Director, Lower Mainland	TMPU-14-1	The project will implement the ISLMS Hazard and Risk Management Standard and the Operational Risk Management (ORM) Procedure. The Hazard Coordinator will work with project team members to identify all risks associated with TMEP Unified Hazard List (UHL), including risks associated with newly identified project-specific construction hazards and any additional risks related to existing Trans Mountain hazards on the TMEP UHL.	No Deliverable - process step to develop the TMEP Risk Register	Complete
						TMPU-14-2	The Hazard Coordinator will develop risk statements for all newly identified construction related hazards that incorporate credible contributing cause(s) and the possible event(s). The Hazard Coordinator will also identify existing risk statements on Trans Mountain's Unified Hazard and Risk Register (UHRR) that would be applicable to hazards identified by the project.	'No Deliverable - process step to develop the TMEP Risk Register	Complete
						TMPU-14-3	The state of the s	TMEP Unified Hazard and Risk Register	Complete
IC-7	TMPU-17	Has the company established a process for developing and implementing controls to prevent, manage and mitigate the identified hazards and the risks?	The Project management team requires the construction contractors to provide specific construction spread hazard inventories to the Project team. However the construction contractors had not been selected at the time of the audit. TMPU did demonstrate that they had controls for their operational level hazard inventory, however it was not specific to the construction related activities for the Project. Therefore, the Project Management team have not yet developed and implemented controls associated with the Identified hazards and potential hazards related to the Project in accordance with the requirements of the OPR s. 6.5(1)(f) (Refer to Appendix 1 Protocol Item AP-TMPU-17)		Senior Project Director Director, Lower Mainland Director, Supply Chain Management	TMPU-17-1	(EPC, GCC & CM&I), as part of contract requirements outlined in Exhibit C: Owner Requirements; along with requirements for the contractor to:	1. Exhibit C OWNER REQUIREMENTS 2. Contractor Specific Hazard and Risk Register	24-Aug-17
					Senior Project Director Director, Lower Mainland Director, Supply Chain Management	TMPU-17-2	measures and contingency plans the contractor will use to prevent and mitigate hazards and associated risks	Exhibit C OWNER REQUIREMENTS     Contractor Execution Plan     Contractor Specific Hazard     and Risk Register	24-Aug-17
					Senior Project Director Director, Lower Mainland Director, Supply Chain Management	TMPU-17-3	Requirements its expectation for project contractors to document within their Contractor Execution Plan	1. Exhibit C OWNER REQUIREMENTS 2. Contractor Execution Plan	24-Aug-17

Audit	Audit	Requirement	Draft Audit Finding	Category	Responsible	CAP#	Corrective Actions	Deliverable(s)	Due Date
eport NC nding umber	(AP) Number								
C-10	TMPU-30	Has the company identified what monitoring activities are to be carried out; the method and frequency; and the records to be kept?	TMPU has not yet developed an inspection and monitoring plan for the Project. In accordance with the requirements of MPMP and the CMP, each project is to develop a monitoring plan. Pre-construction work, which may involve physical activities, is still taking place on the Project regardless of whether or not a construction management and inspection contractor is in place. However, as of the date of the audit, TMPU had not yet established one in accordance with the requirements of the OPR s. 6.5(1)(u) (Refer to Appendix 1 Protocol Items AP-TMPU-30)	Inspection, Measurement and Monitoring	TMEP Leads for Safety, Security, Environment and Quality. Senior Project Director Director, Lower Mainland Director, Supply Chain Management	TMPU-30-1	Trans Mountain will implement a process for inspection, measurement and monitoring activities that is consistent with the requirements established in the ISLMS Inspection, Measurement and Monitoring (IMM) Standard and the ISLMS Inspection, Measurement and Monitoring Procedure used by Trans Mountain's existing operations.  Each project discipline will develop a Monitoring Plan which documents the planned inspection, measurement and monitoring activities for Health and Safety (including Damage Prevention and Emergency Response), Environmental, Security and Quality Management. These plans at a minimum will provide:  - an identification and description of the monitoring activities to be conducted, - the Trans Mountain or contractor roles (CM&I, EPC or GCC) that will be responsible for conducting the IMM activities, - the project personnel responsible for reviewing and following up on the monitoring results, and, - the frequency/schedule for the planned monitoring.  These monitoring plans will be fluid and updated frequently over the projects lifecycle to reflect the changing risks and issues that will be encountered during project construction.  The Monitoring Plans will consolidated into one comprehensive TMEP Project Construction Monitoring Plan and communicated to the contractors (CM&I, EPC &GCC) as part of Exhibit C -  OWNER REQUIREMENTS with the expectation that the contractors use the information in developing their Contractor Execution Plans.	1.TMEP Project Construction Heath and Safety Monitoring Plan  2.TMEP Project Construction Environmental Monitoring Plan  3.TMEP Project Construction Security Monitoring Plan.  4.TMEP Project Construction Quality Monitoring Plan  5. Exhibit C- OWNER REQUIREMENTS	24-Aug-17
IC-11	TMPU-31	Has the company established a process to ensure issues of concern found during monitoring activities are properly addressed in a timely manner?	TMPU has not yet developed a process to ensure issues of concern found during monitoring activities are properly addressed in a timely manner in accordance with the requirements of the OPR s. 6.5(1)(u) (Refer to Appendix 1 Protocol Items APTMPU-31).	Inspection, Measurement and Monitoring	TMEP Leads for Safety, Security, Environment and Quality, Senior Project Director Director, Lower Mainland Director, Supply Chain Management	TMPU-31-1	Trans Mountain will develop a <b>Project Construction Monitoring Plan Procedure</b> applicable to all the project disciplines (Health and Safety, Environment, Quality and Security) that will define the process for each discipline to:  - conduct periodic reviews and updates to the Monitoring Plans to reflect any changes required over the lifecycle of the project.  - communicate and manage deficiencies identified during monitoring (with the contractors), including the	TMEP Project Construction Monitoring Plan Procedure (applies to TMPU-31 and TMPU- 32)	24-Aug-17
IC-12	TMPU-32	Has the company established a process for handling deficiencies found during monitoring activities that require immediate attention?	TMPU has not yet developed a process for handling deficiencies found during monitoring activities that require immediate attention in accordance with the requirements of the OPR s. 6.5(1)(u) (Refer to Appendix 1 Protocol Items AP-TMPU-32).	Inspection, Measurement and Monitoring	Leads for Safety, Security, Environment and Quality. Senior Project Director Director, Lower Mainland Director, Supply Chain Management	TMPU-32-1	process for handling of deficiencies requiring immediate attention. The TMEP Project Construction Monitoring Plan Procedure will be a preamble to the TMEP Project Construction Monitoring Plan as part of Exhibit C - OWNER REQUIREMENTS provided to the contractors, with the expectation that the contractors (CM&I, GCC and EPC) use the information to develop their project-specific Contractor Execution Plans (CEP).	2	
NC-1	TMPU-01	Can the company demonstrate they have integrated the pipeline construction project's safety and environmental protection considerations into their management system?	While the Project is using components of the TMPU management system, it was unable to demonstrate to the Board how the Project has been fully integrated into the their management system in a manner that meets the requirements of OPR s. 6.1 (Refer to Appendix 1 Protocol Item AP-TMPU-01).	Management System	Vice-President, TMEP	TMPU-01-1	Trans Mountain will establish a TMEP Management Plan for project construction that demonstrates how the construction project addresses the management system obligations and aligns, where applicable, to Trans Mountain's Integrated Safety and Loss Management System (ISLMS) for ensuring safety, security and protection of the environment. The TMEP Management Plan will be a part of the overarching project Execution Plan.	TMEP Management Plan	30-Sep-17
NC-3	TMPU-03	structure to provide effective oversight of the pipeline construction project and to	TMPU has not created an organizational structure for the Project which meets the requirements of the OPR s. 6.4. In accordance with TMPU's MPMP Section 7.1.6, "the project specific organizational structure and roles and responsibilities are to be testablished within a Project Execution Plan (PEP) or functional area sub-plan", neither of which were available at the time of the audit. (Refer to Appendix 1 Protocol Items AP-TMPU-03).	Organizational Structure	Senior Project Director Director, Lower Mainland Vice-President, TMEP	TMPU-03-1	Trans Mountain's project construction organizational structure has been defined as part TMEP Compliance to Condition 88, filed with the Board on July 23rd, 2017 and approved as compliant.	A84621 Trans Mountain Pipeline ULC - Trans Mountain Expansion Project Compliance to Condition 88- Project organizational structure for Project construction	24-Aug-17
VC-2	TMPU-02	Does the company have a policy for the internal reporting of hazards and has it been provided to its employees and contractors?	inear-misses does not meet the requirements of the OPR. HVPU'S bolicy states that i	Commitment Statement	Manager, Compliance Senior Director, Compliance	TMPU-02-1	Trans Mountain will define as part of its Integrated Safety and Loss Management System (ISLMS) the conditions that constitute "good faith" as applied in the ISLMS Safety and Loss Management Policy Statement for granting immunity from disciplinary action for person who internally report hazards, potential hazards, incidents and near misses.	Integrated Safety and Loss Management (updated)	24-Aug-17
					Safety Lead Senior Project Director	TMPU-02-2		Site Orientation Training	1-Sep-17
VC-8	TMPU-22	Has the company established a process to communicate management-of-change related items such as changing regulatory requirements or the implementation of design changes or the implementation of corrective and preventative actions stemming from incident investigations?	TMPU provided the Board with two distinct MOC processes. One is used for existing and ongoing operational activities and one specifically for the Project. OPR s. 6.5(1)(i) indicates that a company shall have a single process, not multiple processes. Critical and important communication are to be communicated utilizing the Project MOC Process, however, the Project MOC process did not identify procedures for managing critical and important communications in accordance with the requirements of the OPR s. 6.5(1)(m) (Refer to Appendix 1 Protocol Items AP-	Change	Senior Project Controller Vice-President, TMEP	TMPU-22-1	Trans Mountain will update its project specific Management of Change (MOC) process to document the requirement for all MOC decisions to be adequately communicated to those who require the information. This will include defining the roles and responsibilities of the MOC requestor for communicating information and the expectations for those receiving the MOC communication for disseminating the information to applicable project staff and contractors. The MOC process owner will also ensure changes to the project MOC process are appropriately communicated to Trans Mountain staff.	Management of Change (MOC) process (updated)	24-Aug-17

Audit Report NC Finding Number	(AP) Number	Requirement	Draft Audit Finding	Category	Responsible	CAP#	Corrective Actions	Deliverable(s)	Due Date
NC-14	TMPU-35	Has the company established a process to manage changes that occur during the pipeline construction project including design changes, regulatory changes and procedural changes?	TMPU provided two distinct MOC process, while the OPR requires a company to have one MOC process that applies to all aspects of the facility lifecycle. The Board could not determine how the Project specific MOC process and the operational MOC process will interact for changes that affect both TMPU ongoing operational activities and the Project itself. In addition, the Project MOC process does not describe how to manage any risk not specified by the process as presented including any new risk. (Refer to Appendix 1 Protocol Item AP-TMPU-35)	Management of Change	Senior Project Controller Vice-President, TMEP	TMPU-35-1	Trans Mountain will update its project specific Management of Change (MOC) process to reflect the liaison between existing Operations Management and the project Construction Management to identify operational issues and/or synergies during project construction that require review, and approval by Trans Mountain's existing operations. The project specific MOC process will describe the MOC responsibilities of designated operational personnel to:  - Evaluate the justification and impact of temporary impairments or permanent changes to operating systems requested by project construction management;  -Follow the ISLMS Operational Change Management Standard to develop and submit Change Management Request (CMR) forms for temporary impairments or permanent changes to operating systems as a result of project construction, with appropriate justification and back-up documentation; and,  -Ensure the appropriate level of review and approval that is consistent with Trans Mountain's CMR Approval Authority Matrix, for changes affecting existing operating systems.  The project specific MOC process will also be updated to provide additional clarity and direction on the use the MOC process for addressing design, regulatory and procedural changes.	Management of Change (MOC) process (updated)	24-Aug-17
NC-9	TMPU-26	communicate all special conditions	TMPU has not yet developed a process to communicate all special Conditions associated with the Project; all special safety practices and procedures necessitated by the NEB Conditions specific to the construction; and inform the contractor of the contractor's responsibilities in a manner which meets the requirements of the OPR s. 6.5(1)(I) (Refer to Appendix 1 Protocol Item AP-TMPU-26).	Supply Chain Management	Director, Supply Chain Managemen	t TMPU-26-1	Trans Mountain communicates information to project contractors through its contract terms outlined in Exhibit C: TMEP Owner Requirements to make its contractors aware of special conditions associated with project construction. Trans Mountain will provide an example of contract owner requirements for project construction.	EXHIBIT C OWNER REQUIREMENTS - CONTRACT FOR THE ENGINEERING, PROCUREMENT AND CONSTRUCTION OF THE LOWER MAINLAND PROJECT	Complete
NC-13	TMPU-34	Has the company established a process to monitor construction activities for compliance to all legal requirements and applicable Board orders and conditions including the Board's Safety Advisory NEB SA 2016-01 and NEB 2016-1A?	assurance for the purchase of several valve gates for the Project. TMPU also demonstrated that they had conducted quality assurance activities on potential pipe and coating suppliers. However, TMPU was found to be non-compliant for not following its own Quality Management Plan as per the requirements of the OPR s.  15. During the audit, the Board noted that the pipe manufacturing companies and the vendors to supply the raw material (plate material) shown in the Pipe Purchase Agreement are not listed in the Project's Approved Manufacturer's List. At this stage of the pre-construction, to not have the Lead of Quality Management position staffed is in the Board's view a concern as to how the overall Quality Management Program is fulfilling its responsibilities to the Project. In addition, the audit team	Supply Chain Management	Director, Supply Chain Managemen	t TMPU-34-1	Trans Mountain will review its <b>Approved Manufacturers List (AML)</b> and update it with any existing project contractors not currently on the AML.  Trans Mountain will also re-enforce with the project Supply Chain Management (SCM) team the importance of timely updates and maintenance of the Project AML.	TMEP Approved Manufacturers List (updated)	Complete
				Supply Chain Management	Assistant General Counsel	TMPU-34-2	This draft non-compliance was resolved through a phone conversation on August 9th, 2017. The NEB and Trans Mountain discussed and agreed upon the purpose and intent of the referenced language within the referenced contract and that Trans Mountain does not intend to delegate the responsibilities for conformance of the work to codes and regulations to a third, party vendor.	N/A	Complete
				Supply Chain Management	Vice-President, TMEP	TMPU-34-3	Trans Mountain has hired a <b>Chief Quality Assurance Lead</b> for project execution. The QM Lead started August 8th, 2017.	Role Profile - Chief Quality Assurance Lead, TMEP	Complete
IC-15		table or alternative in place to ensure it has	TMPU was found to be non-compliant for not having a legal list that included all referenced standards specifically included in the OPR. (Refer to Appendix 1 Protocol Item AP-TMPU-36).	Legal Requirements	Regulatory, Advisor Director, Financial Planning and Regulatory	TMPU-36-1	Pipeline Regulations down to the sub-clause level by  Please note that CSA Z276 - Liquefied Natural Gas (LNG) - Production, Storage and Handling and CSA Z341 - Storage of Hydrocarbons in Underground Reservoirs do not apply to KMC business operations and therefore will not be broken down to the sub-clause level as these Standards are not on the Legal List.	Breakdown of following standards in KMC Legal List: 1) CSA Z662-15 - Oil and Gas Pipeline Systems 2) CSA Z246.1 - Security Management for Petroleum and Natural Gas Industry Systems	Complete