Imperial Oil Limited ("Imperial")
Construction of the Waterdown to Finch Project (the "Project")

Application under section 90(1) (Application) of the *Ontario Energy Board Act, 1998*
OEB File Number: EB-2019-0007

City of Toronto - Information Request to Imperial

NOTE:

This Information Request was prepared with input from staff of other municipalities sharing similar concerns. Specifically, a liaison group collaborated regularly regarding the Application. The liaison group included staff from the Regional Municipality of Halton, the City of Mississauga, the Regional Municipality of Peel, the City of Toronto, and the Toronto and Region Conservation Authority ("TRCA").

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1. Engineering Matters

1.1 Design Considerations

Reference: i) **Imperial Application for Leave to Construct (the "Application"), Exhibit C (Purpose, Need, Proposed Project and Timing), Tab 1, Schedule 1, page 2 of 4.**

Imperial states that infrastructure associated with the new pipeline will include valves and launchers/receivers to launch and receive pipeline inspection tools. Valve design and placement will be in compliance with TSSA requirements and Canadian Standards Association Z662.

ii) **Application, Exhibit E (Project), Tab 1, Schedule 3, pages 1-2.**

Table 3-1 provides the design specifications for the pipe, fittings and associated equipment used to construct the Project, which Imperial states are in compliance with CSA Z662-15. Table 3-2 provides the Class locations along the pipeline alignment.

iii) **Application, Exhibit H (Record of Consultation – Supporting Documents), Tab 1, Schedule 3, page 164 of 167 (email dated January 25, 2019 from Universal Pegasus International to TSSA).**

It is stated that the three main documents that may govern the proposed pipeline project are:

- O. Reg. 210/01: Oil and Gas Pipeline Systems (Technical Standards and Safety Act, 2000, S.O. 2000, c. 16)
- CSA Standard Z662-15 (Oil and Gas Pipeline Systems)
- TSSA FS-238-18 (Oil and Gas Pipeline Systems Code Adoption Document Amendment)

iv) **Canadian Standards Association Standard Z662-15 Oil and Gas Pipeline Systems ("CSA Z662-15").** This Standard covers the design, construction, operation, and maintenance of oil and gas industry pipeline systems that convey liquid hydrocarbons among other fluids.

Clause 4.22 Requirements for pipelines installed by horizontal directional drilling

Pipelines may be installed by directional drilling provided that

a) A feasibility assessment is made to assess the suitability of subsurface conditions.

b) The drill path is designed with due consideration given to the location and type of all subsurface features influencing installation operations.

c) An assessment is made to determine the risk of accidental release of drilling fluids from the drilling annulus and an appropriate mitigation plan is prepared.

d) For steel pipe, longitudinal stresses during installation do not exceed the specified minimum yield strength of the pipe.

Request: Please provide the following:

a) A copy of the Design Basis Memorandum for the proposed pipeline, including but not limited to the determination of the class locations and associated pipe wall thicknesses, rationalizing any differences between the existing and proposed pipeline.

b) The results of a surge analysis performed (including pressure relief and overpressure protection), to ensure no damage to the pipe in the event of an operating upset condition.

c) The proposed method(s) of leak detection including the expected threshold accuracy for the full range of flow conditions anticipated during operations.

d) The results of the feasibility assessments undertaken to meet the requirements of CSA Z662-16 Clause 4.22, including the determination of longitudinal stresses arising from the pulling through of the pipe and the contingency plan in the event of an inadvertent return of drilling fluid to the surface.

e) Please confirm if a new pumping station will be required, and if so please provide details of the type of motor drive unit being proposed, steps taken for noise attenuation and the provision of a backup electrical supply in the event of a loss of power from the grid.

f) What is the anticipated lifespan of the proposed pipeline?

1.2 Construction and Deactivation Considerations

Reference: i) **Application, Exhibit E (Project), Tab 1, Schedule 1, Page 1**

This exhibit describes the proposed Project construction methods, engineering design specifications, testing methodology and procedures, and schedule.

ii) **Application, Exhibit E (Project), Tab 1, Schedule 4, Section 4, Pressure Testing**

1. This section describes Imperial's proposed hydrostatic pressure testing.

2. The testing will be completed in accordance with Imperial standards and practices and meet the requirements of CSA-Z662-15 Oil and Gas Pipeline System and Technical Standards and Safety Authority (TSSA) – Oil and Gas Pipeline Systems Code Adoption Document Amendment FS-220-16–July 19, 2016 (Province of Ontario).

a) Sourcing: The hydrotest water will be re-used as much as practical. Water sourcing is planned to be potable water from municipal supplies.

b) Treatment: The treatment of water prior to or following hydrotest will be evaluated.

c) Re-use of hydrotest water: The feasibility of re-using hydrotest water will be evaluated. This evaluation will consider the need for transporting and possibly storing hydrotest water between hydrotests.

d) Discharge: It is proposed to dispose of the hydrotest water into municipal wastewater/sewer system in line with applicable discharge permit requirements.

iii) **Application, Exhibit H (Record of Consultations – Supporting Documentation), Tab 1, Schedule 3, Page 122 of 164 (Meeting**

Notes September 13, 2018, Ministry of Natural Resources and Forestry (MNRF) Aurora and Guelph)

It was noted that general noise and traffic concerns were raised in Toronto and Mississauga.

iv) **Application, Exhibit H (Record of Consultations – Supporting Documentation), Tab 3, Schedule 2, Page 10 of 64 (July 26, 2018 City of Mississauga – Technical Meeting Summary Notes)**

Imperial confirmed that HDDs will be conducted continuously, 24 hours a day until the drill is complete…Imperial will need a noise by law exemption and a notification needs to go out within 500m of the noise source at least a month before work starts.

v) **Application, Exhibit A (General), Tab 1, Schedule 3, Page 1 of 3, Section 3. Application and Approvals Requested.**

To accommodate reliable supply of products throughout this process, the Project involves the construction of the new pipeline while the existing pipeline continues to operate. Once the new pipeline is successfully installed, the existing line will be safely deactivated and the new pipeline will operate in its place.

vi) **Application, Exhibit C (Purpose, Need, Proposed Project, and Timing), Tab 1, Schedule 1, Page 2 of 4, para 13.**

After the pipeline is installed, the existing SPPL will be purged of product, deactivated and left in place, following all relevant safety and technical standards.

vii) **Application, Exhibit G (Indigenous Relations), Tab 1, Schedule 1, page 15 of 22.**

Inquiry about deactivation of the existing line. (Imperial Response to Internal Rec. No 724)

The existing line will be cleaned, filled with nitrogen and deactivated in place. Recognizing the congestion of the corridor of other lines and

infrastructure, undertaking deactivation will minimize net environmental impacts. Deactivation will take place in accordance with regulatory requirements.

viii) **Application, Exhibit H (Record of Consultation - Supporting Documents), Tab 1, Schedule 3, page 130 of 167. Extract from email dated Sept 20 2018, RE: Imperial Waterdown to Finch Project - land inquiry**

After the new pipeline is safely installed and operation is switched over, the existing pipeline will be deactivated and left in place. This deactivation will consist of cleaning the line to remove residual hydrocarbon, disconnecting power where appropriate, segmenting the pipeline by removing block valves and installing blind flanges and CP bonding cables, filling the segments with nitrogen to a pressure that can be monitored (e.g. 50 psig), and isolating the ends of the pipeline with blind flanges. Cathodic protection will be maintained to mitigate the potential for corrosion. The deactivation will follow all TSSA requirements as well as CSA Z662 code. Imperial will include the deactivated pipeline as part of the ongoing monitoring program, including both pressure monitoring and as well as visual inspections of the pipeline right of way. If ROW monitoring indicates a potential depth of cover issue, corrective actions will be taken.

…

Date of de-activation of 10" pipeline:

I haven't been able to confirm the exact date, but the 10" pipeline was de-activated around the 1970s. There would not have been a need to amend the LoC as it was not abandoned, only idling (as per above) in case it is needed in the future.

ix) **Application, Exhibit H (Record of Consultation – Supporting Documents), Tab 3, Schedule 2, page 39 of 64, Meeting Summary Notes Sun-Canadian Pipeline Ltd. & Trans-Northern Pipelines Inc.**

When asked by LW, RT clarified that Imperial is deactivating existing line, not abandoning it. Upon deactivation, it will be cleaned and then filled with nitrogen.

x) **CSA Z662-15, Clause 10.15.1 De activation of piping,**

10.15.1.1 Operating companies deactivating piping shall

a) isolate the piping, using blind flanges, weld caps, or blanking plates suitable for the pressure from which the deactivated piping is being isolated;

b) where required, provide a pressure-relief system; and

c) fill the piping with a suitable medium, having regard for the intended duration of the deactivation, the effects of the medium on the integrity of the piping, and the potential consequences of a leak.

10.15.1.2 For deactivated piping, operating companies shall

a) maintain external and internal corrosion control as specified in Clause 9;

b) where considered appropriate, perform other maintenance activities as specified in Clause 10;

c) maintain records as specified in Clauses 9.11 and 10.4; and

d) for piping that is deactivated for more than 18 months, annually confirm the suitability of the deactivation methods used, the corrosion control, and other maintenance activities.

xi) **CSA Z662-15, Clause 8 Pressure Testing**

8.7.2 …water containing a freezing point depressant, or another appropriate liquid test medium may be used. Where such alternative liquids are used, contingency plans shall be developed to protect the environment in the event of leakage during testing

xii) **CSA Z662-15, Clause 10.5.8 Environmental Effects**

Operating companies shall establish effective prevention and control

measures to maintain the effect of pipeline system operations upon the environment within acceptable levels.

Note: *Matters that should be considered include the following:*

a) thermal effects, including those on land and water;

b) containment of spills;

c) sensitivity of route and terrain traversed;

d) availability of trained and responsible personnel;

e) control of erosion and restoration of disturbed areas;

f) handling and disposal of toxic substances;

g) protection of vegetation;

h) control of noise;

i) protection of fish and wildlife;

j) aesthetics;

k) adverse effects on public health;

l) inconvenience to the public;

m) location, availability, and operating readiness of appropriate equipment; and

n) re-evaluation of existing measures.

Request:

a) Please provide details on how Imperial will establish effective prevention and control measures during its construction activities to minimize construction disturbance and inconvenience to the public, including noise and traffic flow restrictions.

b) The project schedule indicates that hydro testing may occur at a time when ambient temperatures could be low. Please provide details of any freeze depressant additives that would be used and how they will be treated prior to returning the test water to source.

c) Please describe how Imperial intends to detect leaks during hydro testing of the trenched pipeline sections? Will this involve the use of

an odorant?

d) Will trenched construction activity, taking place concurrent with existing pipeline operations, require reverse lay or similar techniques to prevent heavy equipment being placed above the existing pressured pipeline? If so, please provide details of the measures to be taken to reduce the risk of external damage to the existing pipeline.

e) It appears that the existing line has previously been deactivated. Please provide the rationale for, and details of, this deactivation and the subsequent reactivation of the line.

f) Imperial has stated that it is deactivating rather than abandoning the existing line and that it will follow all pertinent regulatory requirements. CSA Z662-15 distinguishes between deactivation and abandonment. Please confirm:

   i. The rationale for deactivation versus abandonment.

   ii. Will any sections of the existing line form a part of the new pipeline?

   iii. Is Imperial retaining the option of reactivating the existing line? If so, what are the possible use(s) of the existing line upon reactivation, and what approval(s) would be required for reactivation?

g) What pressure will the nitrogen in the deactivated pipeline be kept at?

1.3 Safety and Integrity Considerations

Reference: i) Application, Exhibit C (Purpose, Need, Proposed Project, and Timing), Tab 1, Schedule 1, page 1 of 4.

Imperial states that the Waterdown to Finch segment of the Sarnia Pipeline Products Line (SPPL) has operated safely since it was constructed in the mid-1950s…Ongoing maintenance work, known as integrity digs, facilitates continued safe pipeline operations through physical inspection and installation of repair sleeves to reinforce the

pipeline. Since 2014, an average of 16 digs have been conducted per year as part of the ongoing integrity dig program.

ii) CSA Z662 -15, Clause 3 Safety and Loss Management Systems

3.1.2 The safety and loss management system shall cover the life cycle of the pipeline system and shall include the following elements:

a) clearly articulated policy and leadership commitment to the development and implementation of the safety and loss management system;

b) an organizational structure with well-defined responsibilities and authorities that supports the effective implementation of the safety and loss management system;

c) a process for the management of resources, including:

i) the establishment of competency requirements;

ii) a training program that includes a process for evaluating the effectiveness of the training provided and for maintaining training records; and

iii) contractor selection and performance monitoring that ensures services are performed in a manner that conforms to the requirements of the safety and loss management system;

d) an internal and external communication process that supports the effective implementation of the safety and loss management system;

e) a document and records management process for the effective implementation of the safety and loss management system, including

i) procedures for the control and distribution of documents; and

ii) procedures for the control of records;

f) operational controls, as applicable, for

i) risk management;

ii) design, material selection, and procurement;

iii) construction;

iv) operations and maintenance;

v) pipeline system integrity management;

vi) engineering assessments;

vii) emergency preparedness, response, and recovery**;**

viii) security management; and

ix) deactivation and abandonment; …

iii) **3.2 Pipeline system integrity management program**

The operational controls required by Clause 3.1.2 f) v) shall be in the form of an integrity management program that addresses the life cycle of the pipeline system.

iv) **Clause 3.4 Risk management**

The operational control required by Clause 3.1.2 f) i) shall be in the form of a risk management process that identifies, assesses, and manages the hazards and associated risks for the life cycle of the pipeline system. The risk management process shall include the following:

a) risk acceptance criteria;

b) risk assessment, including hazard identification, risk analysis, and risk evaluation;

c) risk control;

d) risk monitoring and review;

e) communication; and

f) documentation.

Request: Please provide the following:

a) A current copy of Imperial's Safety and Loss Management System ("SLMS") program.

b) Documentation setting out the organizational structure, operational controls, assignment of responsibilities and authorities that support the implementation of the above SLMS program for the SPPL system, including the Statement of Leadership commitment required in Clause 3.1.2 (b) of CSA Z662-15. Please also provide any records relating to the stewardship, or program ownership, of the individual elements a) through e) set out in CSA Z662-15 Clause 3.1.2.

c) The results of all audits, whether internal or external, conducted of the SLMS program, including Imperial's response to these audits.

d) A copy of the company‘s Integrity Management Program as required by CSA Z662-15 Clause 3.1.2 (f and v) and Clause 3.2, and details of all audits, whether internal or external, conducted of this Program including Imperial's response.

e) The results obtained from a detailed risk analysis performed on the proposed replacement line indicating where consequence levels may have changed between the existing and proposed pipelines.

f) Please indicate if Imperial will incorporate into its design considerations the proposed changes to class location included in the June 2019 release of CSA Z662 as they relate to HVP product.

g) Imperial has indicated that it has performed a number of integrity digs in recent years on its existing line and implied that remedial action such as sleeving has resulted. Please indicate the threat that prompted these digs (e.g. corrosion or external interference) and where these digs occurred.

h) Does Imperial use corrosion inhibitor and/or drag reducing additives on its existing Sarnia Products Pipeline system? If so does it intend continuing their usage on the proposed pipeline?

1.4 Operating Considerations

Reference:

i) **Application, Exhibit H (Record of Consultations – Supporting Documentation), Tab 2, Schedule 6, page 12 of 31.**

Imperial states: we remain committed to operating our facilities in an environmentally responsible manner and in compliance with provincial regulations

ii) **Application, Exhibit C (Purpose, Need, Proposed Project, and Timing), Tab 1, Schedule 1, page 1 of 4**

The pipeline is monitored 24 hours a day, 365 days a year through pressure monitoring by a remote control centre.

iii) **Application, Exhibit H (Record of Consultations – Supporting Documentation), Tab 2, Schedule 6, page 13 of 31.**

Imperial states:

- Our pipelines are monitored around the clock.
- Skilled workers in a dedicated control centre with access to monitoring tools can remotely shut down the pipeline and dispatch local workers to inspect the pipeline.
- Imperial uses protected steel pipe that is coated to safeguard against external corrosion.
- Cathodic protection, a technique that uses low-voltage electric currents to curb corrosion, works with the coating to protect the pipe from external elements.
- The pipe is buried below ground to protect it from damage.
- Valves are strategically placed along the pipeline path to allow sections of the pipeline to be closed off as needed.

- Automated valves can automatically close if they sense an unexpected pressure drop or be remotely controlled by the operations centre.

iv) **Application, Exhibit G (Indigenous Relations) Tab 1, Schedule 1, page 8 of 22.**

Imperial states: "in the unlikely event of a spill, the line will be shut down immediately. We would implement the Emergency Response Plan, evaluate the hazards and risks, protect people, protect waterways and wildlife, protect property, coordinate the emergency response and clean up the site."

Request:

a) Please provide details of the proposed methodology for leak detection.

b) Please provide details of the current guidance provided to Operating Control Centre staff for responding to a possible loss of containment. Please confirm if Imperial follows a 10 minute rule, whereby if Control Operators cannot reconcile their readings and observations within this time period they are empowered to shut down the pipeline.

c) In practice, how quickly can the current line be shut down in an emergency situation? Assuming maximum flow conditions, how much fluid would be released during the reaction time and the time required to close the isolation valves, ignoring any drain down losses.

d) Please provide details of the availability of auxiliary electrical power supply in the event of power loss.

1.5 Valves

Reference:

i) **Imperial Application for Leave to Construct (the "Application"), Exhibit C (Purpose, Need, Proposed Project and Timing), Tab 1, Schedule 1, page 2 of 4.**

Imperial states that infrastructure associated with the new pipeline will include valves and launchers/receivers to launch and receive pipeline inspection tools. Valve design and placement will be in compliance

with TSSA requirements and Canadian Standards Association ("CSA") Z662

ii) **CSA Z662 -15, Clause 4.4.1**

Isolating valves shall be installed for the purpose of isolating the pipeline for maintenance and for response to operating emergencies.

iii) **Clause 4.4 Valve location and spacing**

4.4.4 Except as allowed by Clause 4.4.5, in determining the number and spacing of sectionalizing valves to be installed, if any, the company shall perform an engineering assessment that gives consideration to relevant factors, such as,

a) the nature and amount of service fluid released due to repair and maintenance blowdowns, leaks, or ruptures;

b) the time to blowdown or drain down an isolated section…

iv) **CSA Z662-15, Clause 4.4.9**

For HVP and LVP pipelines, valves shall be installed on both sides of major water crossings and at other locations appropriate for the terrain in order to limit damage from accidental discharge.

Notes:

1) Consideration should be given to the installation of check valves to provide automatic blockage of the pipeline.

2) A major water crossing means a water crossing that in the event of an uncontrolled product release poses a significant risk to the public or the environment

v) **CSA Z662-15, Clause 10.9.6.2**

Pipeline valves that can be necessary during an emergency shall be inspected and partially operated at least once per calendar year, with a maximum interval of 18 months between such inspections and operations.

vi) **CSA Z662-15, Clause 11.26.7 Valves**

Valves shall be inspected and serviced whenever necessary. Valves that, during normal operation, are not opened or closed regularly shall be at least partially operated a minimum of once per calendar year, with a maximum interval of 12 months between operations

vii) **CSA Z662-15, Clause 11.26.8 Control and safety devices**

11.26.8.1 Control and safety devices shall be inspected and tested at least annually to determine that such devices are functioning properly

viii) **CSA Z662-15, Annex N.10.5 Consequence reduction**

The options that may be used to reduce the consequences associated with failure and damage incidents include the following, as applicable:

a) improved methods for early detection of a service fluid release;

b) improved methods for control and shutdown of the supply sources;

c) improved methods to limit the size of a service fluid release (e.g., reduced spacing of block valves or isolating valves, and the use of remotely operated valves);

d) improved methods for recovery and cleanup of liquid releases…

Request:

a) Will shut off or non-return valves be provided on either side of the following watercourses: Berry Creek, West Humber, Main Humber, Emery Creek, Black Creek, Mimico Creek, Elmcrest Creek, and Renforth Creek. If not, please provide the rationale for this.

b) In installing valves within the boundaries of the City of Toronto, is Imperial willing to place shut off valves outside the floodplain and any slope hazards and in areas that do not pose a risk to erosion?

c) Please provide the results of the engineering assessment performed to meet the requirements of CSA Z662-16 Clause 4.4.4 and Clause 4.4.9 referenced above regarding the number and placement of valves.

d) Please specify the planned distance between control valves and the residual volume of liquid that can be expected to spill once the valves are closed if, for example, a break occurs.

2. Financial Assurances

Reference:

i) The *National Energy Board Act* requires federal pipeline operators to maintain a certain level of financial resources after amendments to the statute came into force in 2016 (see for example s. 48.13 of the *National Energy Board Act* and related regulations).

ii) **"Safety and Security of Energy Pipelines in Canada: A Report to Ministers", Energy and Mines Ministers' Conference, August 2014, Annex 3, page 60.**

https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/www/pdf/publications/emmc/14-0177_Pipeline%20Safety_e.pdf.

Under the heading, "Financial capacity requirements", the report states: "Pipeline companies must provide financial assurance demonstrating their capability to respond to leaks and spills under the EPA Part XII.

iii) Cost Impacts of the TransMountain Expansion on Lower Mainland Municipalities, Surrey, Coquitlam, Abbotsford, Burnaby & Township of Langley, pages iv and 5-3.

This report projects an estimated $93 million of additional costs for Lower Mainland municipalities over the next 50 years due to the proposed Transmountain Pipeline and future expected projects.

Request:

a) What assurances can Imperial provide that it has insurance in place and/or funds available to compensate municipalities through which its pipeline travels for any/all losses and expenses, direct or indirect, arising from or related to construction or operation of the proposed pipeline, the deactivated pipeline, and spills, including without limitation containment and remediation costs, costs related to any required evacuation, costs to provide drinking water in the event the municipalities' drinking water is compromised, fines and penalties, and costs arising from any pipeline-related third party claims made against the municipalities?

b) Specifically:

i) Please describe what insurance arrangements Imperial will put in place for its proposed pipeline and deactivated pipeline, including the scope and limit of coverage and deductibles.

ii) Can municipalities and conservation authorities be added as additional insureds? If not, why? What would be the cost to Imperial of adding municipalities and conservation authorities as additional insureds?

iii) Will Imperial's insurance coverage limits be based on individual incidents or apply to the sum of all incidents within its system in the coverage period?

iv) Will Imperial warrant that it will be responsible for any costs or damages, whether arising directly or indirectly from a spill or leak of the proposed pipeline and/or the deactivated pipeline?

v) Will Imperial commit to maintaining insurance with an insurer whose financial rating is satisfactory to the City of Toronto ("Toronto"), and who has a financial rating of at least A.M. Best A- ?

vi) Will Imperial Oil Limited arrange for wrap-up insurance covering its contractors and subcontractors? If yes, please provide details of Imperial Oil Limited's level of risk attention and limits of commercial coverage placed in the market covering contractors and subcontractors?

vii) Does Imperial Oil Limited contractually limit its contractors' and subcontractors' liability for loss or damage caused to the pipeline during construction? Is there a contractual limitation of liability in the event the contractor or subcontractor causes damage or personal injury to third parties?

viii) Please provide copies of Imperial's insurance policies relating to the construction and operation of the existing and proposed pipelines.

c) Is there a risk that costs associated with a large spill will exceed the insurance coverage Imperial has? If so, what other forms of financial assurances can Imperial identify that it has or will have in place for the

duration of the Project and for the duration of the operation of the pipeline to cover costs arising from a possibly large spill?

d) What is Imperial's position on compensation in the event of a pipeline spill not caused by the fault of Imperial?

e) What measures does Imperial have in place to compensate residents, businesses and other third parties in municipalities along the proposed pipeline in the event they need to be evacuated?

f) Is Imperial willing to provide an indemnity to the municipalities through which the pipeline travels, for costs, claims, expenses, *etc*. they incur as a result of the proposed pipeline or the deactivated pipeline?

g) Does Imperial have any policy or repayment program to reimburse municipalities for the expenses incurred during training and/or emergency response related to the construction or operation of the proposed pipeline? If not, is Imperial is willing to reimburse municipalities for these expenses?

h) Please confirm which corporate entity(s) will arrange for the construction of the proposed pipeline, and which corporate entity(s) will own and operate the proposed pipeline and the deactivated pipeline.

i) Is Imperial willing to guarantee the liabilities of its subsidiaries or related companies that own or operate the proposed pipeline and the deactivated pipeline?

j) Is Imperial willing to commit to paying any workaround costs incurred by the Toronto when Toronto conducts work near or over the proposed new pipe or the deactivated pipe?

k) Is Imperial willing to be solely responsible for any relocation that may be required in the future of its proposed new pipe and/or the deactivated pipe, where one or both conflict with Toronto capital projects?

3. Emergency Response

3.1 Information and Coordination for Emergency Preparedness

Reference: i) **Application, Exhibit H (Record of Consultations – Supporting Documentation), Tab 1, Schedule 1, Page 2 of 31, Imperial Internal Rec Number 466.**

Imperial notes that it led participants on a tour of Imperial's emergency response desktop exercise related to a simulated release from pipeline in the Humber River.

ii) **Application, Exhibit H (Record of Consultations – Supporting Documentation), Tab 1, Schedule 1, Page 3 of 31, Imperial Internal Rec Number 731.**

Imperial refers to a 3 day large-scale response exercise.

iii) **Application, Exhibit H (Record of Consultations – Supporting Documentation), Tab 1, Schedule 4, page 58 of 128, letter (dated July 25, 2018) from TRCA to Imperial.**

TRCA, as part of its list of major concerns and requirements related to pipeline projects, writes as follows:

> 7. Development of a watershed-based spills response plan that articulates the impact of a refined fuel product spill on the environment and watercourses, scenario modelling of spill plume under a variety of hydraulic conditions, identification of storm sewers that have direct connections to watercourses and valleys, identification of emergency access points for spill cleanup, identification of storage and staging areas for spill cleanup, timely notification of emergency response and regulatory agencies, timely containment of spills, methods of identifying ecological impacts and restoration strategies among others…."
>
> 8. Location of an Emergency Spills Response Team within the Greater Toronto Area that is equipped to deal with a fuel spill in Lake Ontario.

9. Emergency response exercises that include lake-based and wet and severe weather scenarios.

10. Appropriate location of automated shut off valves.

iv) **Imperial Environmental Report ("ER"), Table 5.4-8 (Potential Effect, Key Mitigation Measure and Net Effects of Contamination), p. 5-34**.

Under the heading "Key Mitigation Measures", it states as follows:

a) A Spill Prevention and Response Plan will be developed and implemented for the Project to guide the prevention of spill and response to spills during the Project construction.

b) Imperial's Emergency Response Plan will be implemented to guide the [*sic*] in response to the unlikely event of a pipeline lead/failure during Project operation.

v) **CSA Z662 -15, excerpts from Clause 10:**

10.4.3.1 Records shall be maintained to assist in the development of procedures for use during pipeline emergencies. Such records shall include

a) a list of agencies to be contacted during an emergency;

b) the names and phone numbers of key personnel; and

c) the location and description of major repair equipment.

10.5.2.4 Operating companies shall have verifiable capability to respond to an emergency in accordance with their emergency procedures and response plans and shall demonstrate and document the effectiveness of such procedures and plans. Note: *Operating companies should maintain materials, equipment, and spare parts in adequate quantities and at suitable locations for use in emergency repairs.*

Request:

a) Please provide the following:

i) Detailed maps, including GIS maps, of the pipelines including the exact locations, the depth at which the pipelines are buried and/or height above ground surface. If any of this information or documentation is confidential, please provide on a confidential basis.

ii) Information and locations regarding the control valves and stations planned for the proposed pipeline as well as details on how they are remotely operated, including options should there be a power failure. Include information regarding the redundancy that is built into the system and accessible to Toronto Fire Services. If any of this information or documentation is confidential, please provide on a confidential basis.

iii) Information regarding experts Imperial can make available to emergency responders in the event of a spill or other emergency, including their response time. Please confirm whether response times are based on modelling that was undertaken to plan for worst-case scenario, including extreme weather events.

iv) The location, types, and quantity of spill control equipment/resources that are available to mitigate a worst case spill.

v) The location of catch basins within the entire spill zone(s) included in all mapping.

vi) Particulars for Imperial's spill response team, including its location and response time, and how information on local sensitive habitats and data (e.g. hydraulics, floodplain, aquatic and terrestrial) is effectively provided to the response team.

vii) Confirmation of whether Imperial Oil is a member of a spill response consortium.

b) Is Imperial prepared to provide, at its sole cost, training (both table-top and real time exercises) to Toronto staff, and training to TRCA staff.

c) Please confirm whether Imperial is prepared to provide, at its sole cost, retraining of Toronto staff (including Toronto Water and Fire Services staff) when changes are made to its Spill Prevention and Response Plans

and Emergency Response Plans, and when changes are made to the equipment to be used in response to spills.

d) Is Imperial prepared to commit to sending a Technical Specialist to Toronto's Emergency Operations Centre ("EOC") upon request by the EOC Director/EOC Liaison Officer in the event of an incident arising from the proposed pipeline or the decommissioned pipeline to assist in the coordination of the Toronto's response to the incident?

e) If Imperial is prepared to make the commitment under (D) above, will Imperial pre-identify the Technical Specialists who could attend the EOC upon request by the EOC Director/EOC Liaison Officer, and update this information on a regular basis?

f) Will Imperial commit to providing a communications staff person/public information officer, upon request by the EOC Director/EOC Liaison Officer, to assist in public communications coordination in the event of a pipeline incident?

g) Is Imperial agreeable to meeting annually with staff in the Toronto's Office of Emergency Management and other appropriate Toronto staff to review Toronto's emergency plans with a focus on Imperial infrastructure and emergency management?

h) Will Imperial commit to sharing details of, and inviting Toronto emergency staff to observe and/or participate in, its pipeline-related training exercises?

i) Will Imperial commit to maintaining for the Toronto's Office of Emergency Management a direct contact line, 24 hours a day, 7 days a week contact line to enable immediate contact with Imperial emergency management staff, should the need arise?

j) Were reports prepared for the table top exercise (see reference (i) above) and 3 day large-scale response exercise (see reference (ii) above)? If so, please provide copies.

3.2 Spill Prevention and Response Plan and Emergency Response Plan

Reference: i) **ER, Table 5.4-8 (Potential Effect, Key Mitigation Measure and Net Effects of Contamination), p. 5-34.**

Under the heading "Net Effect", Imperial indicates that "[t]he affected area can vary, dependent on the magnitude of a spill, and management can take days or years."

ii) **ER, Table 5.4-8 (Potential Effect, Key Mitigation Measure and Net Effects of Contamination), p. 5-34**.

Under the heading "Key Mitigation Measures", it states:

a) A Spill Prevention and Response Plan will be developed and implemented for the Project to guide the prevention of spill and response to spills during the Project construction.

b) Imperial's Emergency Response Plan will be implemented to guide the [*sic*] in response to the unlikely event of a pipeline lead/failure during Project operation.

iii) **ER, Appendix B (consultation Key Comment and Response), page 4 of 16.**

TRCA is noted as requiring "the development of a watershed-based spill response plan, in addition to the identification of the location of an Emergency Spill Response Team within the Greater Toronto Area (GTA) that is equipped to deal with a fuel spill in Lake Ontario. TRCA expects emergency response exercises that include lake-based and wet and severe weather scenarios are conducted and appropriate location of automated shut off valves are provided."

iv) **CSA Z662 -15,** Clause 11.26.3 provides as follows:

> **11.26.3.1** Contingency manuals shall include plans to be implemented in the event of system failures, accidents, and other pipeline emergencies and shall include procedures for prompt and expedient remedial action, taking into account the safety of personnel, minimizing property damage, protection of the environment, limitation of discharge from the pipeline, and pollution control measures.
>
> […]

11.26.3.3 Procedures shall cover the notification of all parties involved in the emergency action and liaison with federal, provincial, and local agencies.

11.26.3.4 Plans shall include procedures for operation, shutdown, and start-up during periods of adverse weather.

Request:

a) Does Imperial's Spill Prevention and Response Plan and Emergency Response Plan, for the proposed pipeline, take into account severe weather conditions and include consideration of extreme weather events? If not, is Imperial agreeable to preparing these plans so that they contemplate severe weather conditions (e.g. spill recovery from a frozen waterway) and consider extreme weather events, including anticipated increases in their frequency and/or severity due to climate change?

b) Does Imperial have site specific Spill Prevention and Response Plans and site-specific Emergency Response Plans for stream crossings tailored to the conditions of each crossing, or are they generic?

c) Please provide copies of Imperial's Spill Prevention and Response Plans and Emergency Response Plans, and refer to those parts that address the frequency of table-top exercises and full emergency response exercises (including mobilization of booms at spill points at the mouth of a river and out in Lake Ontario).

d) Will Imperial commit to providing the Toronto and the TRCA with updated Spill Prevention and Response Plans and Emergency Response Plans, as changes are made to these over time?

e) Will contingency manuals prepared in accordance with CSA Clause 11.26.3 include a requirement to consult with Toronto and TRCA staff during the restoration phase of any required clean-up of a spill, leak or other incident?

3.3 Source Water Protection

Reference:

i) **ER, Section 4.2.3 (Groundwater), page 4-7.**

Imperial references the *Clean Water Act*, including local source water protection areas, but does not refer to the LO-PIPE-1 Policy.

ii) **ER, Table 5.4-8 (Potential Effect, Key Mitigation Measure and Net Effects of Contamination), p. 5-34.**

Under the heading "Net Effect", Imperial states that "[t]he affected area can vary, dependent on the magnitude of a spill, and management can take days or years."

iii) **Approved Source Protection Plan: CTC Source Protection Region, Chapter 10, LO-PIPE-1.**

This plan (the "Source Protection Plan") implements recommendations arising out of the Walkerton inquiry. The Walkerton inquiry arose as a result of the contamination of municipal drinking water in Walkerton, Ontario that resulted in 2,300 people becoming ill and seven deaths. In 2015, the Ontario Minister of the Environment and Climate Change approved the Source Protection Plan.

Whole Plan (LO-PIPE-1 Policy contained at page 146 of 249):https://www.ctcswp.ca/app/uploads/2016/03/RPT_20151231_CTC_ApprovedSourceProtectionPlan_fnl_UPDATED_DEC6_2016.pdf.

Chapter 10 Policies:
https://www.ctcswp.ca/app/uploads/2016/03/RPT_20151231_CTC_ASPP_Chapter10_fnl_UPDATED_DEC6_2016.pdf.

iv) **City Council Decision on CTC**

http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2012.PW19.6

Toronto City Council confirmed its endorsement of the policies contained Source Protection Plan, which is intended to protect the City's drinking water sources from threats, including petroleum spills from pipeline failures.

Request:

a) Please confirm whether Imperial's Spill Prevention and Response Plan and Emergency Response Plan for the proposed pipeline are consistent with the policies and procedures set out in the Source Protection Plan in LO-PIPE-1 Policy. Please provide specific references to Imperial's emergency and environmental procedures that demonstrate compliance with the LO-PIPE-1 Policy.

b) Where there are differences between the LO-PIPE-1 Policy and Imperial's Spill Prevention and Response Plan and Emergency Response Plan for the proposed pipeline, please provide a rationale for the difference and explain why it is in Imperial's view acceptable.

c) Where there are differences between the LO-PIPE-1 Policy and Imperial's Spill Prevention and Response Plan and Emergency Response Plan, please confirm whether Imperial will implement all of the policies and procedures in the LO-PIPE-1 Policy of the CTC Source Protection Plan.

d) Please describe how Imperial will test the Contingency Plans and emergency response methods (as these terms are used in the Source Protection Plan) when the proposed pipeline is built to meet the requirements of paragraph (n) of the LO-PIPE-1 Policy.

e) Please provide information on the modelling undertaken or commissioned by Imperial that predicts the product spill extent and magnitude across surface water under different river flow rates. Please provide the results from any drain down analysis undertaken and the fate transport associated with such a release. What is the estimated time it would take for product spilled as a result of a rupture in the proposed pipeline to reach Lake Ontario, including assumptions underlying the estimate?

f) Please provide spill maps for Toronto waterways.

g) Does Imperial agree that although it plans on meeting current standards and using current technologies to mitigate against spills, it is possible that a spill from the proposed pipeline may occur at or near a stream crossing?

4. Project Impacts

4.1 Methods of Construction

Reference: i) **ER, Appendix B, page 3-16.**

Imperial responds to TRCA question on pipeline installation methods by advising, in part, that "Trenchless construction methods were considered for the watercourse and wetland crossings that TRCA identified as environmentally sensitive areas; Berry Creek, West Humber River, Main Humber River, Emery Creek and Black Creek, in the City of Toronto" [emphasis added].

Request:

a) Please confirm whether Imperial intends use trenchless methods for watercourse crossings in Toronto, including Mimico Creek, Elmcrest Creek, and Renforth Creek.

b) Please confirm exactly where Imperial intends to use trenchless versus trenching methods of construction in the City of Toronto, and provide the rationale for this choice.

4.2 Depth of pipeline

Reference: i) **ER, Appendix B (Consultation Key Comment and Response Table), page 9 of 16.**

Imperial writes as follows: "Imperial indicated its pipelines are buried to a depth that meets or exceeds applicable standards and regulations. The pipeline will be at a minimum 1.2 m deep (4 feet) and, in some instances (trenchless methods like road bores, or rail road crossings), be nearly 8 m deep, or more. In case of the Horizontal directional drilling crossings, however, the deepest profile of the pipe could extend below 8 m, depending on the design and bedrock depth."

ii) **The CTC Source Water Protection Policy, LO- PIPE-1, Page 146 of 239.**

The LO-PIPE-1 policy in part provides as follows:

> …the Ministry of the Environment, Parks, and Conservation (MECP) should work with facility owners and provincial…regulators…. to develop, review and recommend necessary improvements to existing…. risk reduction, and Contingency Plans to ensure the following:
>
> […]
>
> i) a review is undertaken on the depth of ground cover over the pipeline at each crossing, including an assessment of erosion and flood risk;
>
> j) that the facility owner provides assurance concerning the integrity of their infrastructure to prevent spills where these could be a significant drinking water threat;
>
> k) that a report on the inspection of the pipeline crossings at each tributary is provided to the Source Protection Authority;
>
> l) that the pipeline design and management practices are in place (including potential additional design and operational best management practices);
>
> m) that any new or expansions or pipeline replacements are constructed to meet current best design criteria…

Request:

a) Is Imperial prepared to commit to constructing the proposed pipeline to a minimum 8 meter depth below each water course so as to ensure an extended design life, before erosion may expose the pipe?

b) Is Imperial willing to monitor, and share with Toronto, bed incision rates in Berry Creek, West Humber, Main Humber, Emery Creek, Black Creek, Mimico Creek, Elmcrest Creek and Renforth Creek?

4.3 Toronto's Sanitary Trunk Sewers & Stormwater Management Facility

Reference:

i) **Application, Exhibit F (Land Matters) Tab 1, Schedule 3, Page 1 of 15, paragraph 19.**

Imperial notes that its Project will cross a number of utilities.

Toronto's sanitary trunk sewers are located in the valley lands, often parallel to the water courses. The depth of Toronto's sanitary trunk sewers needs to be considered in determining the depth of Imperial's proposed pipeline below the following watercourses: Berry Creek, West Humber, Emery Creek, Black Creek, Mimico Creek, Elmcrest Creek and Renforth Creek.

A significantly sized, new stormwater management facility was recently completed in the area of the confluence of Emery Creek with the Humber River in Toronto. A significant portion of the facility is within the corridor in which the proposed new Imperial pipeline will be constructed.

Request:

a) Please describe how the location and depth of Toronto's sanitary trunk sewers will be incorporated into the depth of cover criteria for the proposed Imperial pipeline where it crosses watercourses in the City of Toronto.

b) Please describe how the proposed pipeline would be located and constructed in the vicinity of the Emery Creek stormwater management facility.

c) Please describe what minimum distance separations are planned for all other municipal utilities in the tablelands, i.e. the lands outside of ravines through which the proposed pipeline will travel.

4.4 Municipal Activities, Events & By-laws

Reference:

i) **ER, page 4-32, Section 4.4.5 (Culture, Tourism, and Recreational Facilities).**

Imperial notes that the Project "crosses and is close to several municipal and city parks, golf courses and recreational areas…"

ii) **ER, page 6-4, Section 6.3 (Project Interactions with Current and Foreseeable Projects).**

Imperial indicates that it will continue to monitor the status of other projects and activities. It further states as follows: "If possible, Project construction timing and sequence will be planned to avoid simultaneous construction activities by several parties in the same location."

iii) **ER, page 1-3, Section 1.3.2**.

Imperial writes that "In addition to the LTC, Imperial will obtain a number of additional permits or approvals from federal, provincial or municipal agencies to construct and operate the Project.

Request:

a) What method of construction will be used for the proposed pipeline in Centennial Park and other Toronto lands, including road crossings?

b) Is Imperial willing to coordinate its construction schedule so as to avoid interrupting or interfering with planned events and activities at municipal parks and facilities, including (i) events and activities for which permits have already been issued and (ii) municipally-run allotment gardens (including Stouffel Allotment Garden (near Martin Grove Road and Dixon Road) and Four Winds Allotment Garden (near Keele Street and Finch Avenue West)?

c) Is Imperial prepared to work with Toronto to ensure that construction of the Project does not conflict with any planned capital projects or maintenance activities Toronto anticipates?

d) What method of construction is Imperial planning to use where it passes under or near Stouffel Allotment Garden and Four Winds Allotment Garden?

e) Is Imperial prepared to restore lands used or owned by Toronto to the condition they were in before Imperial used or entered onto the lands to perform Work on the Project?

f) Can Imperial confirm that it will comply with all municipal by-laws (including, without limitation the Toronto Municipal Code Water Supply Chapter and Sewers Chapter), and obtain all required municipal permits from Toronto (including, without limitation, construction dewatering permits)?

4.5 Implications of Not Approving Pipeline

Request:

a) What in Imperial's view are the implications of not approving its proposed pipeline, in terms of pipeline safety, pipeline capacity, and alternative means of transporting petroleum products (along with their associated safety and environmental impacts)?

5. Toronto Transit Commission ("TTC")

Reference: i) **ER, Appendix B (Consultation Key Comment and Response Table), page 12 of 16.**

TTC commented that the proposed route for the Project will be crossing an underground subway tunnel. Imperial responded in part that it will follow up with the contact provided to schedule a meeting to discuss proposed subway crossing and the process and technical requirements involved.

ii) **Application, Exhibit H (Record of Consultation – Support Documents), Tab 3, Schedule 2, page 56 of 64.**

Meeting Summary Notes for a meeting with the TTC held on Friday, December 6, 2018. Summary of Actions states: "Provide IOL's Spill Prevention/Contingency Plans to TTC."

Request:

a) Is Imperial willing to meet the TTC's Technical Review procedure requirements, and abide by all comments and conditions that may be required for the proposed pipeline, which crosses or is in proximity to TTC stations, tunnels or other significant infrastructure?

b) Is Imperial Oil prepared to provide the TTC with a site specific contingency plan where the proposed new pipe is close to any subway station, tunnel and/or LRT infrastructure that the TTC will operate?

6. Easements and other Land Matters

Reference: i) **Application, Exhibit A (General) Tab 1, Schedule 3, Page 3 of 3, paragraph 15.**

Imperial requests that the OEB make an order pursuant to section 97 of the *Ontario Energy Board Act* approving the proposed form of easement agreements found in Exhibit F, Tab 1, Schedules 4 and 5.

ii) **Application, Exhibit F (Land Matters), Tab 1, Schedule 1, Page 1 of 6, Table 1-1.**

Total Parcels Required for the Project. Imperial indicates that there are 114 municipal (public road) requirements in 8 municipalities.

iii) **Application, Exhibit F (Land Matters), Tab 1, Schedule 4, Attachment 1 – Grant of Easement Pipeline (Ontario) Agreement.**

Imperial has provided a draft form of easement.

iv) **Application, Exhibit F (Land Matters), Tab 1, Schedule 5, Attachment 2 – Temporary Workspace Lease Agreement.**

Imperial has provided a draft form of Temporary Workspace Lease Agreement.

v) **ER, page 2-6.**

Imperial states that new easements will be required on a limited number of private lands and Imperial will be working directly with affected landowners to obtain these agreements.

Request:

a) Please provide a map showing the exact parcels of land owned by Toronto, or which Toronto has an interest, on which Imperial intends to install the proposed pipeline.

b) Please provide a map showing the exact parcels of land owned by Toronto, or which Toronto has an interest, for which Imperial requires

temporary access or temporary use for planning or constructing the proposed pipeline.

c) Please confirm whether Imperial is willing to use Toronto's standard forms of agreements for temporary access or temporary use of Toronto lands for the proposed pipeline.

d) Please confirm whether Imperial is willing to use Toronto's standard forms for easements for permanent installations on City lands that are not part of the public highway.

e) Please confirm whether Imperial is willing to use Toronto's standard form Confirmation and Acknowledgement Agreement for any work for the Project on lands on which the City has an easement interest;

f) Please confirm whether Imperial is willing to pay fair market value for access and use of any Toronto lands;

g) Please confirm whether Imperial will commit to occupying and working on Toronto's public highways in accordance with all by-laws governing public highways including obtaining any necessary permits under Chapter 743 of the Toronto Municipal Code, and complying to all requirements of this Chapter and any permits issued thereunder.