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**Enbridge Gas Inc.**
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**VIA EMAIL and RESS**

September 15, 2020

Ms. Christine Long
Board Secretary
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4

**Re: EB-2020-0160 Enbridge Gas Inc. ("Enbridge Gas")**
**Windsor Line Replacement Project – Section 101 Application**
**Responses to Information Requests - Decision and Order on Environmental Defence Motion**

In accordance with the Decision and Order on the Environmental Defence Motion dated September 9, 2020, enclosed please find Enbridge Gas's responses to the Information Requests set out in Appendix A.

Please contact the undersigned if you have any questions.

Yours truly,

(Original Digitally Signed)

Rakesh Torul
Technical Manager,
Regulatory Applications

cc: Scott Stoll, Aird and Berlis LLP
EB-2020-0160 Intervenors

ENBRIDGE GAS INC.

Answer to Information Request in the Decision and Order on Environmental Defence motion

Reference:

Enbridge Gas submission on Environmental Defence Motion, para. 4-6, pages 2,3

Question**:**

Abandonment costs:

Please explain why Enbridge Gas would incur $3.9M costs associated with decommissioning and abandonment of the existing pipeline if the OEB ordered the removal of the existing pipeline.

Response:

In the Leave to Construct application (EB-2019-0172), Exhibit B, Tab 1, Schedule 5, page 3, paragraph 11, Enbridge Gas noted that abandonment activities would continue into 2021 and also at Exhibit C, Tab 3, Schedule 1, page 18, the removal of the Grand Marais Station was noted. The construction costs of $3.9 million in the Leave to Construct application are based on the abandonment in place of the line and the removal of the line within private easements. The costs are based on the proposed scope of the project using methods to comply with internal construction and maintenance manual which include sectionalizing abandoned pipe every 450m and grouting stream crossings to prevent the pipeline from becoming a conduit for water as well as grouting road crossings to prevent settlement from above. The abandonment in place of the pipe is the standard Enbridge Gas practice and it is authorized within the Company's 1957 Road User Agreement with the County of Essex and the existing Model Franchise Agreement.

Costs identified in this Application for all additional requirements for full removal are incremental to the assumption of the previous $3.9M in the original LTC.

ENBRIDGE GAS INC.

Answer to Information Request in the Decision and Order on Environmental Defence motion

Reference:

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Question**:**

Removal costs:

1. How were the removal costs of $5.875M calculated? Were any comparisons made to the costs of other pipeline removals?
2. How does Enbridge Gas expect the removal costs would be collected from ratepayers if the OEB orders the removal of the existing pipeline?

Response:

1. Construction costs were calculated using a unit price model for removal of the pipe, temporary land use, and environmental assessments to remove and dispose of added pipeline in ROW, repair damages to customer properties through restoration and remediation for premises based upon the present conditions. A breakdown of the costs is provided in Table 1 below.

   The existing landscape, vegetation and vintage of the pipeline, and remediation all contribute to the costs associated with the removal of the NPS 10 pipeline. These factors are explained in detail below. The County of Essex requested full removal of an NPS10 mechanically coupled line. This pipeline was installed in varying decades from the late 1930's to the 1960's and the work required to complete the removal would result in significant disruption to properties and dwellings that are in the ROW corridor. Additionally, the existing pipeline is located near the edge of right-of-way and in close proximity to numerous large trees, fences and hydro poles.

   The area currently occupied by the NPS10 is often directly adjacent or under decades old trees, fences and or aligned exactly 1m from the Hydro Poles. In preparing the estimate, costs are assumed to comply with County of Essex replacement fee of $500 per tree removed as there is no feasible way to remove a mechanically coupled pipeline without proactively removing hundreds of established vegetation and trees. Hydro One pole hold cost estimates were included in the

incremental costs. Hydro One requires support to be present when located within 1m of poles.

In absence of a controlled excavation to cut and plug every 450m, this full removal request would require excavation over top of the entire length of approximately 30km to disconnect the mechanical couplings and lift each of the 6.1m lengths of pipe from the ROW travelling across the front of land owner homes and commercial properties.

Full removal cannot be achieved without acquiring temporary land use agreements as the existing NPS10 is often within 1m of the property lines. Excavation equipment to remove the NPS10 fully as above would incur damage to private properties across hundreds of locations.

There will be significant remediation and restoration over a 2-year period in a full removal of an NPS10 regardless of depth due to the long-time established areas of fencing, trees, landscaping and driveways that will be impacted. Generally, construction projects assume a 2-year return to remediate soil settling, landscaping and general running line clean up with individual landowners.

Construction methods to remove a mechanically coupled line were attempted to be compared to other projects but there were no distribution projects of similar nature to compare actual costs. For example, removal of short sections of pipelines for the accommodation of a culvert/road infrastructure often involve a physical conflict with the existing pipeline and have no remediation, limited additional excavation or permitting costs. Those comparators are not useful to the present situation.

Also, it is difficult to compare this cost to other pipeline removals as the Windsor Line Replacement is of significant length with mechanical fittings. Abandonments of welded pipe that can be 'pulled' to remove and additional subsoil and topsoil added and seeding activities simplify costs and process. Pulling or efficiently removing of this line would leave fittings and materials stranded in random locations on both public and private property.

Table 1

| | Total for entire length of pipeline | | |
|---|---|---|---|
| | LTC Filing[a] | 101 Filing[b] | Total costs[c] |
| General Construction | 3,900,000 | 3,500,000 | 7,400,000 |
| Lands TLU | - | 1,100,000 | 1,100,000 |
| Environmental and Archaeology | - | 800,000 | 800,000 |
| Hydro Pole Support | - | 255,000 | 255,000 |
| Tree Clearing | - | 225,000 | 225,000 |
| Total cost | 3,900,000 | 5,880,000 | 9,780,000 |

a - Cost included in LTC to abandon & section NPS 10 per original scope to cut and cap per our C&M practices
b - Incremental cost $5.8M to project if the OEB ordered the removal of entire pipe on the West end
c -Total abandonment cost should OEB order removal of pipe on the west end.

2. In accordance with the Uniform System of Accounts for Class A Gas Utilities, gas utilities in Ontario recover (and ratepayers pay for) the net salvage cost (or abandonment cost, or cost to retire) of a pipeline through the depreciation charged on the pipeline over its life. Depreciation allocates the service value of the plant asset over its estimated life in a systematic and rational manner. The service value of the plant, for depreciation purposes, shall be its cost less its estimated net salvage value. Net salvage value means the salvage value less removal costs. In cases where removal costs exceed salvage value, the net salvage value will be negative. Whether pipeline abandonment is through removal or via being left in place, recovery is the same, but the quantum of the net salvage value to be recovered is impacted.

   Consistent with the above guidance, Enbridge Gas has collected/recovered a provision for the costs to retire the NPS 10 steel main as part of depreciation expense recovered in rates over the life of the asset. The accounting offset to depreciation expense is accumulated depreciation (note: for financial reporting purposes, Enbridge Gas reclasses its outstanding provision for net salvage / abandonment / costs of retirement from accumulated depreciation to a regulatory liability). If, as requested by the County of Essex, Enbridge Gas is required to incur the incremental costs to remove the NPS 10 steel main, as opposed to abandoning it in place, the costs will be charged/debited to accumulated depreciation (offsetting the provision that accumulated as part of accumulated depreciation over the life of the asset) consistent with the treatment of costs that would have been incurred to abandon the pipe in place. To the extent that the actual retirement / abandonment cost exceeds the provision/amount recovered over the life of the asset, it will either be offset by lower costs incurred to retire other assets in the steel mains pool, or it will be recovered through subsequent depreciation charged on assets in the steel mains pool (i.e. the depreciation rate on steel mains may need to be increased prospectively, through a depreciation study, to reflect and or compensate for a new higher actual average cost to retire mains, than the current depreciation rate provides for).

ENBRIDGE GAS INC.

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Question**:**

Coverage costs:

Please provide a breakdown of additional costs to accommodate coverage depth of 1.2 metres. Please include an explanation on how the estimates were derived.

Response:

The cost to accommodate coverage depth of 1.2 meters up to 1.5 metres are the same as all safety and construction compliance requirements are identical. Construction requirements, equipment updates and reasons for reduced efficiency are outlined below for depths at 1.2m and greater.

Ontario workers are not permitted to enter an unprotected trench deeper than 1.2 meters (4 feet). Workers are also not permitted to enter trenches at this depth without testing the air for hazardous gasses and vapors, or the lack of oxygen for personal safety and asphyxiation risks. There are two types of methods to utilize in protection of workers at any depth of 1.2m or greater to protect from cave-ins. The first is sloping which requires expanding and cutting back at an angle that is inclined away from the work area and the length is dependent upon the type of soils encountered. Second method is to introduce temporary protective structures (shoring, trench boxes, prefabricated support systems, hydraulic or specifically engineered systems).

Shoring methods include systems that support sides and walls and requires installing aluminum, steel or wood panels. Some shoring can be installed as the excavation progresses but slows the entire construction process which Enbridge Gas has estimated will be the most highly utilized causing increased costs and diminished productivity.

Trench boxes are commonly used in open areas away from utilities, roadways and foundations. Given existing utilities within a few meters coupled with a lack of willingness for approval of lane closures, trench boxes will be a limited option.

Please see table in Attachment 1 for a comparison of originally intended .75m in the Leave to Construct application to the proposed 1.0m to 1.5m**.**

| .75m Typical Depth | 1m Proposed Depth | 1.2m Proposed Depth | 1.5m Proposed Depth |
|---|---|---|---|
| Typical Traffic Plan | Typical Traffic Plan with Enhancements to Tie In Areas | Detailed Traffic Plan to accommodate unique requirements. Lane closures mandatory for worker safety. | |
| Prepare Project Emergency Plan | Prepare Project Emergency Plan | Prepare Project Emergency Plan | |
| Small to Mid Excavators to construct generally in available ROW gravelled and grassed portions. | Small to Mid Excavators to construct generally in available ROW gravelled and grassed portions. | Evaluate available space to construct at this depth in ROW without added temporary land use agreements. | |
| Backhoe and Sideboom for Installation | Backhoe and Sideboom for Installation | Backhoe and Sideboom for Installations where practical | |
| Mid size trenching and HDD equipment utilized for standard distribution construction | Mid size trenching and HDD equipment utilized for standard distribution construction | Mid size trenching and HDD equipment provide limited value in populated areas | |
| | Mid/Large Excavators requierd for general construciton to trench and support shoring | Mid/Large Excavators required for general construction to trench and support shoring protection | |
| | Tie in locations would require trenching and shoring considerations as 1m depth plus welding areas would bring into the 1.2m proposed depth requirements. | Increased areas of work in required to keep workers safe to construct mainline, pressure test and complete customer attachments. May not be available without significant excavations in municipal drainage areas, roadways, privately owned lands or road crossings. | |
| | For any occasions where tie in locations are 1.2m or greater please see additional requirements | Increased areas of work required for compliance as equipment, spill piles, tools or any materials cannot be within 1m of trench edge on either side. Limited running line availability this will be difficult to achieve for worker safety. | |
| | | Increasing use of HDD will require min of 150m lengths of ROW to string out and weld pipe in days prior to installations. Impractical in densely populated areas as lengths insufficient to drill or neccessitate homeowner restrictions of access for lengths of time. These often revert back to open trenching for efficient stringing, welding and installation methods with minimal disruptions to adjascent residents, traffic etc. | |
| | | Create Rescue Procedures for Worker Retrievals for all excavations. | |
| | | Continous air quality monitoring to ensure workers have sufficient oxygen, free of gases or vapors with monitor agent. | |
| | | Ensure safe means of entry/exit sufficient length with secured ladder at apropriate distances (must be within 25ft of all workers) | |
| | | Additional cost for extraneous hauling of soils from excavations and trenches for compliance to 1m restriction. Haulage off and return to site for native replacement of soils difficult to manage with environmental compliance. Excavation soils are intended to be returned to native locations which will be difficult to prevent mixing. | |
| | | Increased Labor Support for any trenchbox utilizations (Min 2 per excavation throughout schedule) | |
| | | Protection methods required for connecting approximately 200 residential distribution services. Mainline to be pressure tested and commissioned prior to service attachments. | |
| | | Construct Supports in all excavations for utilities exposed to attempt minimized plant damage (anticipate significant work as 1.2-1.5m places our new construction at the same depth as water lines) | |
| | | Proper bariers and guardrails in place to protect items from falling into trench | |
| | | High likelihood of soil movement based on soil types from adjascent work areas, daily inspections for water seepage and continuous pump installations during execution of work. | |