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VIA EMAIL, RESS and COURIER

February 24, 2020

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

**Re: EB-2019-0172 Enbridge Gas Inc. (“Enbridge Gas”)
Windsor Line Replacement Project – Reply Submission**

Dear Ms. Long:

In accordance with Procedural Order No.5 dated January 15, 2020, enclosed is Enbridge Gas' Reply Submission in the above noted proceeding.

Please contact the undersigned if you have any questions.

Yours truly,

(Original Signed)

Rakesh Torul
Technical Manager,
Regulatory Applications

cc: Guri Pannu, Sr. Legal Counsel
EB-2019-0172 Intervenors

ONTARIO ENERGY BOARD

IN THE MATTER OF The Ontario Energy Board Act, 1998, S.O. 1998, c.15, Schedule B, and in particular, S.90.(1) and S.97 thereof;

AND IN THE MATTER OF an Application by Enbridge Gas Inc. for an Order granting leave to construct natural gas pipelines and ancillary facilities in the Municipality of Chatham-Kent and County of Essex.

ENBRIGDE GAS INC.'s REPLY

1. In accordance with Procedural Order No. 5, this is the Reply submission of Enbridge Gas Inc. (“Enbridge Gas”) to the submissions of Ontario Energy Board Staff (“OEB Staff” or “Board Staff”), Federation of Rental Housing Providers of Ontario (“FRPO”) and Energy Probe Research Foundation (“EP”).
2. Enbridge Gas is applying for a leave to construct a natural gas pipeline in the Municipality of Chatham Kent and the County of Essex (the “Project”). The Project is driven by a significant number of integrity concerns on the incumbent pipeline and requires the replacement of 64 kilometers of existing NPS 8/NPS 10 pipeline with an NPS 6 pipeline. If the line is not replaced, the safety and security of supply for the pipeline may become compromised.
3. Enbridge Gas has requested the following orders from the Ontario Energy Board (“OEB”).
 - (a) Pursuant to Section 90 (1) of the Ontario Energy Board Act (“the Act”), granting Leave to Construct approximately 64 kilometres of NPS 6 pipeline and ancillary facilities and
 - (b) Pursuant to Section 97 of the Act, granting approval of the form of easement agreements as referenced in evidence at Exhibit B, Tab 1, Schedule 7.

Overview

4. Section 96 of the OEB Act provides that the OEB shall make an order granting leave to construct if the OEB finds that “the construction, expansion or reinforcement of the proposed work is in the public interest”. When determining whether a project is in the public interest, the OEB typically examines the need for the project; the project cost and economics; the environmental impacts; impacts on landowners; and Indigenous consultation.
5. OEB Staff generally supports Enbridge Gas’s Application and EP and FRPO did not challenge the Application in relation to the environmental impacts, impacts to landowners, and indigenous consultation and project costs and economics¹. Enbridge Gas has also acknowledged that it agrees to the draft conditions of approval proposed by the OEB with exception that Enbridge Gas commence construction immediately upon receipt rather than wait for the 10-day OEB notice period.
6. In regard to environmental impacts OEB Staff expressed “no concerns with the environmental aspects of the Project, given that Enbridge Gas is committed to implementing the proposed mitigation measures”.² Neither FRPO nor EP expressed any concerns with any environmental impacts.
7. Enbridge Gas has followed both the OEB and the Ministry of Energy Northern Development and Mines (“MENDM”) processes in relation to Indigenous consultation. On January 20, 2020, Enbridge Gas received a letter from the MENDM advising that its consultation activities were sufficient. OEB Staff accepted that the procedural aspects of the duty to consult for the Project are sufficient³.
8. As stated in the Application, the Project will be located entirely within existing municipal road allowances. OEB Staff, FRPO and EP did not express any concerns with the

¹ There was no economic analysis completed for the Project as need was driven by integrity concerns. The OEB has accepted this rationale in previous Projects

² OEB Staff Submissions Pg 10.

³ OEB Staff Submissions Pg 11.

proposed land use. Additionally, OEB Staff has not expressed any concern regarding the form of the Temporary Land Use Agreements.

Integrity and NPS 6 Pipe Size

9. The balance of Enbridge Gas's submission will focus on the Project need and the importance of replacing the existing pipeline from an NPS 8/10 with an NPS 6.
10. EP's submission was that Enbridge Gas provided very little evidence of integrity concerns. FRPO did not make any specific submission regarding integrity and instead relied on the submissions of EP. In Enbridge Gas's Application and pre-filed evidence, interrogatories and at the Technical Conference, through testimony and Undertaking responses, Enbridge Gas highlighted a number of integrity concerns that underpin the need for the replacement line. The Windsor Line was deemed a high operational risk in April 2017 to Enbridge Gas Senior Management.⁴ Enbridge Gas provided that a failure to address the concerns would pose a risk to the safety and security of the pipeline.⁵ The main concerns with the pipeline are related to age, leaks, weldability, and depth of cover.
11. A large portion of the pipeline was installed from the 1930's to the 1950's and accordingly there are sections of the pipeline that are between 70 to 90 years old. In the Sudbury Line Replacement Project, the OEB in its leave to construct decision acknowledged that age was a consideration that justified the need for the project in addition to multiple integrity concerns.⁶ At the Technical Conference for the Windsor Line Replacement Project, Enbridge Gas witnesses expressed that the Windsor Line was near its end of life:

MR. PIERCEY: So this pipeline is anywhere from seventy to ninety years old. The corrosion and damage has already been done to this pipeline. Current levels of cathodic protection, like I said, are good. But again, they do not represent the fact that the pipeline is at end of life.⁷

⁴ See Exhibit I.STAFF,2 part a)

⁵ Enbridge Gas Application

⁶ EB-2017-0180 Decision Pg 6.

⁷ Transcript of Technical Conference Pg 84.

12. The Enbridge Gas report that was filed in evidence also details the operational risks to senior management:

*The age and condition of the existing Windsor Line has led to numerous outages and unplanned repairs. There is a section of 20 km that has been identified as an elevated risk. Left as is outages and unplanned repairs will continue on this section.*⁸

13. The following is a summary of the main integrity issues that impact the Windsor Line:

i) Leaks

There is a history of leaks on the Windsor Line with significant costs to repair. As indicated in Exhibit I.STAFF.2, the most recent leak survey in July 2019 confirmed that there are currently 24 active leaks and 3 inoperable mainline valves. In response to Undertakings from EP, Enbridge Gas illustrated the pattern of increasing leaks from 2017 (20 leaks) to 2019 (34 leaks).⁹

ii) Depth of Cover/Damage

The Windsor Line also has sections that have poor depth of cover with less than 0.6 metre that can pose a safety and security of supply risk if not addressed. The most recent depth of cover survey identified approximately 19 kilometres of pipe at a depth of cover of less than 0.6 metre¹⁰. A total of 23 locations were identified and exposed pipe illustrating that the depth of cover issues are not concentrated to a specific section of pipe as EP had erroneously implied in its submissions.

Enbridge Gas estimates that the incremental cost of addressing the depth of cover issues ranges from \$10 to \$18 million.¹¹

⁸ Undertakings, Exhibit JT1.17

⁹ Undertakings, Exhibit JT1.19

¹⁰ Exhibit I.STAFF.2

¹¹ Undertakings, Exhibit JT1.18

iii) Weldability

All joints prior to the 2000s were made with unrestrained mechanical couplings and portions of the older vintage pipe are not weldable.

iv) Service Interruptions/Inoperable Valves

As noted above, there are 3 inoperable mainline valves on the Windsor Line. If the pipeline had to be isolated, this will result in significant customer outages. As stated at Exhibit I.STAFF.4, the Project also includes a total of 399 service connections off the Windsor Line.

14. Enbridge Gas also summarized the costs for maintaining the Windsor Line for the leak repairs from 2017 and estimated the repair costs from 2020 to 2022 as follows¹²:

	2017	2018	2019	2020	2021	2022
Total	\$203,085	\$169,185	\$250,485	\$381,000	\$685,000	\$857,000

15. Enbridge Gas submits there is evidence throughout the record regarding integrity issues and corresponding evidence reflecting the increased costs to repair the line and an increase in the deterioration of the line (depth of cover, and leaks). OEB Staff in its submissions did not express any concern regarding the integrity evidence provided by Enbridge Gas:

Based on the evidence filed by Enbridge Gas, OEB staff submits that the need for the replacement is supported by the integrity concerns identified and the age of the pipeline.

Pipe Sizing (NPS 6 vs NPS 4/6)

16. OEB Staff and FRPO have supported the use of an NPS 4 and NPS 6 option (“Hybrid Option”) for the eastern section of the pipeline but not the proposed NPS 6 option. As

¹² Undertakings Exhibit J1.18

stated in its Application, Enbridge Gas has requested for an NPS 6 pipeline to be used to replace the existing NPS 8 and NPS 10 pipeline. One benefit, that was not accepted by OEB Staff and FRPO is that the proposed NPS 6 pipeline provides the same capacity as the existing pipeline.¹³ In addition to maintaining a “like-for-like” comparison from a capacity perspective, the advantage of using the NPS 6 pipeline is the ability to meet the increasing unforecasted demand that Enbridge Gas has been receiving from greenhouse customers within the general area of the Project. Enbridge Gas expressed in its interrogatory responses and in its Argument-in-Chief that the Hybrid Option would not be able to meet this unforecasted demand.¹⁴

Approximately 40% of the pipeline would need to be installed as NPS 6. This solution would result in no capacity being available to any unforecasted commercial or industrial customers or for any customers who are outside the scope of the FBP.

17. At the Technical Conference and in its Undertaking responses, Enbridge Gas provided evidence of the four customer requests that it has received east of Comber and in the surrounding Port Alma area. The load requests provided by customers have capacity requirements of 2,600 m³/hour, 2,250 m³/hour, 1,800 m³/hour and 1,350 m³/hour for a total capacity of 8,000 m³/hour.¹⁵ FRPO in its reply submissions was critical of these loads citing that FRPO could not determine if the loads were from single customers, if the inquiries were current, and suggested that the interconnecting lines could potentially serve the customer requests.¹⁶
18. To help provide further information on the nature of the customer inquires, Enbridge Gas provided redacted customer inquires as part of its responses to FRPO’s interrogatories in the EB-2019-0194 2020 Rates proceeding¹⁷. On February 4, 2020 Enbridge Gas received a fifth customer inquiry requesting a load of 2,750 m³/hour. The customer inquires are all current and they are from five separate customers. Additionally, of the five inquiries,

¹³ Enbridge Gas Application Exhibit B, Tab 1, Schedule 2 Pg 2.

¹⁴ EB-2019-0172 Exhibit I.FRPO.15

¹⁵ Undertakings JT1.15

¹⁶ FRPO Submissions Pg 6

¹⁷ EB-2019-0194, Exhibit I.FRPO.25

Customer B, which requested a capacity of 2,600 m³/hour was installed on the Leamington Line that interconnects into Port Alma. Although the installation was not directly on the Windsor Line, the result of the load addition further restricts the ability of the interconnecting lines to service the customer requests. Enbridge Gas acknowledges OEB Staff's concern that not all these potential loads may proceed; however, Enbridge Gas also notes that many of these requests were received in the last two years and are expected to continue in the future. For example, the Windsor-Essex Economic Development Corporation indicated that based on current growth rate, they forecast that the greenhouse sector in its region "could see greenhouse acreage expand beyond 3,500 acres within the next 5 years".¹⁸

19. The point of the unforecasted demand is that as Enbridge Gas continues to receive these customer requests, the Hybrid Option is not the best alternative to serving these customer requests. If the unforecasted demand is added, the NPS 4 may not be able to meet the future demands that the NPS 6 could provide. For example, if the 2020 customer request were to proceed with the Hybrid Option half the surplus capacity on the Windsor Line would be removed:

A large load of 2,750 m³/hr to the system south of Port Alma would currently cause reinforcement without the Windsor Line replacement at the 3450 kPa MOP. With the Windsor Line replacement, additional pressure and flow through Port Alma station would currently remove reinforcement for this customer. If the NPS 4 option is installed east of Comber Transmission, approximately half the surplus capacity on the Windsor Line would be removed at Port Alma with this load addition. If the recommended option of NPS 6 is installed, several additional large customers can likely be attached and supported by the Windsor Line and flow through the Port Alma Station without significant reinforcement downstream. In other words, the other pipelines in the area cannot readily support large customers any further at this time without reinforcement, and the Windsor Line replacement will support growth in the area through Port Alma Station.

Knowing that the Windsor Line must be replaced due to the Integrity concerns and the age of the pipeline, it is both efficient and prudent to maintain the existing capacity of the Windsor Line to support

¹⁸ Exhibit C, Tab 1, Schedule 2, Pg 3 of 6

*unforecasted growth in the Port Alma area and defer potential reinforcements that may be required due to unforecasted growth.*¹⁹

20. In addition to the limitations of meeting the unforecasted demand, Enbridge Gas also expressed the operational restrictions that the NPS 4 provides:

*Downsizing any portion of the Project to NPS 4 will limit future growth potential, including any unanticipated future growth as a portion of NPS 4 will be a bottleneck on the system. It is also inefficient and imprudent to downsize any portion of a pipe that is capable of flow in both directions for emergency and/or maintenance related events.*²⁰

Also similar to the Sudbury Line Replacement in EB-2017-0180, Union Gas had stated that the operational efficiency is improved when the pipeline is a single diameter as opposed to dual diameter:

*The fact that the pipeline is dual diameter (NPS 10/NPS 12) makes the maintenance and inspection of the pipeline significantly more difficult and limits the tools that are available to properly complete the required inspections. The net result is that the cost to maintain and operate this pipeline is very expensive and is expected to escalate over time.*²¹

This operational flexibility was further addressed in response to a series of pre-Technical Conference questions submitted by FRPO (Exhibit KT1.3 and KT1.6). It was also addressed in response to Undertaking JT1.3 where Enbridge Gas once again confirmed that any inclusion of NPS 4 and NPS 2 piping will restrict capacity for future unforecasted growth, as well as operational and emergency flexibility.

21. Enbridge Gas respectfully submits the NPS 6 is the more prudent option because it supports the economic growth in the Windsor-Essex area, provides more flexibility for emergency response, and it will allow Enbridge Gas to meet the increasing demands sought by the greenhouse industry. Enbridge Gas has previously expressed that proceeding with an NPS 4 would result in future reinforcements of the interconnecting

¹⁹ EB-2019-0194, Exhibit I.FRPO.25 c)

²⁰ Enbridge Gas letter dated November 14, 2019

²¹ EB-2017-0180 pre-filed evidence, page 4 of 20

lines that already have a diminished capacity given the installation of the customer in 2019. As stated at Exhibit KT1.6;

If an NPS 4 and NPS 6 combined alternative is installed instead of the Proposed Project, this will reduce the pressure and flows available on the newly replaced pipeline. It will also reduce the ability to provide a backfeed to other systems for both operational and emergency scenarios in the area. In addition, future growth on the Windsor Line system will require reinforcement sooner than if all NPS 6 was installed.

22. From a design perspective it is more efficient to proceed with the NPS 6 today particularly when considered against the incremental costs for creating the surplus capacity of an NPS 6 vs the Hybrid Option.

Costs of NPS 6 vs Hybrid Option

23. Enbridge Gas was asked by FRPO at the Technical Conference to compare the cost difference between the NPS 6 and the Hybrid Option. Enbridge Gas stated the differential to be \$800,000.²² Enbridge Gas had explained the difference between the costs was minimal as both the labor and materials costs do not change significantly. The following is a list of factors to help illustrate this point:

Construction costs for NPS 4 and NPS 6 are similar given conditions remain the same on the East of Comber.

- East from Comber to Port Alma is the simplest from an execution perspective with 87% residential customers between West end and Comber station versus 13% to the East of Comber
- Service connection work remains unchanged to either NPS 4 or NPS 6.

24. In drafting the Reply, Enbridge Gas uncovered an error that FRPO made for calculating the cost difference between the materials for the NPS 4 and NPS 6 that OEB Staff may also have relied on.

²² Exhibit KT 1.6

In FRPO's reply and request for Oral Hearing, it stated that the \$800,000 difference defied logic and was too small. FRPO provided that the difference in material costs between the NPS 6 and NPS 4 was \$4.5 million based on calculating the unit costs as follows:

$$\text{NPS 6 } \$50/\text{m} \times 32,200\text{m} = \$16.1\text{M}$$

$$\text{NPS 4 } \$36/\text{m} \times 32,200\text{m} = \$11.6\text{M}$$

$$\text{DIFFERENTIAL} = \$4.5\text{M (not including up-size of all fittings beyond pipe)}^{23}$$

The above calculation is incorrect and grossly overstated. The correct calculation is as follows:

$$\text{NPS 6 } \$50/\text{m} \times 32,200\text{m} = \$1.61\text{M}$$

$$\text{NPS 4 } \$36/\text{m} \times 32,200\text{m} = \$1.16\text{M}$$

$$\text{DIFFERENTIAL} = \$0.45\text{M (not including up-size of all fittings beyond pipe)}$$

The difference is \$1.6 M - \$1.16 M, which amounts to a material cost difference of approximately \$440,000 instead of \$4.5 million. The revised calculation is closely aligned to Enbridge Gas's estimate of \$800,000 which illustrates the efficiency of the NPS 6 option in that it is creating significant capacity for a very small incremental cost.

25. The Windsor Line Replacement Project is far more complex than the previous pipeline projects provided by Enbridge Gas for comparison purposes. For this reason, Enbridge Gas submits that comparing based on a simple per kilometre cost ratio is not appropriate. There are multiple factors that differentiate the Windsor Line Replacement Project from the previous projects which influence the cost. There are a number of conditions that are

²³ FRPO Argument Pg 8.

present in this Project that would not be reflected in the construction costs of the comparator projects:

- 19 new station installations with 5 abandonments with bypass or stop and tap activities for NPS 10, NPS 4 and NPS 2
- 3 complex river crossings within wetland designated areas West of Comber Trans
- Extensive list of landowner purchase agreement and Temporary Land Use (TLU)
- Abandonment of sections of NPS 10 main both in place and full removal
- Natural gas delivery is required through both NPS 10 and NPS 6 for all residents throughout construction

26. In the Sudbury Replacement Project (EB-2017-0180) the OEB in its leave to construct decision approved Union Gas's proposal to not only replace the existing Sudbury Lateral for integrity reasons but also upsize the lateral from NPS 10 to NPS 12 to address future growth requirements. The OEB in its decision granted the approval because the new replacement line provided incremental capacity at a modest cost (i.e. the difference between NPS 10 and NPS 12 was \$1.5 million).²⁴ In this proceeding, in order to meet the unforecasted demands (i.e. greenhouse and agricultural customers) in the Windsor-Essex area the NPS 6 design is more efficient than the Hybrid Option. As stated previously, if Customer E were to proceed half the capacity of the Hybrid Option would be removed. Additionally, if the Hybrid Option is chosen, it is likely that reinforcements will be needed sooner. In short, for an incremental spend of \$800,000, the surplus capacity created from the NPS 6 would avoid delay potential future reinforcements and accommodate the growing demands being requested in the Windsor-Essex area.
27. The proposed in-service date for the Project is November 1, 2020. In order commence construction in May 2020 and to facilitate the efficient project development and meet its proposed in-service date, Enbridge Gas respectfully requests the OEB issue its approval in a timely manner.²⁵

²⁴ EB-2017-0180 OEB Decision and Order (dated September 28, 2017), page 6

²⁵ EB-2019-0194, Exhibit I.SEC.12

28. Enbridge Gas also wishes to highlight concerns regarding the submissions of EP. The role of the parties in these proceedings including the intervenors is to assist the OEB with interpreting the evidence while also advocating their positions on the issues in evidence in a fair and accurate manner. At times, the process may become adversarial; however, the respect and civility between the parties must always remain. A lack of civility not only undermines the professionalism of the parties but also undermines the OEB's goals of improving stakeholder relationships and openness. It also undermines the regulatory process. Specifically, EP's specific reference to Enbridge Gas witnesses being unprepared and unfamiliar with the project is unnecessary. Both Mr. Quenneville and Mr. Piercey were directly involved with the project and Mr. Piercey specifically was instrumental in highlighting the risks to senior management. EP's submission on the lack of preparedness particularly lacks authenticity since it failed to submit its topical areas for questioning in advance of the Technical Conference²⁶. Additionally, the submissions that Enbridge Gas is gaming the regulatory process and deliberately deferred maintenance in order to maximize profits are inflammatory, vexatious and not remotely rooted in the evidence. Enbridge Gas encourages that the parties continue to aid the OEB in interpreting the evidence but in doing so maintain civility and professionalism in the process.

All of which is respectfully submitted, this 24th day of February 2020

ENBRIDGE GAS INC.

[original signed by]

Guri Pannu, Senior Legal Counsel

²⁶ EB-2017-0172, Technical Conference, dated December 5, 2019