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VIA EMAIL, RESS and COURIER

January 27, 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 – Argument-in-Chief**

Dear Ms. Long:

In accordance with Procedural Order No.5 dated January 15, 2020, enclosed is Enbridge Gas' Argument-in-Chief 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.

ARGUMENT-IN-CHIEF OF ENBRIDGE GAS INC.

1. In this project Enbridge Gas Inc. (“Enbridge Gas”) has applied for a leave to construct a natural gas pipeline in the Municipality of Chatham Kent and the County of Essex.
2. 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, Section 7.

Overview

3. A significant portion of the existing pipeline consists of pipe that is between 70 to 90 years old. Along with the age of the pipeline there has been an increasing amount of pipeline integrity issues. Accordingly, Enbridge Gas is proposing to construct approximately 64 kilometres of NPS 6 hydrocarbon (natural gas) pipeline (“Proposed Pipeline”, “Windsor Line” or the “Project”) in order to replace a section of the existing Windsor NPS 10 pipeline (along with short sections of

NPS 8 pipe). The Proposed Pipeline will extend between an interconnect at the existing Enbridge Gas Port Alma Transmission Station (located in the Municipality of Chatham-Kent) and the intersection of Concession 8 and County Road 46 (located in the Town of Tecumseh). Construction will take place within the Towns of Tecumseh and Lakeshore as well as the Municipality of Chatham-Kent and the County of Essex.

4. The Windsor Line receives natural gas from the existing Enbridge Gas Panhandle Transmission Pipeline Line and in turn serves as a trunkline to bring service to a number of downstream distribution systems as well as residents and businesses located along its path from Port Alma to the City of Windsor. As stated in pre-filed evidence at Exhibit B, Tab 1, Schedule 1, pg. 1, a total of 399 customers are currently being served off the section of Windsor Line being replaced.

Design and Construction of the Proposed Pipeline and Ancillary Facilities

5. Enbridge Gas has designed the Project to meet or exceed all applicable codes and regulations. Enbridge Gas is proposing to construct the Project in 2020 following its standard construction practices which have been continuously reviewed and updated to ensure the Project will be constructed safely and that impact to the lands and environment are minimized. As noted at Exhibit B, Tab 1, Schedule 5, material is readily available to construct the Project.
6. As described at Exhibit B, Tab 1, Schedule 5, the Project will be designed and constructed in accordance with the Ontario Regulations 210/10 under *the Technical Standards and Safety Act 2000, Oil and Gas Pipeline Systems*. This is the regulation governing the installation of pipelines in Ontario. The Proposed Pipeline will also meet or exceed the design and construction requirements of the applicable current edition of CSA Z662. Areas where abandonment of the existing pipe is to occur, Enbridge Gas will also comply with all applicable guideline and code requirements.

7. Enbridge Gas is proposing to commence construction of the Project in the spring of 2020 and be complete by year-end. Additional work such as clean up, abandonment and the installation of new services will continue into 2021.

Environmental Matters

8. The OEB's Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines in Ontario is addressed at Exhibit B, Tab 1, Schedule 6 of Enbridge Gas's pre-filed evidence and a copy of Enbridge Gas's Environmental Report ("ER") for the Project is filed in Exhibit C, Tab 6, Schedule 1. In Enbridge Gas's submission, subject to the implementation of the recommendations in the ER any potential adverse residual environmental and socio-economic effects of the Project are not anticipated to be significant.
9. Following the completion of the ER by Stantec Consulting Ltd., a copy was provided to the Ontario Pipeline Coordination Committee ("OPCC") on July 22, 2019. A copy of the ER was also forwarded to the local Conservation Authority, municipalities including the Town of Tecumseh, the Town of Lakeshore, County of Essex, Municipality of Chatham-Kent and local First Nations for review and comment.
10. The ER identifies various mitigation measures to minimize the impacts of the Project on the environment. Enbridge Gas will use its standard environmental inspection program to ensure that the recommendations in the ER are followed and that all activities comply with whatever Conditions of Approval are mandated by the OEB.

Landowner Matters

11. With the Proposed Pipeline being constructed entirely within road allowance, the land rights necessary for the construction of the Project involve the acquisition of temporary easement land rights from individual landowners. Fee simple purchases are also required at the site where existing stations along the proposed route are being upgraded.

12. Enbridge Gas will offer to all landowners where temporary land use is required a form of Temporary Land Use (“TLU”) agreement. Enbridge Gas has had several discussions with private landowners. As a result of these discussions and as noted at Exhibit I.STAFF.10 b), Enbridge Gas amended its land right requirements. Enbridge Gas maintains that all necessary land rights will be in place prior to the commencement of construction.
13. To construct the Project, Enbridge Gas also requires permits or agreements with various agencies and municipalities along the route. These permits and agreements will be in place prior to construction.
14. As stated in response to OEB staff interrogatories, Enbridge Gas is installing a portion of the pipeline (i.e. 29 kilometres) in the County of Essex (the “County”). Enbridge Gas is currently in negotiations with the County regarding the location of the Proposed Pipeline in road allowance. Enbridge Gas and the County have agreed to 23 of 29 kilometres. To date, Enbridge Gas and the County have not agreed to the location of 6 kilometres of the pipeline within road allowance. For the remaining 6 kilometres, Enbridge Gas is working with the County on a pipeline alignment that takes into account a potential road widening the County is planning to undertake in the future.

Indigenous and Métis Nations Consultation

15. As detailed at Exhibit B, Tab 1, Schedule 8 and further updated in Enbridge Gas’s responses to Exhibit I.STAFF.11, Enbridge Gas has followed the OEB/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 Enbridge Gas’s consultation activities were sufficient.

Project Need: Pipeline Integrity Concerns

16. As set out in Enbridge Gas's pre-filed evidence, the Windsor Line has been deemed an operational risk. This was further addressed at Exhibit I.STAFF.2 where Enbridge Gas states the Windsor Line first became a potential operational risk back in 2015. As described at Exhibit C, Tab 3, Schedule 1, Enbridge Gas reviewed a series of alternatives before determining the Project to be the preferred option.

17. Below is a summary of the integrity issues that have been highlighted throughout the evidence including Enbridge Gas's application, additional interrogatories that Enbridge Gas provided in advance of the Technical Conference and its answers to undertakings from the Technical Conference. Enbridge Gas believes if these issues are not addressed, they impact both the safety and security of the pipeline. The following is a summary of the main integrity issues impacting the line:
 - i) Leaks

There is a history of leakages on the Windsor Line with significant costs to repair the pipeline in the near future. As indicated in Exhibit I.STAFF.2, the latest leak survey in 2019 confirmed that there are currently 24 active leaks and 3 inoperable mainline valves. Additionally, if the pipeline were to be isolated, there would be significant customer outages.

 - ii) Weldability

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

iii) Depth of Cover/Damage

The Windsor Line also has sections that have poor depth of cover with less than 0.6 metres that could also pose safety and security of supply risks if not addressed. There are several exposed ditch crossings and areas in agricultural fields with depth of cover issues¹. In JT1.18, there would be an incremental cost of \$10 million to \$18 million in 2020 through 2022 to address the depth of cover issues.

iv) Costs Spent on Maintenance

As indicated in Exhibit JT1.18, the cost for repair and maintenance is expected to increase each year. The estimated maintenance costs for the leak repairs are shown in the table below.

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

The estimated costs shown in the table include, but are not limited to, such things as leak surveys, leak monitoring, leak repairs, rectifier replacements and station maintenance.

v) Service Interruptions

- (a) As indicated in part i) 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.

¹ Enbridge Gas Interrogatory Exhibit I.STAFF.2

18. Delaying the Project's in-service date of November 2020 will result in these integrity concerns becoming increasingly serious and additional funds will be required to mitigate concerns.

The Facilities:

19. The NPS 6 Proposed Pipeline is replacing a larger diameter NPS 10 (and smaller sections of NPS 8 pipe). As stated at Exhibit B, Tab 1, Schedule 2, the Proposed Pipeline will feature a decrease in pipe diameter and an increase in Maximum Operating Pressure ("MOP") as compared to the NPS 10 pipe being replaced. The existing Windsor Line, the majority of which is NPS 10, operates at a pressure of 1380 kPa where the Proposed Pipeline would operate at 3450 kPa. Despite the reduction in diameter, as a result of the increased MOP there will be no significant change in the capacity available from the Proposed Pipeline at this time.
20. The proposed design incorporates the NPS 6 replacement as well as smaller networks of plastic distribution piping. With the new design, 270 service connections will connect to the new NPS 6 pipeline and 129 services will connect to the new distribution network. The Project also involves upgrading 14 existing stations in order to handle the increase in MOP. Five new stations are planned to be installed and four existing stations are targeted for abandonment.
21. The majority of the existing Windsor Line will be removed. However, in areas where it is not practical to remove the existing pipeline (i.e. road and water crossings) the pipe will be abandoned in place.
22. The estimated total cost of the Project is \$106.8 million (including indirect overheads of \$14.1 million). The total cost includes the cost of the mainline NPS 6 pipeline as well as the costs of the ancillary facilities (i.e. services, stations and plastic distribution mains). As detailed at Exhibit I.STAFF.6 b), since the Project was underpinned by integrity requirements (and not growth) a discounted cash flow ("DCF") report was not completed. As noted at Exhibit B, Tab 1, Schedule 4,

Enbridge Gas expects the Project will meet the criteria for rate recovery during the deferred rebasing period through the use of the OEB's Incremental Capital Module ("ICM") mechanism. The ICM request for the Project was included as part of Enbridge Gas's 2020 Rates application (EB-2019-0194)².

23. The balance of these submissions is organized based on the issues that were raised by the intervenors, Energy Probe ("EP") and the Federation of Rental-Housing Providers ("FRPO"), OEB staff in its interrogatories and the Technical Conference. Apart from integrity concerns, the issues for which the parties above sought further clarity are listed below:
 - (a) Sizing of the Proposed Pipeline (NPS 6) and Project Alternatives
 - (i) Load growth (forecast and unforecast)
 - (b) Costing of the Proposed Pipeline compared to Project Alternatives

Sizing of the Proposed Pipeline (NPS 6) and Project Alternatives

24. Although Enbridge Gas has seen increased natural gas demand within the Region of Windsor Facilities Business Plan ("FBP") Study, due to the location of this forecasted growth it was not a major consideration when designing the Proposed Pipeline. Rather, the Proposed Pipeline was designed as a "like-for-like" replacement with the existing NPS 10 Windsor Line in terms of capacity.
25. Enbridge Gas in its pre-filed evidence and interrogatory responses proposed the installation of an NPS 6 pipeline because the size of the pipeline is capable of meeting the forecasted demand as well as unforecasted demand that may be requested in the area. FRPO questioned the use of an NPS 6 pipeline design based on current demands on the system. FRPO proposed the use of an NPS 4

² See EB-2019-0194 evidence update submission dated January 15, 2020

alternative as well as a “hybrid” option that involved the installation of a portion of NPS 4 and NPS 6 pipe. In its response to Exhibit I.FRPO.12, Enbridge Gas dismissed the use of an NPS 4 exclusively by stating, that the *“NPS 4 pipeline will not serve the existing demand requirements on design day.”* As for the proposed hybrid option (NPS 4 and NPS 6) Enbridge Gas responded that since 40% of the proposed line requires the capacity of NPS 6 if the hybrid option were used, Enbridge Gas would be unable to meet unforecasted demand of commercial and industrial customers outside the Windsor FBP (see Exhibit I.FRPO.15).

26. In addition to the limitations of meeting 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 events³.

With an NPS 6 pipeline there is a lower chance of customer outages/impacts in operational or emergency situations due to cold weather. 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.

27. The unforecasted demand is generally received in the rural Windsor areas from large agricultural and greenhouse customers. As stated at Exhibit KT1.5 part b) ii), the locations and demands of these customers are difficult to predict. For this reason, they are generally not included in the scope of an FBP. Enbridge Gas

³ Enbridge Gas letter dated November 14, 2019

also acknowledged it has received inquiries surrounding the Port Alma area in the past two years⁴. In its response to Undertakings, Enbridge Gas advised it had received inquiries of approximately 8,000 m³/hour east of Comber. These total loads demonstrate the importance of the NPS 6 design in order to meet unforecasted demands in the area of the pipeline. Also, Enbridge Gas received letters of support from municipalities and other agencies⁵ in the area, such as the Town of Essex, Windsor-Essex Economic Development, Town of Tecumseh, Windsor-Essex Regional Chamber of Commerce and the Municipality of Chatham-Kent. They all unanimously agreed that the Windsor Line Replacement Project will support future growth in the Windsor-Essex region.

28. As indicated in response to Undertaking JT1.15, “the Windsor Line would be able to feed similar customer requests in the future as they are in the area supplied by the Windsor Line through Port Alma.” At Exhibit KT1.6 Enbridge Gas also raised the fact that when assessing the NPS 4 and NPS 4 and NPS 6 hybrid options, future growth on the Windsor Line system will require reinforcement sooner than if all NPS 6 was installed. This further supports the overall prudence of Enbridge Gas’s proposal to replace the existing NPS 10 pipeline entirely with NPS 6.

Costing of the Proposed Pipeline compared to Project Alternatives

29. FRPO also raised concerns with the cost difference between the NPS 4, the hybrid of NPS 4/6, and the Proposed Pipeline. FRPO has suggested that the hybrid of NPS4/6 would reduce the cost of the Project by “millions of dollars”⁶. FRPO attempted to support this claim by requesting Enbridge Gas to provide costing details of historical examples of pipeline projects. As part of its November 28, 2019 pre-Technical Conference submission, FRPO requested Enbridge Gas to provide costing data for specific projects over the last 10 years that range in size from NPS 2 to NPS 6. Enbridge Gas responded to the request on a best

⁴ Enbridge Gas Undertaking Response Exhibit JT1.15

⁵ Enbridge Gas Application, Exhibit C, Tab 1, Schedule 2, pp 1-6

⁶ FRPO letter dated November 9, 2019

effort basis (see Exhibit KT1.4). The response included actual cost schedules and post construction financial reports that were filed with the OEB for three pipeline projects that best met the criteria identified in the question.

FRPO requested a unit cost to construct per kilometre for these projects. In addition, at Exhibit JT1.9 Enbridge Gas was able to provide an average unit cost to install NPS 2, NPS 4 and NPS 6 in the Windsor Region over the past five years. FRPO is relying on the unit costs and cost differences to support the submission that the Windsor Line at NPS 6 and the hybrid NPS 4/6 option cannot be a difference of \$800,000. The primary difference between the NPS 6 and the hybrid NPS 4/6 stems from materials.

30. Enbridge Gas cautioned that using the projects above were not appropriate comparison data points because these average unit costs resulted from small pipeline projects such as new general infill expansion enhancement to existing pipelines (i.e. small reinforcements). As mentioned above the Windsor Line replacement is a much larger project as the pipeline requires a construction of 64 kilometres of pipeline.
31. Enbridge Gas submits as stated throughout the evidence that the NPS 6 option provides greater flexibility (maintenance and emergency response), and the ability to meet unforecasted demand and therefore preventing the need for a future reinforcement. Considering the difference in cost of \$800,000 between the NPS 6 and the hybrid NPS 4/6, the NPS 6 provides the best option when considering the factors above.

Conclusion

32. The Project is needed to address the existing integrity concerns on Windsor Line. Similarly, as addressed earlier in this submission, if the Project is not constructed as proposed, the ongoing effort and resources required to address these integrity concerns will only increase in the future. The proposal to replace the existing NPS 10 Windsor Line with NPS 6 is prudent from both an operational and

engineering perspective as well as ratepayer perspective. The Project is the most effective and prudent way of managing the ongoing safety and reliability of the Windsor Line.

33. The proposed in-service date for the Project is November 1, 2020. In Exhibit I.STAFF.12, OEB staff proposed certain Conditions of Approval, one of which was the requirement at 2(b), part i) for Enbridge Gas to give the OEB notice in writing of the commencement of construction, at least ten days prior to the date construction commences. Enbridge Gas respectfully requests the 10-day requirement be removed and that Enbridge Gas be required to provide notice, at the latest, at the beginning of construction. Enbridge Gas would like to begin construction immediately in order to ensure the in-service date of the project is preserved and submits that no party will be adversely affected by this timing. In order to facilitate efficient project development and meet its proposed in-service date, Enbridge Gas respectfully requests the OEB issue its approval in a timely manner.

All of which is respectfully submitted, this 27th day of January 2020

ENBRIDGE GAS INC.

[original signed by]

Guri Pannu, Senior Legal Counsel