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December 14, 2020

Delivered by Email & RESS

Ms. Christine Long
Registrar
Ontario Energy Board
P.O.Box 2319, 27th Floor
2300 Yonge Street
Toronto, ON M4P 1E4

Dear Ms. Long:

Re: Enbridge Gas Inc. London Lines Replacement Project – Leave-to-Construct
Submissions of the Association of Power Producers of Ontario ("APPrO")
Board File No. EB-2020-0192

In accordance with Procedural Order No. 1 dated October 29, 2020, please find attached APPrO's Submissions in the abovementioned proceeding.

Yours very truly,

BORDEN LADNER GERVAIS LLP

Per:

Flora Ho

/Encl.

cc: David Butters, APPrO
Rakesh Torul, Enbridge Gas Inc.
Charles Keizer, Torys LLP
Parties to EB-2020-0192

EB-2020-0192

ONTARIO ENERGY BOARD

IN THE MATTER OF the Ontario Energy Board Act, 1998, S.O. 1998, ch. 15 (Schedule B);

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 County of Lambton, the Township of Dawn-Euphemia, Middlesex County, the Municipality of Southwest Middlesex, the Municipality of Strathroy-Caradoc and the Municipality of Middlesex Centre.

SUBMISSIONS OF THE ASSOCIATION OF POWER PRODUCERS OF ONTARIO

FILED: DECEMBER 14, 2020

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INTRODUCTION

1. On September 2, 2020, Enbridge Gas Inc. ("**Enbridge Gas**" or "**Applicant**") filed an application with the Ontario Energy Board (the "**Board**" or "**OEB**") seeking approval for the following orders:

   (a) pursuant to Section 90(1) of the Ontario Energy Board Act (the "**Act**"), granting Leave to Construct approximately 51.5 kilometres of Nominal Pipe Size ("**NPS**") 4 pipeline and 39 kilometres of NPS 6 pipeline to replace the existing London Lines (the "**Project**"); and

   (b) pursuant to Section 97 of the Act, granting approval of the form of easement agreements as reference in the Applicant's evidence at Exhibit E, Tab 2, Schedule 3 and Exhibit E, Tab2, Schedule 4 (the "**Application**").

2. The Board assigned file number EB-2020-0192 to the Application.

3. On November 30, 2020, the Applicant filed its Argument-in-Chief ("**AIC**").

4. The Association of Power Producers of Ontario ("**APPrO**") makes these written submissions with respect to this Application.

APPrO'S POSITION

Leave to Construct

5. Section 96 (1) of the 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 alternatives, costs and economics; the environmental impacts; impacts on landowners; and Indigenous consultation[1].

6. APPrO generally finds the projects that are proposed by Enbridge Gas for leave to construct are both credible and APPrO is generally supportive of Enbridge Gas' efforts to effectively

[1] EB-2019-0188 Enbridge Gas Inc. Decision and Order, May 7, 2020, Page 4.

maintain and as necessary refurbish aspects of its distribution system.

7. However, as more specifically outlined below, APPrO has identified specific shortcomings in the evidence of need and alternatives put forth by Enbridge Gas in its Application. APPrO is using these submissions to invite Enbridge Gas to address some of these shortcomings in its replies.

8. In the event Enbridge Gas is unable to fully address the shortcomings noted below in its reply submissions, APPrO would invite Enbridge Gas to detail how much time and effort would be involved in updating its evidence to better address the shortcomings noted below prior to the OEB issuing leave to construct for the Project.

Need for the Project

9. As stated in the Applicant's AIC, the Applicant identified a need to replace the existing London Lines (the "**Existing Lines**"). The Existing Lines comprise the London South line and the London Dominion line which are two pipelines that are parallel to each other, approximately 60 km and 75 km in length, respectively.

10. The Applicant states that the physical integrity of the Existing Lines is the driver of the Project. The Applicant explained that there are several active degradation factors, including loss of containment (issue with compression couplings), shallow depth of cover, and corrosion induced wall loss. The most predominant degradation factor is external corrosion that has resulted in loss of containment. The Applicant states that the Existing Lines had a leak rate of 0.043 leaks/km/year, which is over 10 times greater than the available average leak rate for the steel main population.[2]

APPrO's Reservations about the leak data

11. Based on Enbridge Gas' assertion of need, it may appear to the reader that there is severe leakage at the Existing Lines from 2013 to 2019. However, when APPrO took a closer look at the historical year-over-year data, Enbridge Gas' appears to miss an entirely plausible

[2] EB-2020-0192 - Argument-in-Chief of Enbridge Gas Inc., dated November 30, 2020 page 6.

alternative explanation for this high leak rate from 2013 to 2019 – an explanation that does not support the need for the London Lines replacement project.

12. Enbridge Gas provided the following additional evidence on the leaks associated with the London Lines in its response to APPrO's interrogatories:

Table 1 – Average Leak Rate for the London Lines from 2013 to 2019[3]

	2013	2014	2015	2016	2017	2018	2019	Grandtotal
Leaks Associated with London Lines	33	0	4	0	3	0	0	40
Assumed Length (2020 active population)(km)	134	134	134	134	134	134	134	134
Leak Rate (leaks/km/yr)	0.246	0.000	0.030	0.000	0.022	0.000	0.000	0.043

13. As seen in Table 1 above, the majority of leaks occurred in 2013.

14. However, it appears that the problems driving the high number of leaks in 2013 have now been addressed. As Enbridge Gas explained in their response to interrogatories[4], they have implemented remedial and risk mitigation measures in respect of the Existing Lines, such as monitoring and managing the Existing Lines through leak management surveys, preventive corrosion control programs, valve inspections, and plant damage prevention strategies. Further risk mitigation measures were implemented to minimize leak intensity, minimize small leaks from forming, minimize pull-out forces on unrestrained compressor couplings, and to increase walking of the pipeline to observe any changes to areas of concern. These measures include reducing the system operating pressure of the Existing Lines by approximately 25%.[5]

15. In APPrO's submissions, the relatively higher number of leaks in the Existing Lines in 2013 appear to have been adequately addressed by the remedial measures Enbridge Gas has implemented, as evidenced by the significant reduction in leaks from 2014 to 2019 (only 7 leaks over 6 years).

16. If an average leak rate was calculated for the years 2014 to 2019 (i.e. excluding 2013), it would be 0.0087 leaks/km/year (7 leaks/134 km/6 years). APPrO asks that Enbridge Gas confirm or correct this calculation in its reply submissions if Enbridge Gas believes there is

[3] EB-2020-0192 Exhibit I.APPrO.2(b), November 23, 2020, Page 3.
[4] Ibid.
[5] Ibid.

an error.

17. APPrO submits that this more recent data (2014-2019) is better reflective of the current state of the operations of the Existing Lines. It better reflects the remedial measures already undertaken by Enbridge Gas, and it is more informative on whether or not there is truly a need to replace the Existing Lines as currently proposed.

18. In addition, all of the leaks from 2014-2019 along the Existing Lines have been classified as Class C Leaks – that is the lowest severity of leak that Enbridge Gas tracks.

19. Enbridge differentiates between Class A leaks, being leaks that are required to be repaired immediately, Class B leaks, being leaks that are required to be repaired within a short amount of time, and Class C leaks, being leaks that are to be monitored at a regular frequency to identify any changes in leak rate.[6]

20. The following tables have been reproduced from Enbridge Gas' response to interrogatories Exhibit I.APPrO.3(a) and (b), which compares the number of leaks on the Existing Lines against the number of leaks across the entire Enbridge Gas steel main population by year:

Table 2 – Number of Class A, B, and C Leaks for London Lines

Leaks Associated with London Lines	2013	2014	2015	2016	2017	2018	2019	Grand Total
A Leaks	0	0	0	0	0	0	0	0
B Leaks	4	0	0	0	0	0	0	4
C Leaks	29	0	4	0	3	0	0	36
Total Leaks	33	0	4	0	3	0	0	40

Table 3 – Number of Class A, B, and C Leaks for Steel Main Population

Leaks Class	2013	2014	2015	2016	2017	2018	2019	Grand Total
A	26	26	21	30	28	15	16	162
B	69	100	40	35	64	95	86	489
C	1757	359	263	333	318	604	529	4163
Grand Total	1852	485	324	398	410	714	631	4814

21. What is immediately apparent when comparing tables 2 and 3 above is that Enbridge Gas has seen a significant number of Class A and B leaks across its entire steel main system between 2014-2019 – however none of those high severity leaks occurred on the Existing

[6] EB-2020-0192, Exhibit B, Tab 1, Schedule 1, September 2, 2020, Page 6.

Lines.

22. In addition, the 7 Class C leaks on the Existing Lines that occurred between 2014-2019 account for just 0.29% of the 2,406 Class C leaks that occurred across the entire steel main population over the same period of time.

23. Based on this data, it appears that to APPrO that the Existing Lines are performing much better than the balance of the Enbridge Gas steel main population.

24. This leads APPrO to question whether or not the Project reflects the right use of money at this time – given the other leaks occurring across the balance of the Enbridge Gas system. Enbridge Gas is invited to address this concern in its reply submissions.

Need evidence continued

25. The Applicant provided evidence that they performed a qualitative risk assessment on the Existing Lines using the Enbridge Standardized Operational 7x7 risk matrix and the results indicated that the Existing Lines were a primarily a medium risk.[7]

26. Through condition and risk assessment, the Applicant has determined that the degradation in the integrity of the Existing Lines require that the pipelines in question be replaced. Not replacing the pipelines would in Enbridge Gas' view perpetuate the risk of pipeline failure with varying effects. To address this operational risk, the Applicant argues that replacing the Existing Lines is the most effective way of managing ongoing safety and reliability.[8]

APPrO's reservations about the risk matrix evidence

27. APPrO reviewed in detail the evidence on the internal risk assessment that was performed by Enbridge Gas on the Existing Lines, which showed the system as having a medium risk rating on the Enbridge Standardized Operational 7x7 risk matrix when considering the lenses of the Health and Safety, Customer Loss, Financial and Reputational risks ("Risk Assessment")[9]. A detailed copy of the Risk Assessment can be found at Enbridge Gas' interrogatory response to I.FRPO.1 Attachment 1.[10]

[7] EB-2020-0192 - Argument-in-Chief of Enbridge Gas Inc., dated November 30, 2020 page 9.
[8] EB-2020-0192 - Argument-in-Chief of Enbridge Gas Inc., dated November 30, 2020 pages 2 to 3.
[9] EB-2020-0192 Exhibit B, Tab 1, Schedule 1, Page 14.
[10] EB-2020-0192 – Exhibit I.FRPO.1 Attachment 1, November 23, 2020.

28. The Risk Assessment is a qualitative exercise, which necessarily requires judgement and is prone to a certain level of discretion. However, APPrO generally finds Enbridge Gas to be both credible and forthright – and as a consequence has no reason to doubt the findings of the Risk Assessment.

29. However, APPrO did not find the Risk Assessment very informative to gauge or compare the Project's risk level relative to other potential replacement projects in the steel main population.

30. This is because Enbridge Gas does not have an established methodology to perform a systematic risk review for the steel main population as a whole.[11] Enbridge Gas explains that it identifies potential risk in the steel mains through leak surveys and Integrity Assessments and Operational feedback.[12]

31. Enbridge Gas confirmed that there are no steel pipelines for which the risk assessment can be presented in a comparable manner.[13] Enbridge Gas states that it used this methodology to complete risk assessments where there is variation in factors affecting risk over the length of the pipeline, for example, Kirkland Lake, Port Stanley, Panhandle Replacement, but these risk assessments are not complete.[14] Enbridge Gas is not able to show the threshold that is being used to determine whether a replacement project proceeds or not and there are no reliable or comparable results to see if the Existing Lines are more, or less, risky than other aspects of the Enbridge Gas' system.

32. As noted above, the leak data available on the evidentiary record in this proceeding suggests to APPrO that there may well be numerous other parts of the Enbridge Gas steel main population that, if a similar Risk Assessment were performed, would be of higher risk and higher priority than the Project.

33. Unfortunately, since Enbridge Gas does not perform a qualitative risk assessment for other steel pipelines, it is not clear how Enbridge Gas concluded that the Project should be placed in priority to occur at this time while other potential projects should be deferred into the future.

34. APPrO's concern is that there may be other replacement projects with more imminent and

[11] EB-2020-0192 Exhibit I.APPrO.4(e), Page 3.
[12] EB-2020-0192 Exhibit B ,Tab 1, Schedule 1, Page 14.
[13] EB-2020-0192 Exhibit I.APPrO.4(f), Page 3.
[14] Ibid.

higher risk that should be prioritized ahead of the Project. Enbridge Gas did not consider this by performing a Risk Assessment across a group of its higher risk lines (as evidence by leak data and operations reports) – and then prioritizing its replacement projects based on the outputs of these Risk Assessments when compared against each other.

35. APPrO believes that it would be reasonable to expect that Enbridge Gas would perform such a comparison and to be able to present the results in evidence before proposing the proposed project.

Need evidence continued

36. In its response to interrogatory Exhibit I.APPrO.1(a), the Applicant stated that approximately 135 customers are served directly off the Existing Lines. All of these customers are in the Union South general service rate classes (Rate M1 and Rate M2).[15] As such, the Project is required to continue service to each of those directly served customers.

37. APPrO finds this explanation to be a compelling reason for the Project, rather than using the existing transmission infrastructure in the region to flow additional capacity to the Komoka station and otherwise abandoning both of the Existing Lines.

38. However it is not clear to APPrO that both of the Existing Lines need to be refurbished just to meet the needs of 135 customers. APPrO will address the option of refurbishing only one of the two Existing Lines to meet the needs of directly served customers in the section below on alternatives.

Alternatives to the Project

39. The Applicant considered various pipeline replacement alternatives and concluded that the Project is the best alternative to replace the Existing Lines.[16] As detailed in its Application[17] and summarized in the AIC,[18] Enbridge Gas reviewed a number of alternatives including installing single and dual fed pipelines, pipelines operating at 1900 kPa and 3447 kPa

[15] EB-2020-0192 Exhibit I.APPrO.1(a), November 23, 2020, Page 1.
[16] EB-2020-0192 - Argument-in-Chief of Enbridge Gas Inc., dated November 30, 2020 page 11.
[17] EB-2020-0192 - Exhibit B, Tab 2, Schedule 2, Section 3.5, September 2, 2020, pages 10 to 14.
[18] EB-2020-0192 – Argument-in-Chief dated November 30, 2020, page 10 para. 26.

MOPs, extending existing plastic distribution systems, obtaining supply from other non-Enbridge Gas pipelines or suppliers, and implementing demand side management.[19]

APPrO's concerns about alternatives assessed by Enbridge Gas

40. APPrO is concerned that Enbridge Gas has not considered all reasonable alternatives in their analysis of alternatives that was included in the Application.

41. Specifically, it is not clear why Enbridge Gas has not included the alternative that was recommended in previous expert reports on the London Lines, specifically *The London Lines* by Katie Hooper[20] ("Hooper Report") and *London Lines Report* by Bob Wellington[21] ("Wellington Report"), which were produced by Enbridge Gas in response to interrogatory I.BOMA.5.[22]

42. The Hooper Report considered findings of research, including: original installation records, repair history, depth survey, areas of exposed pipe, storage and transmission, service and laterals, corrosion, annual property tax, land issues, Ontario producers, and material properties. The purpose of the report was to justify an internal or external risk assessment on the lines and to confirm a remedial course of action.[23]

43. Having considered all the research findings, the Hooper Report concluded that the Existing Lines are required to maintain gas supply to the towns between Dawn and London, however only one line is required to remain active to maintain this supply.[24] Given that the London South line is the poorest condition of the two pipelines (i.e. shallower, oldest pipeline, has a longer section of cathodically unprotected pipe, fewer stations and take-offs directly off of the London South line, and visually in worse condition),[25] the preferred option in the Hooper Report was to abandon the London South line as it is the least cost option, which alleviates many of the concerns surrounding the condition and integrity of the pipeline, does not strain on any other parts of the system as it takes advantage of the existing excess

[19] EB-2020-0192 - Exhibit B, Tab 2, Schedule 2, Section 3.5, September 2, 2020, page 14.
[20] The London Lines by Katie Hooper dated December 18, 2002.
[21] London Lines Report by Bob Wellington, 2004.
[22] EB-2020-0192 Exhibit I.BOMA.5 Attachment 1 and Attachment 2, November 23, 2020.
[23] The London Lines by Katie Hooper dated December 18, 2002, Page 1.
[24] The London Lines by Katie Hooper, Section 4.0 Options and Recommendations dated December 18, 2002.
[25] Ibid.

capacity in the London Dominion line.[26]

44. As such, the Hooper Report recommended a risk assessment be completed for the London Lines System based on the abandonment of the London South line.[27]

45. The Wellington Report was prepared as a follow-up report to the Hooper Report, which was intended to fulfill the requirements of the recommendation in the Hooper Report by prioritizing the abandonment of the London South Lines through risk based principles.[28]

46. The Wellington Report included a qualitative assessment that defined the modes of failures and potential consequences associated with the Existing Lines. Numeric values were then assigned to each of the considerations weighed by likelihood and the factors are also weighed based on level of contribution to consequences. The probability and consequence values were then multiplied together to determine the relative risk values, which were then used in a quantitative assessment to rank the risk value.[29] The Wellington Report also provided an economic evaluation for determining the estimated cost for abandoning each segment of the London South line, which included the cost of abandonment and cost to tie over service.[30]

47. The result of the qualitative and quantitative analysis in the Wellington Report indicates that for the case of the London South line, those sections with highest relative risk value should be targeted for abandonment first.[31]

48. The Wellington Report also identified leakage as a problem and the maintenance costs associated with such leakage is one of the driving factors behind the proposed abandonment of the London South line. The recommendations were to abandon the high risk segments of the London South lines and to identify all sections of the London South line that are incurring additional maintenance costs due to leakage and if budget permits, abandon these sections accordingly. Subsequently, if funding is still available, then Enbridge Gas is to determine the cost of replacing those sections of the London South line that were identified as in poor condition and abandon accordingly.[32]

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[26] Ibid.
[27] The London Lines by Katie Hooper, Section 5.0 Conclusions dated December 18, 2002.
[28] London Lines Report by Bob Wellington, 2004, Page 1.
[29] Ibid, Pages 5 to 6.
[30] Ibid, Page 15.
[31] Ibid, Page 16.
[32] Ibid, Page 18.

49. The alternative recommended in the Hooper Report and further assessed in the Wellington Report was to abandon parts of the London South lines and take advantage of the existing excess capacity in the London Dominion line.

50. This appears to APPrO to be a viable option and one that should have been explored in detail by Enbridge Gas.

51. However, based on the evidence filed by Enbridge Gas, it is not clear that they have given consideration to this specific alternative. It does not appear to be addressed in the evidence on the alternatives explored by Enbridge Gas in the Application.

52. If the recommendations from the Hooper Report and the Wellington Report is similar to what is being proposed by Enbridge Gas with the Project, APPrO would ask Enbridge Gas to explain this in detail in its reply submissions – specifying the similarities and differences between its proposed Project and the recommendations in the Hooper Report and the Wellington Report.

53. APPrO would also find it helpful if Enbridge Gas could identify exactly which portions of the London South lines will be abandoned under the Project – and why – with focus on refurbishing only the London Dominion line.

54. If there are substantial differences between the Project and the recommendations in the Hooper Report and Wellington Report (i.e. the Project does not include abandoning significant portions of the London South lines), APPrO would ask Enbridge Gas to explain in detail why they did not address the Hooper Report/Wellington Report recommendation as another viable alternative as part of the Application.

55. Finally, APPrO would ask Enbridge Gas to explain how long it would take for Enbridge Gas to update its options analysis to assess this additional alternative and file additional evidence with the OEB.

CONCLUSION

56. If Enbridge Gas is able to address each of the reservations described above in these submissions, APPrO believes that it may be reasonable for the OEB to conclude that Enbridge Gas has demonstrated evidence that meets the OEB's test for leave-to-construct for the Project.

57. However, it might be necessary for Enbridge Gas to file additional evidence to address the above noted reservations so the OEB has a more complete picture of both the need for the Project and the alternatives that were considered.

ALL OF WHICH IS RESPECTFULLY SUBMITTED THIS 14th DAY OF DECEMBER, 2020.

BORDEN LADNER GERVAIS LLP

Per:

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Flora Ho

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