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

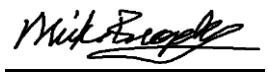
September 11, 2020

Re: EB-2019-0294 Low Carbon Energy Project
Pollution Probe Submission

Dear Ms. Long:

Please find enclosed Pollution Probe's Submission on the above noted proceeding.

Respectfully submitted on behalf of Pollution Probe.



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cc: Enbridge (email via EGIRegulatoryProceedings@enbridge.com)
David Stevens, Aird & Berlis (via email)
All Parties (via email)
Richard Carlson, Pollution Probe (via email)

EB-2019-0294

ONTARIO ENERGY BOARD

Enbridge Low Carbon Energy Project

POLLUTION PROBE SUBMISSION

September 11, 2020

Submitted by: **Michael Brophy**

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Consultant for Pollution Probe

Background

Enbridge Gas Inc. (Enbridge) filed an updated application to the Ontario Energy Board (OEB) on March 31, 2020 under section 90 of the Ontario Energy Board Act, 1998 (OEB Act), for an order granting leave to construct approximately 755 metres of natural gas pipeline, three stations and two network disconnects in the City of Markham that would allow it to inject a controlled quantity of hydrogen into an isolated portion of its natural gas distribution system (Project). Total capital costs for the Project (inclusive of overheads) are estimated to be $5.232 million. Enbridge Gas also applied to the OEB under section 97 of the OEB Act for approval of the form of land-use agreements and under section 36 of the OEB Act for approval of a rate rider to compensate affected customers for costs associated with increased gas consumption.

Once constructed Enbridge will be able to provide blended gas distribution service to approximately 3,600 customers in Markham, Ontario. In its application Enbridge indicates that the proposed project is a pilot that will allow the Company to green a portion of the natural gas grid in Ontario. The experience gained through the implementation of the pilot Project will position Enbridge to then expand hydrogen injection into other parts of its gas distribution system, further enhancing reductions to greenhouse gas (GHG) emissions across the province.

The following is the written submission from Pollution Probe in relation to this proceeding.

The energy system in Ontario needs to evolve in alignment with consumer demands, policy and industry evolution. These changes will impact the way energy is delivered, stored and used by consumers and businesses. Although still an emerging technology, hydrogen blending is one option used in other jurisdictions in the manner that Enbridge is proposing[1]. Pollution Probe anticipates that the OEB's Distributed Energy Resource (DER) initiatives, Integrated Resource Planning (IRP) generic proceeding, DSM Framework proceeding, among others will provide similar opportunities to provide more energy options to meet the future needs of Ontario consumers.

Hydrogen blending itself will not provide the full suite of future solutions required to meet consumer demand and policy requirements. A broad selection of energy options will be required that also includes renewable and increased energy efficiency. Approval of this pilot project should not be construed as hydrogen blending being a better or cleaner energy solution than renewable energy (e.g. heat pumps), but that this is a proof of concept to better understand if hydrogen blending should be considered for the future and to what extent. Optimal long-term decisions cannot be made without testing options through pilots or other similar means[2]. Despite Enbridge's potential interest for future hydrogen projects, decisions on future projects and infrastructure are not required at this time and not part of the approvals sought in this application. The results of the pilot study must feed into a broader consideration of energy options for Ontario consumers and in the end, the best options should be pursued. One thing is clear, that the next 50 years of energy services in Ontario (and globally) will not mimic the last 50 years and better information and analysis is required to ensure that the best Ratepayer funded (or non-Ratepayer funded if possible) investments are supported for the long term.

Enbridge confirms that the Project is a pilot project that will allow the Company to green a portion of the natural gas grid in Ontario. Enbridge has a hope that the experience gained through the implementation of the Project will position Enbridge Gas to then expand hydrogen injection into other parts of its gas distribution system, further enhancing reductions to greenhouse gas (GHG) emissions across the province. This may or may not be true depending on the outcomes of the pilot. It is not unusual for the OEB to approve pilot projects as a way of informing future options, while mitigating potential risk through small scale validation. In fact, the OEB's Innovation Sandbox[3] was established to incent this kind of innovation.

[1] https://www.pollutionprobe.org/wp-content/uploads/Future-of-Natural-Gas-November-2019.pdf. Page 40.
[2] For example, there is no question today of the net benefits of energy efficiency (DSM), but it too started as a pilot initiative decades ago.
[3] The OEB launched the OEB Innovation Sandbox, where utilities and other companies in the energy sector can get regulatory advice or seek relief for new ideas, products, services and business models that demonstrate the potential to provide benefit for consumers.

IESO also initiated a pilot project leveraging hydrogen as part of the electricity grid several years ago as an input to making efficient and more informed future decisions as this technology advances and becomes more common. The lessons learned from the proposed pilot will inform Enbridge, the OEB and broader stakeholders on the appropriateness, scope and scale for potential future hydrogen blending.

Pilot projects by their very nature are typically small and contained, but with enough scale to provide valuable insights for future or larger scale application in the future. The project proposed by Enbridge fits this category. Should the pilot identify significant challenges or results that are less favorable to other options, that too would be valuable learning.

The City of Markham provided a letter of support[4] for this Project and it aligns with the City of Markham Energy Plan, supported by Provincial policy[5]. Markham is moving to net zero emissions by 2050 (similar to many municipalities across Ontario) and providing access to clean energy choices is critical to achieve this goal. Enbridge also conducted market research to gauge public awareness, interest and acceptance for blending hydrogen into the natural gas grid. The vast majority of customers (approximately 70%) support clean energy options such as those proposed by Enbridge in this project[6].

Enbridge confirmed that it "has undertaken extensive efforts to ensure that the LCEP will be safe and reliable. Among other things, Enbridge Gas has decided that its pilot project should use only a low concentration of hydrogen (upper limit of 2% by volume), to ensure no adverse impacts"[7]. The Technical Standards and Safety Authority (TSSA) reviews and audits all new pipeline projects that are submitted to OEB for leave to construct approval, including a review of the technical aspect of the project. The TSSA indicated support for the project in its letter dated July 8, 2020 and provided several technical references for its support.

Approvals sought by Enbridge for this Project include:

(i) an Order pursuant to section 90 of the OEB Act granting leave to construct the LCEP facilities;
(ii) (ii) an Order pursuant to section 97 of the OEB Act approving the proposed form of easement agreements; and

[4] EB-2019-0294, Exhibit B, Tab 1, Schedule 1, Attachment 2
[5] Ontario's Municipal Energy Plan Program supports energy and emission plans for municipalities and provides funding support. The Province of Ontario is also supporting hydrogen projects and building a hydrogen plan.
[6] EB-2019-0294, Exhibit B, Tab 1, Schedule 1, Attachment 6, Page 9
[7] EB-2019-0294 Argument in Chief of Enbridge Gas August 28, 2020 Page 2 and 3

(iii) (iii) an Order pursuant to section 36 of the OEB Act approving the proposed rate rider for customers in the BGA.

Under this proposal there will be a cost to consumers and they are expected to be minimal[8]. Enbridge indicates that:

i. The cost of the facilities will not cause incremental rate impacts until rebasing, and even then the impacts will be modest.
ii. During the deferred rebasing term, Enbridge Gas will acquire hydrogen at the same cost as traditional natural gas, meaning that there will be no gas cost impact.
iii. Customers in the BGA will have a rate rider, to compensate them for the cost of the additional blended gas that is required (which occurs because hydrogen has a lower heating value than conventional natural gas). To effect this, Enbridge Gas's Application seeks approval of a rate rider to compensate affected customers for costs associated with increased gas consumption.

Enbridge has indicated that it intends for the Project costs to be attributed to system reinforcement and general distribution growth and managed within the rolling project portfolio in accordance with Enbridge Gas's normal business practice. Enbridge would carry the risk in this approach since if the Project (i.e. blending of hydrogen in the Markham BGA) does not persist for the full amortization period (understood to be 40 years), those assets would need to be removed from the capital portfolio and rates.

Enbridge retains the accountability to defend any costs related to this project when it comes forward for its next rebasing application. At that point, it is expected that Enbridge will have results from the pilot available for review and that a more informed decisions can be made on any treatment of any costs not requested for approval in this application.

Conclusions and Recommendations

Pollution Probe recommends that the Project and associated rate rider be approved on a pilot basis for the Markham Project. Future projects would need to be assessed once the results of the pilots are available, including the cost effectiveness of the reduced emissions against other Ratepayer funded options (i.e. more comprehensive portfolio cost benefit analysis[9]). It is unclear at this time whether hydrogen blending will be the most cost-effective way to meet municipal objectives[10] to reduce emissions. Enbridge also indicated that it agrees with the conclusions in the Agora Study provided in

[8] EB-2019-0294 Argument in Chief of Enbridge Gas August 28, 2020 Page 2.
[9] As referenced in EB-2019-0294 Exhibit I.STAFF.8d
[10] EB-2019-0294 Exhibit I.PP.5a

response to ED Interrogatory #12 and one of the primary conclusions in the study is that "Power-to-gas can only complement aggressive efficiency policies in the buildings sector, not replace them"[11]. Enbridge should specifically consider how these projects compare to enhanced energy efficiency as part of its future Demand Side Management applications.

Pollution Probe expects that the OEB's typical Leave to Construct conditions of approval will apply to this Project, plus recommends a condition requiring that a comprehensive Project evaluation be completed and that the report be filed by Enbridge as part of its next rebasing application.

Since Enbridge intends for hydrogen (similar to renewable natural gas) to become a more material component of its gas supply options, Pollution Probe recommends that it be specifically included in the next iteration of Enbridge's Gas Supply Plan with reference material to back-up future supply assumptions. Energy supply options and decisions are more efficient at a portfolio level. To the points raised in the submission from Environmental Defence, there is also a burden to ensure that an objective procurement process is used and that Enbridge will provide full transparency on any transactions related to its affiliates.

Pollution Probe had an opportunity to review the submission by Environmental Defence since it was submitted early which has been very helpful. Pollution Probe agrees with the recommendation from Environmental Defence that there would be significant value in the OEB conducting a generic review of energy supply options and the value for money that each will bring to Ontario consumers. This assessment could include least costs options to meet consumer and decarbonisation needs, among other current and emerging policy issues. Prudent energy choices require a review of the trade-offs given that no single option meets all consumer and policy needs, Pilots can also help manage risk since they contained costs while providing valuable information that feeds into decision making. Long term decisions to effectively meet the energy needs of Ontarians will require a holistic approach that considers the full range of options.

[11] Page 5 of the Agora Study referenced by Enbridge in EB-2019-0294 Exhibit I.ED.12.