Ontario Energy Board | Commission de l'énergie de l'Ontario

Ontario

DECISION AND ORDER

EB-2019-0294

ENBRIDGE GAS INC.

Application for leave to construct natural gas pipelines and associated facilities in the City of Markham, Regional Municipality of York

BEFORE: **Susan Frank**
Presiding Commissioner

Lynne Anderson
Chief Commissioner

Emad Elsayed
Commissioner

October 29, 2020

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1 INTRODUCTION AND SUMMARY

Enbridge Gas Inc. (Enbridge Gas) filed an updated application (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 meters (m) of natural gas pipeline, three stations and two network disconnects (Proposed Facilities) in the City of Markham. The purpose of the Proposed Facilities is to enable Enbridge Gas to conduct a pilot project that involves blending the standard natural gas that it currently distributes with up to 2% of hydrogen gas (blended gas) for distribution within an isolated portion of Enbridge Gas's existing distribution system called the Blended Gas Area (BGA). Construction of the Proposed Facilities and the distribution of blended gas are collectively referred to as the Project. The goal of the Project is to provide an insight into the use of hydrogen as a method for decarbonizing natural gas for the purpose of reducing greenhouse gas (GHG) emissions. The hydrogen blending within the Project is the first phase of Enbridge Gas's plans to consider other locations within the distribution system in which blended gas could be distributed. This first phase is a pilot undertaking designed to be of limited scope to determine if hydrogen blending should be pursued at a large scale. Enbridge Gas also applied to the OEB under section 97 of the OEB Act for approval of the form of a temporary land-use agreement and under section 36 of the OEB Act for approval of rate riders to compensate affected customers for costs associated with increased fuel consumption in the BGA.

When combusted, hydrogen is a zero-carbon emission fuel source. As a result, the use of blended gas would produce less GHG emissions relative to combusting standard natural gas. Enbridge Gas estimates that the GHG reductions associated with using blended gas having 2% hydrogen by volume in the BGA would be between 97-120 tonnes of carbon dioxide equivalent (tCO_2e) per year. The Project could potentially help Enbridge Gas comply with the requirements of the pending Federal Government's Clean Fuel Standard (CFS).

The Project would enable Enbridge Gas to study the effects of blended gas on its existing distribution system and consumers' end-use equipment. Based on the results of the Project, Enbridge Gas could seek OEB approval to discontinue, continue or expand its distribution of blended gas.

The Technical Standards and Safety Authority (TSSA) has reviewed facilities design and safety risk information provided to it by Enbridge Gas, and has indicated its general support for the Project.

The estimated total capital cost of the Project is approximately $5.23 million. This cost would be partially offset by a $221,000 grant from Sustainable Development Technology Canada, which would be payable upon completion of the Project. Enbridge Gas proposed that the capital costs for the Project be paid for by all of its ratepayers (not just those in the BGA) as all ratepayers would benefit from the success of the Project. There would be no immediate rate impact attributable to the Project because Enbridge Gas is currently in a price cap rate-setting regime. If approved, the costs of the Project would not be included in rates until Enbridge Gas's 2024 rebasing application.

One cost consequence related to the Project arises from the lower heating value of hydrogen gas – and the resulting blended gas – when compared to that of the standard natural gas that Enbridge Gas currently distributes. Because of the lower heating value, natural gas consumers in the BGA would need to consume a larger volume of blended gas to get the same amount of energy as contained in the same volume of standard natural gas. Since Enbridge Gas customers are charged a volumetric rate, customers in the BGA would experience a bill increase relative to the bills of other consumers due to increased consumption to get the same level of energy content. As a result, Enbridge Gas applied under section 36 of the OEB Act for approval of annual rate riders (credits) for customers in the BGA to offset this bill impact.

A map of the Project area is attached as Schedule A to this Decision and Order.

1.1 Summary of OEB Findings

The OEB approves the Project, subject to certain conditions as described in this Decision and Order.

This approval covers the proposed hydrogen blending pilot as the driver for this Application and the Leave to Construct (LTC) component of the physical facilities that support the implementation of the pilot.

The OEB approves the form of temporary land-use agreement that Enbridge Gas will offer to landowners, if required.

The OEB approves Enbridge Gas's request for rate riders to compensate customers in the BGA for costs associated with increased fuel consumption. Enbridge Gas shall review the riders annually and apply to adjust the riders if there is a material change in the price of natural gas.

2 THE PROCESS

On December 20, 2019, Enbridge Gas filed its application for the Project. On January 14, 2020, Enbridge Gas informed OEB staff of a change in the pipeline routing. The OEB placed the application in abeyance on January 15, 2020. On March 31, 2020, Enbridge Gas filed its updated Application.

The Notice of Hearing was issued on April 21, 2020. The Consumers Council of Canada (CCC), Federation of Rental-housing Providers of Ontario (FRPO), H2GO Canada (H2GO), Industrial Gas Users Association (IGUA), Pollution Probe, School Energy Coalition (SEC) and Vulnerable Energy Consumers Coalition (VECC) applied for intervenor status and cost eligibility. No objection was received from Enbridge Gas.

Procedural Order No. 1 was issued on May 15, 2020 and set a procedural schedule for interrogatories on the Application and responses by Enbridge Gas. CCC, FRPO, H2GO, IGUA, Pollution Probe, SEC and VECC were granted intervenor status and cost eligibility.

On May 15, 2020, Environmental Defence filed a letter requesting intervenor status. By way of a letter issued May 21, 2020, the OEB granted Environmental Defence intervenor status and cost eligibility.

On June 3, 2020, Enbridge Gas filed a letter requesting an extension to the due date by which it must provide responses to interrogatories from June 8 to June 15, 2020. Enbridge Gas stated that it had received over 240 interrogatories and was making the request due to the unprecedented COVID-19-related working conditions for its employees and the large number of interrogatories to be answered. On June 4, 2020, the OEB issued a letter that approved the extension request.

Procedural Order No. 2 was issued on June 16, 2020 and set a procedural schedule for the filing of evidence by the TSSA, interrogatories on the evidence, and responses by the TSSA.

On June 24, 2020, the TSSA filed a letter requesting an extension to the due date by which it must file evidence from June 30 to July 10, 2020. In its letter, the TSSA explained that important information and reports from Enbridge Gas were not yet available. The TSSA stated that it required time to consider that information and review the reports before it can comment on them in its evidence.

Procedural Order No. 3 was issued on June 24, 2020, which approved TSSA’s request and also extended the balance of the procedural schedule accordingly.

On July 26, 2020, Environmental Defence filed a supplementary interrogatory request to Enbridge Gas. The interrogatory was in respect of a recently released study related to the use of hydrogen as a fuel source for heat in buildings. On July 29, 2020, Enbridge Gas filed a letter stating that it did not object to the interrogatory being included as part of the record.

On July 30, 2020, the TSSA filed a request to extend the due date by which it was required to file interrogatory responses from July 28 to August 14, 2020.

Procedural Order No. 4 was issued on July 30, 2020 in which the OEB accepted receipt of the supplemental interrogatory and set a due date for Enbridge Gas's response to it. The OEB also approved the TSSA's extension request. The OEB also set a schedule for Enbridge Gas's Argument-in-Chief, OEB staff and intervenor submissions, and Enbridge Gas's reply submission.

Enbridge Gas filed its Argument-in-Chief on August 8, 2020.

Environmental Defence filed its submission on September 8, 2020. H2GO and Pollution Probe filed their submissions on September 11, 2020. FRPO, IGUA, OEB staff, SEC and VECC filed their submissions on September 15, 2020. CCC filed its submission on September 17, 2020.

Enbridge Gas filed its reply submission on September 24, 2020.

3 HYDROGEN BLENDING PILOT PROJECT

The Project is the first phase of a pilot project that would enable Enbridge Gas to blend standard natural gas with up to 2% of hydrogen gas and to distribute the blended gas to approximately 3600 existing customers in the BGA. The goal of the Project is to provide insight into the use of hydrogen as a method for decarbonizing the natural gas grid and thereby reducing GHG emissions. Experience gained from the Project could position Enbridge Gas to expand hydrogen blending into other parts of its gas distribution system.

Enbridge Gas submitted that hydrogen blending aligns with federal, provincial, municipal and OEB policies that are geared towards reducing GHG emissions, and the Project could help Enbridge Gas prepare for such policy initiatives as the federal CFS, which is expected to come into force January 1, 2023.

The Project would require the construction of approximately 755 m of natural gas pipeline, three stations and two network disconnects at a total cost of approximately $5.23 million.

3.1 Benefits of the Pilot Project

Despite concerns about the cost effectiveness of hydrogen blending relative to other GHG abatement activities, safety, and the ultimate potential for hydrogen blending in Ontario, each of FRPO, IGUA, H2GO, Pollution Probe, SEC, VECC and OEB staff submitted that the Project should be approved, subject to certain conditions (which are discussed elsewhere in this Decision and Order). Environmental Defence stated that it strongly supports decarbonization efforts but submitted that the Project is not prudent and should not proceed. CCC agreed with Environmental Defence that the Project should not be approved.

Enbridge Gas acknowledged that hydrogen blending is more costly than some alternative approaches to GHG abatement activities but submitted that this alone does not invalidate the Project. Enbridge Gas submitted that it is fair to assume that the cost of hydrogen blending will come down over time, like the reduction in costs to produce renewable electricity from solar and wind in recent years.

Environmental Defence submitted that hydrogen supply should be reserved for other sectors (like transportation), and that money otherwise spent on hydrogen blending should be directed to other GHG abatement activities. Enbridge Gas submitted that it is

premature to limit potential uses for hydrogen and stifle potential innovation by failing to even study small-scale practical applications such as the Project.

Enbridge Gas submitted that a combination of solutions will be needed as part of the transition to a low carbon economy. These solutions include energy efficiency via Demand Side Management (DSM), renewable hydrogen, renewable natural gas from bio sources, electrification, geothermal, the use of gas fired heat pumps, and high efficiency furnaces, amongst others. Enbridge Gas submitted that hydrogen blending can be part of its suite of activities to assist customers in reducing GHG emissions. H2GO agreed that a plurality of carbon mitigation responses is required in order for Canada to meet its GHG reduction commitments.

SEC submitted that the OEB should not try to ascertain if the future of the natural gas system involves blended gas, but instead should view the Project as a pilot project with the goal to learn enough to help assess later what role hydrogen can play, if any. Pollution Probe agreed with SEC and submitted that approval of the Project should not be construed as hydrogen blending being a better or cleaner energy solution than alternatives, but rather as a proof of concept to better understand if hydrogen blending should be considered for the future and to what extent. OEB staff submitted that, while there may be more cost effective alternatives to hydrogen blending for reducing GHG emissions, it would be premature to rule out hydrogen blending as a means to reduce GHG emissions before it is better understood in the Ontario context.

Findings

The OEB finds that Enbridge Gas has satisfied the evidentiary burden of proof in the value of proceeding with this Project as a first phase pilot. The proposed Project is a limited scope opportunity to determine if hydrogen blending should be pursued at a larger scale. The OEB supports innovation and recognizes that some initiatives might not produce the desired results but accepts that this Project will increase the learning on hydrogen fuel blending, and it should proceed.

There was general agreement by intervenors that hydrogen is an expensive fuel source compared to natural gas, could be dangerous at high concentration levels (see next section), and cannot make a significant reduction to the carbon emission levels in gas delivery. VECC noted that “there are no compelling reasons of energy efficiency, security of supply or safety to blend hydrogen into the natural gas distribution system.” SEC commented that “hydrogen is fundamentally an energy storage medium” and will never replace natural gas. OEB staff noted that the OEB’s Marginal Abatement Cost

Curve[1] did not include the cost of hydrogen as an abatement option – noting that it was more expensive than other abatement options such as energy efficiency and Renewable Natural Gas (RNG).

However, there was also general acknowledgement by the parties that the reduction in carbon emissions targeted by the Provincial Government cannot be achieved without exploring a variety of approaches to achieve such reduction. Enbridge Gas has proposed a pilot to inject a controlled quantity of hydrogen into its natural gas system for a small number of customers. This Project is expected to provide detailed information on the impact of hydrogen blending on the level of carbon reduction, the risk to the distribution system and customers' equipment, the potential for the expansion of hydrogen blending into other areas of its distribution system, and details on the hydrogen gasification process. The OEB agrees that despite the apparent limited potential of hydrogen blending, the learning from the proposed Project would be beneficial and the Project should proceed.

3.2 Safety and Technical Risks

Enbridge Gas's preliminary assessment of hydrogen blending involved literature reviews, industry consultation, field surveys of Enbridge Gas's system, onsite surveys of residential and commercial customer equipment, analytical modeling, and risk assessments. Enbridge Gas stated that this work identified several technical constraints and unknowns that are mainly related to the impact of hydrogen on existing gas distribution infrastructure and customer-owned appliances. Enbridge Gas stated that the work also helped identify a suitable level of hydrogen that may be injected into the natural gas distribution system and where that injection could occur in an existing Enbridge Gas network. Although there are examples of projects in other jurisdictions with hydrogen concentrations up to 20% by volume, Enbridge Gas decided that a concentration of up to 2% hydrogen is safe and reliable for the Project.

The TSSA filed evidence in this proceeding and answered interrogatories on that evidence. The TSSA has reviewed the design of the Proposed Facilities and the safety risk information provided to it by Enbridge Gas. The TSSA has indicated its general support for the Project.

FRPO submitted that, while the TSSA filed evidence and answered interrogatories, the evidence demonstrates a strong reliance on industry knowledge, literature review and

[1] EB-2016-0359, Marginal Abatement Cost Curve, July 20, 2017, https://www.oeb.ca/sites/default/files/OEB_MACC%20Report_20170720.pdf

specific risk assessments – some of which is not on the record. FRPO expressed safety concerns about hydrogen embrittlement in steel pipelines and the detection of leaks from pipelines carrying blended gas -- especially at higher concentrations of hydrogen gas and higher pipeline operating pressures. FRPO supported the OEB's approval of the Project, subject to Enbridge Gas reporting on these two issues that are in FRPO's view not commercial issues requiring confidential treatment. FRPO submitted that Enbridge Gas should be required to provide the OEB with the risk assessment that was provided to the TSSA in confidence and any update(s) once the Proposed Facilities are operational.

Findings

The OEB's concern about the safety and technical risks associated with the proposed pilot led to its request to have submissions from the TSSA. The OEB acknowledges the assistance that the TSSA has provided in the evidence they submitted and their interrogatory responses. The TSSA's review of Enbridge Gas's plans and the Risk Assessment Report led to its conclusion that Enbridge Gas has done sufficient assessment and that, at the low levels of hydrogen proposed in this pilot, there is no significant risk to the distribution system, Enbridge Gas's customers or their equipment. The specific questions raised by FRPO were addressed by the TSSA[2]. To the extent that Enbridge Gas finds any embrittlement in the steel pipelines or detects leaks, its report to the OEB should describe its findings. The OEB accepts the TSSA's conclusion and has determined that the safety risks have been adequately addressed in the proposed Project.

3.3 Impact on Consumers

Market Research

Enbridge Gas conducted market research to gauge public awareness, interest and acceptance for blending hydrogen into the natural gas grid. The market research surveyed customers in the EGD and Union rate zones to determine customer attitudes toward the environment and customer awareness of, and opinions about, Enbridge Gas's low carbon initiatives including the Project. Key findings included the following:

a) While most customers are not familiar with low carbon initiatives such as hydrogen blending, the majority of customers support Enbridge Gas making investments in such initiatives (76% providing at least some support)

[2] TSSA responses to FRPO interrogatories No. 7 and No. 9

b) Approximately half of Enbridge Gas's customers would support a small increase in their natural gas bill to pursue low carbon initiatives

Findings

The OEB finds the survey of customers both in the BGA and across Enbridge Gas's system helpful. The surveys indicated that customers are supportive of initiatives to reduce carbon emissions. Ongoing customer communication is required to ensure that customers report on their experience with the blended gas and the performance of their equipment.

Hydrogen Procurement

Hydrogen can be produced by many methods. One method is Power to Gas (PtG), which uses electricity from the grid to electrolyze water and produce hydrogen. An affiliate of Enbridge Gas called 2562961 Ontario Ltd. has developed and built North America's first utility scale PtG facility in Markham, Ontario. It is located at Enbridge Gas' Technology and Operations Centre in Markham. The PtG facility was developed in partnership with Hydrogenics Corporation. Hydrogenics Corporation is part owner of 2562961 Ontario Ltd.

The PtG plant is part of a pilot project with the Independent Electricity System Operator (IESO). The PtG plant is under contract with the IESO to provide a regulation service, which assists the IESO in balancing electricity supply and demand on a second-by-second basis. The IESO dispatches the PtG plant when it requires the regulation service, and hydrogen and oxygen are produced when the surplus electricity is run through the PtG plant.

Enbridge Gas is proposing to acquire hydrogen from its affiliate 2562961 Ontario Ltd. in a manner that keeps ratepayers cost-neutral; the price paid for hydrogen would be the same price paid for traditional natural gas and would fluctuate according to market conditions. Enbridge Gas is proposing to recover this commodity cost from all customers in the EGD rate zone until rebasing, after which time the costs would be recovered from all its ratepayers.

In an interrogatory, OEB staff asked Enbridge Gas to discuss the implications of the cost-neutral arrangement with respect to the Affiliate Relationships Code for Gas

Utilities (ARC)[3]. Enbridge Gas responded that, in part, the ARC requires that utilities pay no more than the market price for products purchased from an affiliate and, in situations where a reasonably competitive market for the product does not exist, no more than the affiliate's fully allocated cost to provide the product[4]. For the purposes of the Project, Enbridge Gas is purchasing hydrogen from its affiliate 2562961 Ontario Ltd. at a price that is below the market price of hydrogen as well as 2562961 Ontario Ltd.'s fully allocated cost to provide the hydrogen. OEB staff submitted that it has no issue with respect to Enbridge Gas's compliance with the ARC.

CCC submitted that Enbridge Gas should be required to provide full disclosure regarding the arrangements between it, its affiliates and its parent corporation with respect to the Project and any further projects regarding hydrogen.

SEC submitted that it appears unlikely that there would be any undisclosed profits to the affiliate during the deferred rebasing period. One reason is that section 3.11 in the contract between 2562961 Ontario Ltd. and the IESO makes it clear that if the affiliate gets additional revenue sources, those are netted out against the payments from IESO. However, SEC submitted that it should be open to the OEB to assess the appropriate terms under which Enbridge Gas should acquire hydrogen from its affiliate after rebasing.

VECC submitted that there is little risk in the near term on the price of hydrogen supply but expressed concerns about the nature of the supplier (an affiliate) and the likelihood of no alternative sources of supply creating a long-term risk. VECC submitted that the OEB should consider the impact of future hydrogen costs, especially if those supplies are provided by an affiliate in order to ensure ratepayers are not exploited.

Findings

Enbridge Gas has incorporated several initiatives to reduce the financial impact on customers. Enbridge Gas has committed to maintaining the cost of the hydrogen fuel at the market cost of natural gas. Enbridge Gas plans to purchase the hydrogen from its affiliate at a reduced price compared to the actual cost of producing hydrogen until its next rebasing or until such earlier time that a different treatment is appropriate based on future developments. However, Enbridge Gas indicated that the current contract that its affiliate has for hydrogen production with the IESO allows the affiliate to cover its costs

[3] The ARC sets out the standards and conditions for the interaction between gas distributors, transmitters and storage companies and their respective affiliated companies.
[4] ARC, section 2.3.4 and section 2.3.10.

and earn a return. Moreover, under the contract, funds received by the affiliate for hydrogen supply will result in a corresponding reduction in payments from the IESO to the affiliate. Based on the terms of the IESO contract, the OEB finds that intervenor concerns about compliance with the ARC is without basis during the pilot period. Enbridge Gas is expected to maintain the same approach to the cost of hydrogen throughout this first phase.

Consumption Impact

One cost consequence related to the Project arises from the lower heating value of hydrogen gas (about 1/3 that of natural gas) – and the resulting blended natural gas – when compared to that of the standard natural gas that Enbridge Gas currently distributes. Because of the lower heating value, natural gas consumers in the BGA would need to consume a larger volume of blended gas to get the same amount of energy as contained in a smaller volume of standard natural gas. Since Enbridge Gas customers are charged a volumetric rate, customers in the BGA would experience a bill increase relative to the bills of other consumers due to increased consumption to get the same level of energy content. Enbridge Gas is proposing to offset this impact by including annual rate riders that would credit customers in the BGA for the cost associated with the increase in volumetric requirements. This treatment would apply to ratepayers in the BGA until rebasing or until such earlier time that a different treatment is appropriate based on future developments (e.g., the implementation of the CFS). This consumption impact is further discussed below in section 6 (Rate Riders).

Findings

Enbridge Gas recognizes that additional volume of the blended gas will be required to deliver the same heating value as natural gas. Enbridge Gas proposed to provide customers with a credit that would cover this higher cost. The OEB finds that this proposal is satisfactory. This is discussed further in section 6 (Rate Riders).

Intellectual Property

Several intervenors made submissions about how “intellectual property” arising from the Project should be treated in the future. The general assertion made is that the “intellectual property” belongs to ratepayers, because they have “paid” for the Project.

Enbridge Gas submitted that it will own any intellectual property developed through the Project as “utility assets”. Enbridge Gas submitted that utility assets are not held for the benefit of ratepayers. However, Enbridge Gas acknowledged that the OEB may find it appropriate for ratepayers to share in financial proceeds arising from future use of

intellectual property resulting from the Project (e.g., where Enbridge Gas can obtain payment from other utilities who wish to learn from Enbridge Gas's experience).

SEC submitted that the intellectual property and other knowledge generated by the Project should *prima facie* be for account of the ratepayers, and that the onus should be on Enbridge Gas, either when it files its annual reports on the Project with the OEB, or on rebasing, to demonstrate that any part of the intellectual property generated by the Project should not be for account of customers.

FRPO noted that some interrogatory responses were not provided by Enbridge Gas, who cited commercial and risk management reasons. FRPO submitted that the protection of Enbridge Gas's interests should not inhibit the potential value that could be harvested from the Project. FRPO submitted that, like SEC, it would expect that ratepayer investment should receive a return of intellectual capital.

Enbridge Gas submitted that there is no "live controversy" about these speculative future matters (i.e., intellectual property and associated benefits), and there is no need for the OEB to make a determination on this matter in the current proceeding, including what information should be made public.

Findings

The question of the potential for, and ownership of, intellectual property was raised by some intervenors. Enbridge Gas indicated that if any benefits materialize from the intellectual property gathered, the OEB may find it appropriate for customers to share in the benefits. The OEB expects Enbridge Gas to notify the OEB if any benefits arise from the intellectual property as part of the Project, for a determination by the OEB at its rebasing application on how these benefits will be treated. Enbridge Gas is also expected to comment on the proposed sharing of benefits from the intellectual property when it seeks any changes to, or expansion of, the Project.

Reporting

Enbridge Gas committed to reporting to the OEB and stakeholders after a reasonable period (likely 5 years) about its experience with the Project, including observations and recommendations about whether and how to expand hydrogen blending.

OEB staff agreed that reporting after 5 years of actual experience is appropriate, and proposed a list of items to be included in the reporting:

a) Actual fully allocated costs of the Project relative to budget
b) Research findings including any evidence of negative impacts on the distribution system and end use appliances, and the actual $/tCO2e associated with the Project
c) A log of communications with stakeholders including customers and the TSSA
d) Conclusions arising from the Project-generated knowledge (e.g., risks/mitigations)
e) Recommendations for next steps (e.g., discontinue or expand the Project, adjust the concentration of hydrogen) and the potential timing of any related applications to the OEB

Enbridge Gas agreed that each of the items proposed by OEB staff is reasonable to include in the reporting, however Enbridge Gas submitted that it is possible that some of the information about experience with the Project will be commercially sensitive (valuable to third parties who might be willing to pay for it), and therefore Enbridge Gas might seek confidential treatment for certain portions of the reporting.

SEC submitted a similar scope of items for reporting but proposed that Enbridge Gas should be required to provide the reporting on an annual basis. Enbridge Gas submitted that annual reporting is not necessary as it is not clear what benefit will accrue from reporting every year rather than waiting until a meaningful amount of experience has been gained. However, Enbridge Gas did agree that some reporting would be appropriate in the context of its upcoming rebasing proceeding (which is for rates commencing January 1, 2024). This would provide the OEB and parties with interim information about the Project before full reporting is provided. Enbridge Gas would then provide a more complete report on the Project after there is five years of operating experience (which would not be until around 2026).

CCC submitted that Enbridge Gas should be required, upon rebasing, to provide a full cost/benefit analysis regarding the Project, and that a full analysis would be required to allow the OEB and other parties to assess what costs should be included in rate base in the context of 2024 rates. FRPO and Pollution Probe also submitted that a comprehensive Project evaluation be completed and that the report be filed by Enbridge Gas as part of its next rebasing application.

VECC submitted that Enbridge Gas should be required to report on any changes to the Project if and when federal or provincial related programs such as the CFS impact its benefits or costs.

VECC noted that Enbridge Gas did not make any proposal with respect to possible future CFS credits. VECC noted that this is different than in Enbridge Gas's Voluntary RNG proceeding[5]. For the RNG proceeding, Enbridge Gas proposed that any avoided costs realized as a result of reduced Federal Carbon Charges would be tracked in OEB-approved Federal Carbon Charge – Customer Variance Accounts for disposition in future proceedings. VECC submitted that, in the current proceeding, the absence of a similar treatment for any credits appears to be based on the uncertainty of government policy applying to hydrogen. VECC submitted that there should be no difference in the treatment of any credits that arise from the Project as in both cases Enbridge Gas is injecting into the distribution system alternative sources of combustible gas for reasons of GHG policies, and the principle of symmetry dictates that any benefit be treated in the same way. VECC submitted that, in conformity with any similar finding by the OEB in the Voluntary RNG proceeding, Enbridge Gas should be required to establish a variance/deferral account to track any avoided costs realized as a result of reduced Federal Carbon Charges or any other federal or provincial credit arising from the Project.

VECC submitted that, if federal or provincial tax credits or subsidies fail to materialize, this might leave ratepayers with an asset that can only be used if hydrogen is acquired at well above natural gas prices.

Findings

Enbridge Gas agreed with the reporting requirements proposed by OEB staff. Enbridge Gas agreed that some reporting will be appropriate in the context of the upcoming rebasing proceeding, providing the OEB and parties with interim information about the Project before full reporting is provided. Reporting on the ongoing customer communication is required to ensure that customers report on their experience with the blended gas and the performance of their equipment. The OEB makes these reporting commitments a condition of proceeding with the Project.

VECC raised the issue of CFS credits, but as Enbridge Gas noted, there are no CFS credits for hydrogen at this time. Moreover, one of the conditions of approval of the Project is that Enbridge Gas must inform the OEB of the potential impact on the Project of any new requirements that are introduced by Federal or Provincial programs.

[5] EB-2020-0066

3.4 Conditions of Proceeding with the Pilot Project

The OEB's approval in this Decision and Order is for the Project which is the first phase of a potentially larger undertaking and is subject to the following conditions, which are attached as Schedule B to this Decision and Order. Conditions of approval for the LTC component of the Project are addressed in Section 4.

1. Enbridge Gas shall advise the OEB of any changes to the Project, including any development of a second phase for hydrogen blending.
2. After 5 years of operational experience, Enbridge Gas shall file a report with the OEB that, at a minimum, includes the following:
   a. Actual fully allocated costs of the Project relative to budget
   b. Research findings including any evidence of negative impacts on the distribution system and end use appliances, and the actual $/tCO2e associated with the Project
   c. A log of communications with stakeholders including customers and the TSSA
   d. Conclusions arising from the Project-generated knowledge (e.g., risks/mitigations)
   e. Recommendations for next steps (e.g., discontinue or expand the Project, adjust the concentration of hydrogen) and the potential timing of any related applications to the OEB
3. If there are any new requirements that are introduced by Federal or Provincial programs such as the CFS or the Federal Carbon charges (FCC), Enbridge Gas must inform the OEB of the potential impact on the Project. This would include the introduction of CFS credits or reduced FCC benefits.
4. Enbridge Gas is expected to maintain the same approach to the cost of hydrogen throughout this first phase.
5. Enbridge Gas must notify the OEB if any benefits arise from the intellectual property as part of the Project, for a determination by the OEB at Enbridge Gas's rebasing application of how these benefits will be treated. Enbridge Gas is also expected to comment on the proposed sharing of benefits from the

intellectual property when it seeks any changes to, or expansion of, the Project.

6. Enbridge Gas is required to inform the OEB of its compliance with ARC and changes to the relationship with affiliates related to the Project at any time Enbridge Gas thinks there may be an issue.

4 LEAVE TO CONSTRUCT

Leave to construct the Project is granted subject to the conditions of approval attached as Schedule C to this Decision and Order.

4.1 Project Need and Timing

As previously discussed in this Decision and Order, Enbridge Gas conducted an extensive analysis in determining the need for the Project including an assessment of hydrogen blending, which involved literature reviews, industry consultation, field surveys of Enbridge Gas's system, onsite surveys of residential and commercial customer equipment, analytical modeling, and risk assessments. Enbridge Gas suggested that government policy direction to reduce the carbon emissions supports the need for this pilot project and the supporting construction of pipeline assets. The City of Markham also supports the Project. The surveys of customers in the BGA and across Enbridge Gas's service territory supported programs to reduce carbon emissions.

Enbridge Gas requested a decision from the OEB no later than November 2020. Enbridge Gas is planning to begin construction of the Project in Q2 of 2021.

Findings

The OEB finds that the need for the Proposed Facilities has been justified. Earlier in this Decision and Order, the OEB found that Enbridge Gas has satisfied the evidentiary burden of proof in the value of proceeding with the pilot project. In order for the Project to proceed, Enbridge Gas requires leave to construct the Proposed Facilities. As a result, the need for such facilities is met.

4.2 Proposed Facilities and Alternatives

The Proposed Facilities associated with the Project include 380 m of nominal pipe size (NPS) 6-inch extra high pressure (XHP) steel (ST) pipeline, 350 m of NPS 6-inch high pressure ST pipeline and 25 m of NPS 8-inch intermediate pressure polyethylene pipeline, for a total 755 m of pipeline. Approximately 250 m of NPS 6 XHP ST natural gas pipeline would be constructed along the municipal road right-of-way on Woodbine Avenue. The remaining pipeline would be constructed on Enbridge-owned property located in close proximity to its Technology and Operations Centre on Honda Boulevard in Markham, Ontario.

In order to isolate the BGA from the rest of the existing distribution system, two connections within the existing system would need to be disconnected (Disconnects).

They are both located at the intersection of Major Mackenzie Drive and Hazelton Avenue.

The Proposed Facilities also include three new stations, all of which would be constructed on Enbridge Gas's property:

- The *hydrogen station* would regulate hydrogen flow from the existing hydrogen storage tanks to the inlet of the hydrogen blending station. The hydrogen station would ensure that no more than 2% hydrogen by volume is blended with standard natural gas.
- The *hydrogen blending station* would regulate the pressure of the natural gas feed from extra-high pressure to high pressure. The hydrogen blending station would also control the amount of blended gas being injected into the BGA through the district station.
- The *district station* would regulate the pressure of the blended gas from high-pressure to intermediate pressure and introduce the blended gas into the BGA.

The Proposed Facilities are designed to carry the entire gas demand for the BGA. However, for system resiliency, existing district stations that connect the BGA with the surrounding system would also be configured to supply unblended natural gas to the BGA if the blended gas facilities were out of service. The existing district stations that currently feed the BGA would also be reconfigured to prevent blended gas from leaving the BGA.

Enbridge Gas evaluated eight potential areas for the pilot project against a set of 11 criteria before selecting the proposed BGA.

Enbridge Gas assessed one alternative route for the proposed pipeline facilities. Enbridge Gas selected the routing that had both the lower cost and the least impact on stakeholders.

The TSSA reviewed the design of the Proposed Facilities and found it to be compliant with applicable regulations and standards.

OEB staff submitted that the Proposed Facilities are appropriate to achieve the intent of the Project, which is to isolate a portion of Enbridge Gas's existing distribution system and safely distribute Blended Gas in order to study its effects on the existing distribution system and end-use equipment.

Findings

Enbridge Gas provided a detailed listing of the assets required to isolate the BGA to determine the impact of the blended gas. The TSSA indicated that it was satisfied with the technical and safety aspects of the Proposed Facilities. Enbridge Gas assessed the impact of alternative routes on impacted stakeholders and on the cost, selecting the least cost alternative that was also less disruptive to stakeholders. The OEB approves the approach used by Enbridge Gas to arrive at the Proposed Facilities.

4.3 Project Costs and Impact on Ratepayers

The total capital cost of the Project is approximately $5.23 million. This includes a 25% contingency applied to all direct capital costs – except for the station material costs that which have a 40% contingency to reflect the preliminary design stage of this specialized equipment. The 25% contingency is in line with several recent OEB approved pipeline projects. Enbridge Gas expects to receive grant funding of $221,000 from Sustainable Development Technology Canada that would be payable upon completion of the Project and would offset the capital costs of the Project.

OEB staff submitted that Enbridge Gas's Liberty Village project[6] is suitable for comparison to the pipeline component of the Project. The Liberty Village project was composed of approximately 1,200 m of NPS 6 and NPS 8 pipeline and the estimated capital cost was $3.6 million, for a unit cost of approximately $3,000/m. Applying this unit cost to the 755 m length of pipe in the current application results in $2.26 million.

OEB staff submitted that, except for the district station, there are no past projects that can be directly compared to the station component of the Project. However, OEB staff submitted that collectively, the hydrogen stations are akin to a gate station in as much as they have similar systems including pressure regulation, monitoring and control, chemical injection equipment[7], and a fenced compound. OEB staff noted that recent gate station projects average about three million dollars (e.g., 2014 Cookstown at $2,974,000 and 2015 Barrie at $3,192,000).

OEB staff submitted that, taken together, the comparative pipeline ($2.26 million) and station ($3 million) costs are in-line with the estimated cost of the Project ($5.23 million).

[6] EB-2018-0096
[7] E.g., odorant at a gate station and hydrogen for the Project

Project Economics and Recovery of Asset Costs

Enbridge Gas did not provide the results of a profitability index or net present value calculation for the Project. Instead, Enbridge Gas argued that the Project is in the public interest because it would enable Enbridge Gas to reduce the GHG footprint of its utility gas distribution system, and therefore the Project costs should be fully 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 Gas is not seeking Incremental Capital Module (ICM) treatment for the Project[8].

Enbridge Gas submitted that the Project should not be accounted for discretely and outside of the rolling project portfolio because the Proposed Facilities are a long-term gas distribution system asset and their costs should be treated in the same manner as any other gas distribution system asset.

SEC submitted that the inclusion of capital costs in rate base for infrastructure approved in a leave to construct is typically assured, subject to cost overruns, etc. SEC submitted that, because this is a pilot project, it should not be assumed that the capital costs will be added to rate base – especially if what is known at that time is materially different (e.g. early operational problems mean that the Project is no longer going to produce valuable information). SEC submitted that it should be open to the OEB to determine if the pilot project is not used and useful and should not be included in rate base.

IGUA stated that it supports innovation in energy services, including by regulated utilities, with modest ratepayer funding for prudent innovation initiatives that are within the reasonable scope of regulated activities. IGUA submitted that the Project fits this description. IGUA stated that it should not be taken as endorsing a proposition that the prudence of the investment (i.e. whether or not it should have been made) should be second guessed at the time of rebasing because the prudence of the proposed investment is a determination that Enbridge Gas is seeking now, and once made should not be subject to revisiting in hindsight.

OM&A Costs

VECC submitted that Enbridge Gas's shareholders and ratepayers should share in the risk of the Project, and that it should be open to the OEB upon rebasing to examine the

[8] Under the ICM mechanism, a distributor can apply to have otherwise unaccounted for incremental capital costs recovered through rate riders between rebasing applications, provided that certain conditions are met.

Project and determine what amount of the Project cost should be recovered from ratepayers (both capital and OM&A).

SEC submitted that it should be open to the OEB, on rebasing, to determine that all or some part of the incremental costs to operate the Project are not prudent or properly for account of customers and therefore should not be included in revenue requirement.

Bill Impacts

There are three cost consequences related to the Project, and Enbridge Gas is proposing different treatments for each:

- *Consumption Impact* – This is a volumetric impact resulting from the lower heating value of hydrogen gas (about 1/3 that of natural gas). Enbridge Gas is proposing to offset this impact by including annual rate riders that would credit customers in the BGA for the cost associated with the increase in volumetric requirements. This treatment would apply until rebasing or until such earlier time that a different treatment is appropriate based on future developments (e.g., the implementation of the CFS). The Consumption Impact is further discussed below in section 6 (Rate Riders).

- *Facilities Impact* – Enbridge Gas proposed that the capital costs for the Project should be paid for by all ratepayers as all ratepayers would receive benefits from the Project. There would be no immediate rate impact attributable to the Project because Enbridge Gas is currently in a price cap rate-setting regime. The cost of the Project would not be included in rates until the next rebasing year. Enbridge Gas estimates that the increase in a residential customer's bill as a result of the Project would be less than $0.12 per year after rebasing in 2024.

- *Commodity Impact* – This is the gas cost impact associated with procuring hydrogen rather than traditional natural gas. Enbridge Gas is proposing to acquire hydrogen from 2562961 Ontario Ltd in a manner that keeps ratepayers cost-neutral; the price paid for hydrogen would be the same price paid for traditional natural gas and would fluctuate according to the market cost of natural gas. Enbridge Gas is proposing to recover this cost from all customers in the EGD rate zone until rebasing at which time this cost would be recovered from all ratepayers (or until such earlier time that a different treatment is appropriate based on future developments, e.g., the implementation of the CFS). Enbridge Gas stated that any alternate treatment would be presented to the OEB for approval.

Findings

OEB staff did a comparative analysis of the Project costs and submitted that the costs were in line with other recent similar projects. Enbridge Gas identified three potential areas impacting customer bills and then explained how it had mitigated these potential impacts during the pilot. The higher amount of blended gas consumption, as discussed above, will be offset by the rate rider. The facility costs are not changing customer bills until Enbridge Gas's next rebasing application, and the residential customers' bill as a result of the Project would be less than $0.12 per year after rebasing. Finally, Enbridge Gas is setting the cost of hydrogen equal to the cost of natural gas during the pilot.

There was disagreement on the potential for recovery of asset costs approved in this application. SEC recommended that approval in this proceeding should not imply the assets will be included in rate base. IGUA submitted that it was reasonable for modest ratepayer funding for prudent innovation initiatives, and the prudence of Enbridge Gas's investment should not be second guessed at the time of rebasing. Enbridge Gas submitted that the capital costs for the Proposed Facilities should be paid for by all ratepayers as all ratepayers would receive benefits from the Project. Enbridge Gas confirmed that there would be no immediate rate impact attributable to the Proposed Facilities because Enbridge Gas is currently in a price cap rate-setting regime.

The asset value for the Proposed Facilities in this application are not material when compared to the assets in Enbridge Gas's rate base. The final decision on the recovery of costs will be made by the OEB panel in the rebasing application; however, the OEB agrees with IGUA's submission that there should be no hindsight consideration of the prudence of the investments. The OEB acknowledges that with any innovation, there is uncertainty on the outcomes. The OEB concludes that Enbridge Gas's approach is measured, with limited ratepayer funding, and therefore Enbridge Gas can expect recovery of prudently incurred costs.

Enbridge Gas stated that it would not request any ICM funding for the pilot. The OEB confirms that these Proposed Facilities will not be eligible for ICM funding. Ratepayer funding will be considered in the next rebasing application.

The OEB has no concerns with the estimated Project facility costs or the customer bill impact during the pilot. The actual costs of the Project will be reviewed as part of the next rebasing application.

4.4 Environmental Impacts of the Project

Enbridge Gas retained Dillon Consulting Ltd. to undertake an environmental and socio-economic impact study (Environmental Report or ER) and, after the routing change, an ER Amendment. The work included a consultation program to receive input from interested and potentially affected parties including Indigenous communities.

The ER Amendment states that the new route does not result in any material change to the biophysical, socio-economic or technical constraints considered in the ER, and that consequently, no additional mitigation measures beyond those recommended in the ER are required.

The ER was submitted to the Ontario Pipeline Coordinating Committee (OPCC) in May 2019 and the ER Amendment in March 2020. Both documents have also been provided to the Toronto and Region Conservation Authority (TRCA).

An Environmental Protection Plan (EPP) will be developed for the Project that incorporates recommended mitigation measures from the ER and feedback from the OPCC and TRCA. Enbridge Gas says that with the implementation of the EPP, environmental impacts resulting from construction of the Project are not expected to be significant.

A Stage 1 Archaeological Assessment (AA) was submitted to the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) on March 12, 2019. The MHSTCI issued a clearance letter on March 20, 2020. No further assessment is recommended unless Enbridge Gas proceeds with a second phase of the Project.

OEB staff submitted that Enbridge Gas's efforts to date are in accordance with the applicable requirements of the OEB's *Environmental Guidelines for Location, Construction and Operation of Hydrocarbon Pipelines and Faculties in Ontario* (7th Edition, 2016).

Findings

Enbridge Gas followed all the normal environmental steps including filing an ER with the OPCC and the TRCA, committing to developing an EPP, and getting clearance on the Stage 1 AA that was submitted to the MHSTCI. The OEB has no environmental impact concerns.

4.5 Landowner Matters

Enbridge Gas states that approximately 250 m of the proposed pipeline and the Disconnects would be located within municipal road right-of-way, and approximately 505 m of pipeline and the three stations would be located on Enbridge Gas owned property. Enbridge Gas states that no permanent easements are required, but that temporary working areas may be required for areas where the road allowance is too narrow or confined to facilitate construction – this is further discussed below in section 5 (Land Use Agreements).

Findings

The Proposed Facilities will be located within municipal road allowance or on Enbridge Gas's property. As discussed below in section 5 (Land-Use Agreements), if temporary working areas are required where the road allowance is too narrow or confined to facilitate construction, Enbridge Gas will offer the affected landowners its standard form of working area agreement. The OEB has no landowner related issues.

4.6 Indigenous Consultation

On January 4, 2019, Enbridge Gas provided the Ontario Ministry of Energy, Northern Development and Mines (MENDM) with a project description. On March 1, 2019, Enbridge Gas received a letter from the MENDM indicating that it had delegated the procedural aspects of consultation to Enbridge Gas for the Project. The letter identified six Indigenous communities to be consulted:

- Alderville First Nation
- Curve Lake First Nation
- Hiawatha First Nation
- Huron Wendat First Nation
- Mississaugas of the Credit First Nation
- Mississaugas of Scugog Island First Nation

Enbridge Gas's Indigenous Consultation Report was provided to the MENDM on March 31, 2020. On July 17, 2020, the MENDM issued a letter to Enbridge Gas stating that, "the procedural aspects of consultation undertaken by Enbridge to date for the purposes of the Ontario Energy Board's Leave to Construct approval process for the Low Carbon Energy Project is satisfactory."

OEB staff submitted that it had no issues or concerns in respect of Indigenous consultations. No intervenors raised concerns regarding Indigenous consultations.

Findings

The MENDM identified six Indigenous communities to be consulted. The MENDM issued a letter to Enbridge Gas stating that, “the procedural aspects of consultation undertaken by Enbridge to date for the purposes of the Ontario Energy Board’s Leave to Construct approval process for the Low Carbon Energy Project is satisfactory.” The OEB accepts the findings of the MENDM and has no further issues.

4.7 Conditions of Approval – Leave to Construct

OEB staff asked Enbridge Gas to comment on a proposed set of conditions of approval for leave to construct. Enbridge Gas did not object to the proposed conditions.

Findings

The typical conditions associated with LTC were reviewed and agreed to by Enbridge Gas. The OEB confirms the LTC conditions found in Appendix C.

5 LAND-USE AGREEMENTS

Section 97 of the OEB Act requires that leave to construct shall not be granted until the applicant satisfies the OEB that it has offered or will offer to each owner of land affected by the approved route or location an agreement in a form approved by the OEB.

Enbridge Gas states that temporary working areas may be required for the Project where the road allowance is too narrow or confined to facilitate construction. These areas would be identified with the assistance of the contractor that will construct the Project. If it is determined that temporary easements are required, Enbridge Gas would offer the affected landowners its standard form of working area agreement.

Enbridge Gas's standard form of working area agreement was approved by the OEB for use by Enbridge Gas for its Georgian Sands Pipeline[9] project and there have not been any changes to the form of agreement since that time.

OEB staff submitted that it had no issues with Enbridge Gas's form of proposed temporary working area agreement. No intervenors raised concerns with the proposed temporary working area agreement.

Findings

The OEB approves Enbridge Gas's standard form of working area agreement for use on the Project, if required.

[9] EB-2018-0226

6 RATE RIDERS

Enbridge Gas applied under section 36 of the OEB Act for an order approving the use of an annual rate rider (credit) to compensate the approximately 3,600 Rate 1 (residential) customers in the BGA for the additional costs associated with the increase in volumetric requirements for blended gas as compared to standard natural gas. Enbridge Gas explained that a typical residential customer in the BGA consuming 2,400 m^3 per year the equivalent amount of blended gas for the same amount of energy is approximately 2,433 m^3 per year. Based on January 2020 Quarterly Rate Adjustment Mechanism (QRAM) rates, these customers would pay approximately $8.99 annually more than a similar customer located outside the BGA. In order to ensure that BGA customers are kept whole, Enbridge Gas is proposing an annual rate rider credit of $10.00.

In response to an interrogatory asking for confirmation that only residential customers are located in the BGA, Enbridge Gas advised that there are also approximately 20 Rate 6 (commercial) customers in the BGA. Enbridge Gas stated that it would also use an annual rate rider to compensate these customers for the additional costs associated with use of blended gas. Based on January 2020 QRAM rates, a typical Rate 6 customer in the BGA consuming 22,606 m^3 per year of standard natural gas would have to consume approximately 22,918 m^3 of blended gas. This equates to a typical Rate 6 customer in the BGA paying approximately $76.77 more per year than a non-BGA customer. Similar to the rate rider treatment for Rate 1 customers, Enbridge Gas is proposing to provide an annual rate rider of $86.00 for Rate 6 customers in the BGA.

Enbridge Gas proposed to apply the rate riders to customers in the BGA until its next rebasing or until such earlier time that a different treatment is appropriate based on future developments (for example, implementation of the CFS). Enbridge Gas proposed to absorb the costs associated with the rate riders until its next rebasing. Enbridge Gas stated that, if the OEB believes that it is appropriate, Enbridge Gas would update the amount of the rate rider each year, to reflect current QRAM rates.

Pollution Probe and VECC submitted that the rate rider of $10.00 per year should be approved. VECC submitted that Enbridge Gas should be required to provide a detailed report on the Project when it proposes to, among other things, adjust the compensating rate rider.

SEC and OEB staff submitted that the amounts of the proposed Rate 1 and Rate 6 rate riders should be approved. OEB staff submitted that, as a condition of approval, Enbridge Gas should be required to update the amount of the rate riders annually to reflect current QRAM rates. SEC submitted that on rebasing it should be open to parties

to argue that any rate riders or rate treatment should be more reflective of actual impacts on each customer.

IGUA submitted that, although the costs of the rate riders will be absorbed by Enbridge Gas during the balance of the current incentive rate plan term, that is true only to the extent that Enbridge Gas would not otherwise be in an earnings sharing position. If Enbridge Gas were in an earnings sharing position, then its customers would share in the costs as well – even pending rebasing. In its reply submission, Enbridge Gas acknowledged that the Project could have some minor impact on earnings sharing amounts in future years of the deferred rebasing term. Enbridge Gas submitted that it is appropriate to include the impacts of the Project in utility results for Earnings Sharing Mechanism (ESM) purposes.

Findings

The OEB approves the $10.00 per year Rate 1 and $86.00 per year Rate 6 riders.

The rate riders will compensate customers for costs associated with increased gas consumption. Customers in the BGA should be compensated for the lower heating value of the blended gas, and the OEB concludes that the approach to having a rate rider is appropriate.

Intervenors expressed concern that the rate rider should be changed in response to changes in the QRAM. There was also concern that the potential earnings sharing with customers would be reduced with Enbridge Gas funding the cost of the rate rider.

The OEB directs Enbridge Gas to review the rate rider annually and request an update if there is a material change in the price of natural gas[10]. Consistent with the decision in Enbridge Gas's Voluntary RNG Program[11], the OEB approves the costs for the rate rider to flow through the ESM calculation, and understands that there is a possibility that all customers will bear a portion of these costs if Enbridge Gas's earnings reach a level that require them to be shared with customers. However, the amount involved in the ESM calculation is not material given the size of Enbridge Gas's revenue requirement.

[10] The OEB's Decision and Order in the Review of the Quarterly Rate Adjustment Mechanism proceeding (issued August 14, 2014) defines a "material" change in the commodity cost of natural gas as an increase or decrease of 25% or more.
[11] EB-2020-0066

7 MATTERS BEYOND THE SCOPE OF THIS PROCEEDING

7.1 Generic Hearing on Decarbonization

Environmental Defence submitted that climate change issues are being dealt with in a "piecemeal fashion" through various OEB proceedings including the current proceeding, Enbridge Gas's Voluntary RNG proceeding, the integrated resource planning proceeding[12], and the DSM Framework review[13]. Environmental Defence submitted that a generic hearing on decarbonization of buildings in Ontario is needed. Pollution Probe agreed with the recommendation from Environmental Defence and submitted that the generic review could examine least costs options to meet consumer and decarbonization needs, among other current and emerging policy issues.

Enbridge Gas submitted that Environmental Defence's proposal to convene an industry-wide proceeding to look at options for building heating raises a multitude of issues that are perhaps best left to direction from the Provincial Government. Enbridge Gas submitted that this application is a request for approval of a pilot project to examine the feasibility and implications of one approach to decarbonization. Enbridge Gas submitted that it can be reviewed and approved even if the OEB determines that a sector-wide review of decarbonization and building heating is needed in the future.

Findings

Environmental Defence's suggestion of a generic hearing on the decarbonization of buildings in Ontario is noted but beyond the scope of this proceeding.

7.2 Hydrogen Blending and Enbridge Gas's Gas Supply Plan

Pollution Probe submitted that, since Enbridge Gas intends for hydrogen to become a more material component of its gas supply options (similar to RNG), that it should be specifically included in the next iteration of Enbridge's Gas Supply Plan with reference material to back-up future supply assumptions. Pollution Probe submitted that there is also a need to ensure that an objective procurement process is used and that Enbridge Gas will provide full transparency on any transactions related to its affiliates.

[12] EB-2020-0091
[13] EB-2019-0003

Enbridge Gas submitted that at some time in the future it may be appropriate to include details about hydrogen supply in its Gas Supply Plan. However, Enbridge Gas stated that at this time, such a requirement would be premature.

Findings

The inclusion of hydrogen blending in Enbridge Gas's Gas Supply Plan is also beyond the scope of this proceeding. The findings from the Project will inform Enbridge Gas on whether the potential for hydrogen blending is sufficient to consider it for inclusion in future gas supply planning.

7.3 Benefits associated with Intellectual Property and Government Policy

The matters of intellectual property benefits and government direction on CFS credits and reduced FCC benefits were previously discussed in this Decision and Order.

Findings

Future developments in these areas are best considered as part of a subsequent application.

8 ORDER

THE ONTARIO ENERGY BOARD ORDERS THAT:

1. Enbridge Gas Inc. is granted approval to conduct the Project, which is the first phase of a hydrogen blending pilot project as described in the Application.
2. Approval of the pilot project is subject to Enbridge Gas Inc. complying with the Pilot Project Conditions of Approval set out in Schedule B.
3. Enbridge Gas Inc. is granted leave to construct approximately 755 m of pipeline, a hydrogen station, a hydrogen blending station, a district station and two pipe disconnections in order to conduct the Project as described in the Application.
4. Leave to construct the Project is subject to Enbridge Gas Inc. complying with the Leave to Construct Conditions of Approval set out in Schedule C.
5. The OEB approves the form of temporary working area agreement that Enbridge Gas Inc. will offer to each owner of land affected by the approved pipeline route for the Project, if required.
6. The OEB approves a Rate 1 rate rider in the amount of $10.00 per year and a Rate 6 rate rider in the amount of $86.00 per year to be credited to Enbridge Gas Inc.'s customers in the BGA.
7. Enbridge Gas Inc. shall review the rate riders annually and request an update if there is a material change in the price of natural gas.
8. Enbridge Gas Inc. shall file with the OEB drafts of the Rate 1 and Rate 6 schedules that it proposes to include in its Rate Handbook, on or before **November 5, 2020.**
9. Any written submissions from OEB staff on the draft Rate 1 and Rate 6 schedules shall be filed with the OEB and served on all parties by **November 12, 2020.**
10. Any written reply submissions from Enbridge Gas Inc. on the draft Rate 1 and Rate 6 schedules shall be filed with the OEB and served all parties by **November 19, 2020**.
11. Intervenors shall file with the OEB and forward to Enbridge Gas Inc. their cost claims in accordance with the OEB's *Practice Direction on Cost Awards* on or before **November 26, 2020**.

12. Enbridge Gas Inc. shall file with the OEB and forward to intervenors any objections to the claimed costs of the intervenors on or before **December 10, 2020**.

13. If Enbridge Gas Inc. objects to the costs of a specific intervenor, that intervenor shall file with the OEB and forward to Enbridge Gas Inc. its response, if any, to the objections to cost claims on or before **December 23, 2020**.

14. Enbridge Gas Inc. shall pay the OEB's costs incidental to this proceeding upon receipt of the OEB's invoice.

All materials filed with the OEB must quote the file number, **EB-2019-0294**, and be submitted in a searchable/unrestricted PDF format with a digital signature through the OEB's web portal at https://pes.ontarioenergyboard.ca/eservice. Filings must clearly state the sender's name, postal address, telephone number, fax number and e-mail address. Parties must use the document naming conventions and document submission standards outlined in the Regulatory Electronic Submission System (RESS) Document Guidelines found at www.oeb.ca/industry. We encourage the use of RESS; however, parties who have not yet set up an account, may email their documents to registrar@oeb.ca.

All communications should be directed to the attention of the Registrar and be received no later than 4:45 p.m. on the required date.

Email: registrar@oeb.ca
Tel: 1-888-632-6273 (Toll free)
Fax: 416-440-7656

DATED at Toronto October 29, 2020

ONTARIO ENERGY BOARD

Original Signed By

Christine E. Long
Registrar

SCHEDULE A

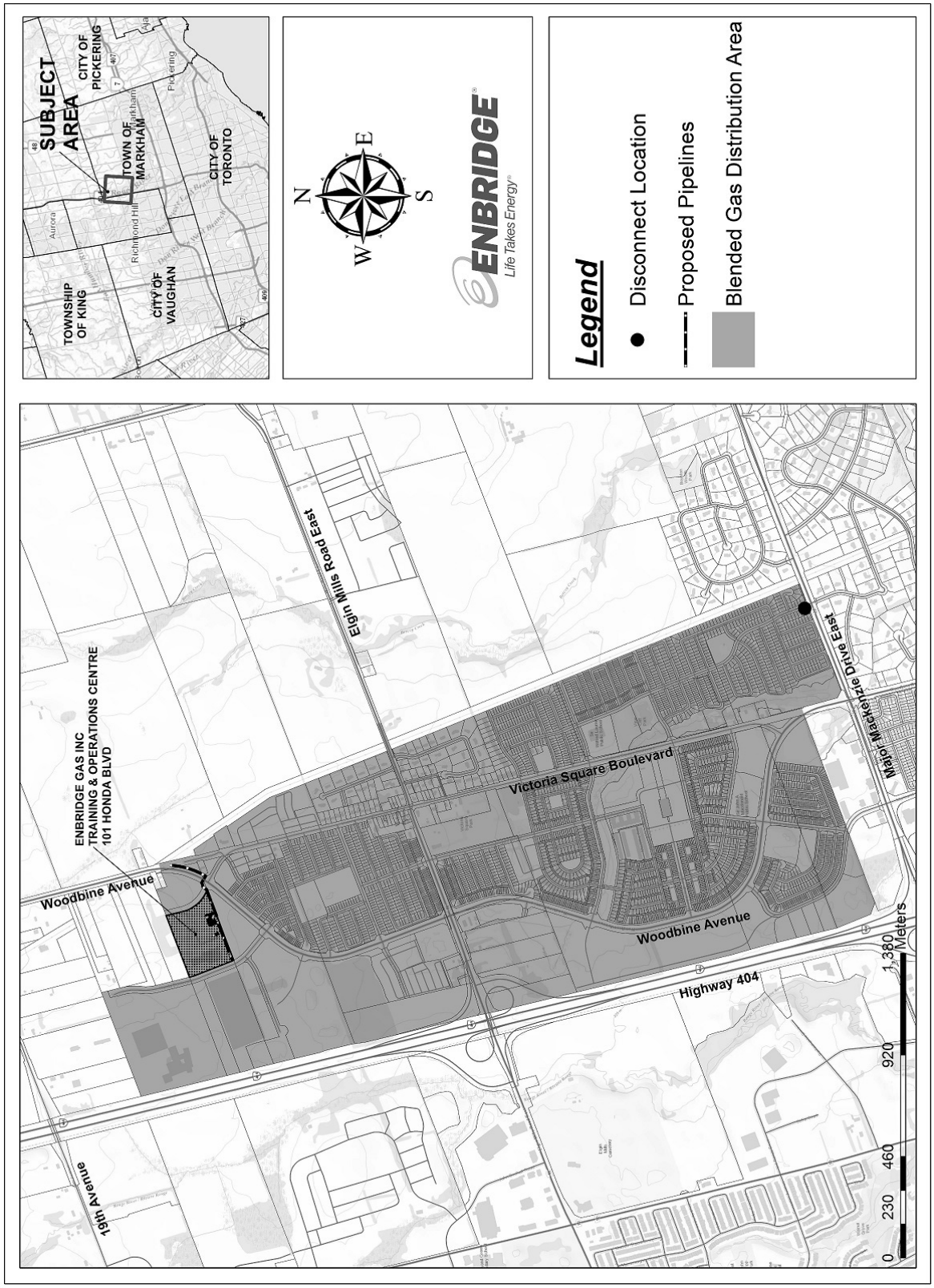
DECISION AND ORDER

ENBRIDGE GAS INC.

EB-2019-0294

OCTOBER 29, 2020

SCHEDULE A – MAP OF PROJECT AREA



SCHEDULE B

DECISION AND ORDER

ENBRIDGE GAS INC.

EB-2019-0294

OCTOBER 29, 2020

SCHEDULE B
PILOT PROJECT CONDITIONS OF APPROVAL
ENBRIDGE GAS INC.
EB-2019-0294

1. Enbridge Gas shall advise the OEB of any changes to the Project, including any development of a second phase for hydrogen blending.

2. After 5 years of operational experience, Enbridge Gas shall file a report with the OEB that, at a minimum, includes the following:

   a) Actual fully allocated costs of the Project relative to budget

   b) Research findings including any evidence of negative impacts on the distribution system and end use appliances, and the actual $/tCO2e associated with the Project

   c) A log of communications with stakeholders including customers and the TSSA

   d) Conclusions arising from the Project-generated knowledge (e.g., risks/mitigations)

   e) Recommendations for next steps (e.g., discontinue or expand the pilot, adjust the concentration of hydrogen) and the potential timing of any related applications to the OEB

3. If there are any new requirements that are introduced by Federal or Provincial programs such as the CFS or the Federal Carbon charges (FCC), Enbridge Gas must inform the OEB of the potential impact on the Project. This would include the introduction of CFS credits or reduced FCC benefits.

4. Enbridge Gas is expected to maintain the same approach to the cost of hydrogen throughout this first phase.

5. Enbridge Gas must notify the OEB if any benefits arise from the intellectual property as part of the Project, for a determination by the OEB at their rebasing application of how these benefits will be treated. Enbridge Gas is also expected to comment on the proposed sharing of benefits from the intellectual property when it seeks any changes to, or expansion of, the Project.

6. Enbridge Gas is required to inform the OEB of its compliance with ARC and changes to the relationship with affiliates related to the Project at any time Enbridge Gas thinks there may be an issue.

SCHEDULE C

DECISION AND ORDER

ENBRIDGE GAS INC.

EB-2019-0294

OCTOBER 29, 2020

SCHEDULE C
LEAVE TO CONSTRUCT CONDITIONS OF APPROVAL
ENBRIDGE GAS INC.
EB-2019-0294

1. Enbridge Gas shall construct the facilities and restore the land in accordance with the OEB's Decision and Order in EB-2019-0294 and these Conditions of Approval.
2. (a) Authorization for leave to construct shall terminate 12 months after the decision is issued, unless construction has commenced prior to that date.

   (b) Enbridge Gas shall give the OEB notice in writing:

   i. of the planned in-service date, at least ten days prior to the date the facilities go into service;

   ii. of the date on which construction was completed, no later than 10 days following the completion of construction; and

   iii. of the in-service date, no later than 10 days after the facilities go into service.
3. Enbridge Gas shall implement all the recommendations of the Environmental Report filed in the proceeding, and all the recommendations and directives identified by the Ontario Pipeline Coordinating Committee review.
4. Enbridge Gas shall advise the OEB of any proposed change to OEB-approved construction or restoration procedures. Except in an emergency, Enbridge Gas shall not make any such change without prior notice to and written approval of the OEB. In the event of an emergency, the OEB shall be informed immediately after the fact.
5. Enbridge Gas shall file, in the proceeding where the actual capital costs of the project are proposed to be included in rate base, a Post Construction Financial Report, which shall indicate the actual capital costs of the project and shall provide an explanation for any significant variances from the cost estimates filed in this proceeding.
6. Both during and after construction, Enbridge Gas shall monitor the impacts of construction, and shall file with the OEB an electronic (searchable PDF) version of each of the following reports:

   (a) A post construction report, within three months of the in-service date, which shall:

   i. provide a certification, by a senior executive of the company, of Enbridge Gas' adherence to Condition 1;

ii. describe any impacts and outstanding concerns identified during construction;

iii. describe the actions taken or planned to be taken to prevent or mitigate any identified impacts of construction;

iv. include a log of all complaints received by Enbridge Gas, including the date/time the complaint was received, a description of the complaint, any actions taken to address the complaint, the rationale for taking such actions; and

v. provide a certification, by a senior executive of the company, that the company has obtained all other approvals, permits, licenses, and certificates required to construct, operate and maintain the proposed project.

(b) A final monitoring report, no later than fifteen months after the in-service date, or, where the deadline falls between December 1 and May 31, the following June 1, which shall:

i. provide a certification, by a senior executive of the company, of Enbridge Gas' adherence to Condition 3;

ii. describe the condition of any rehabilitated land;

iii. describe the effectiveness of any actions taken to prevent or mitigate any identified impacts of construction;

iv. include the results of analyses and monitoring programs and any recommendations arising therefrom; and

v. include a log of all complaints received by Enbridge Gas, including the date/time the complaint was received; a description of the complaint; any actions taken to address the complaint; and the rationale for taking such actions.

7. Enbridge Gas shall designate one of its employees as project manager who will be responsible for the fulfillment of these conditions, and shall provide the employee's name and contact information to the OEB and to all the appropriate landowners, and shall clearly post the project manager's contact information in a prominent place at the construction site.