Filed: 2023-04-06 EB-2022-0200 Exhibit JT5.37 Plus Attachments Page 1 of 2

ENBRIDGE GAS INC.

Answer to Undertaking from Pollution Probe (PP)

Undertaking

Tr: 139

To file the IRP modeling related to the area of impact for the St. Laurent project

Response:

Please see Attachment 1 for a presentation from Enbridge Gas to the City of Ottawa, Hydro Ottawa and the IESO on February 22, 2023, that provided information regarding preliminary IRP scenario analyses for the St. Laurent Project. At this time, Enbridge Gas is still completing its integrity analysis in the St. Laurent area, therefore, the pipeline project and associated energy needs that may be required, if any, are unknown at this time.

In addition to the presentation, please find at Attachment 2, an email exchange between the City of Ottawa and Enbridge Gas that includes the City of Ottawa's meeting notes, Enbridge Gas's response and authorization from the City of Ottawa to file the documents in the rebasing proceeding.

The City of Ottawa's email response on April 4, 2023 (please see Attachment 2) stated, among other things:

In the attached presentation: i) with respect to the first bullet on page 9, please clarify that City of Ottawa staff replied with the information available, but the information only informs IRP analysis to a limited extent due to the extent to which Ottawa's Energy Evolution currently has funding and authority and ii) on page 11, please clarify that the process outline is a general one which Enbridge generally uses, used in the case to the St. Laurent pipeline and is a process that Enbridge could continue to use.

Enbridge Gas agrees with both comments above. The City of Ottawa provided the best information they had for the preliminary analyses, but the level of detail was insufficient for Enbridge Gas to use to determine any impacts on the natural gas demands in the St. Laurent Project area. In addition, the IRP Assessment process described on page 11 of

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the February 22, 2023 presentation is the process Enbridge Gas uses for all IRP assessments, not just the St. Laurent Project.

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Integrated Resource Planning Update

City of Ottawa – St. Laurent



February 22, 2023

Filed: 2023-04-06, EB-2022-0200, Exhibit JT5.37, Attachment 1, Page 2 of 18

Agenda



- Values Moment Enbridge (5 min)
- Objectives of Meeting Enbridge (5 min)
- Integrity Update Enbridge (5 min)
- Demand Forecast Enbridge (10 min)
- Integrated Resource Planning Preliminary Assessment Enbridge (30 min)
- Discussion All (5 min)

Note: The data provided are estimates and for general discussion purposes. Some of the information provided is part of our 2024 Rebasing application.

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Inclusive Language



- · Language is a powerful tool and when used well, it creates a common understanding
- · It's essential for creating an environment where everyone feels welcome and included
- Inclusive language seeks to treat all people with respect, dignity, and impartiality. It is constructed to bring everyone into the group and exclude no one
- Six overall inclusive language principles
 - 1. Put people first
 - 2. Avoid idioms, jargons, and acronyms
 - 3. Avoid phrases that suggest victimhood
 - 4. Don't underplay the impact of mental disabilities
 - 5. Use inclusive language that does not specify gender
 - 6. If you aren't sure, ask



Be mindful of language

Sources: https://buffer.com/resources/inclusive-language-tech/

Objectives of Meeting



- Provide update on the integrity work being completed by Enbridge
- Confirm assumptions used in Enbridge's IRP analysis based on previous discussions and information provided by the City of Ottawa
- Discuss potential growth in the St. Laurent area
- Review the preliminary IRP assessment

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Integrity Update



- Field evidence has been collected to include:
 - Corrosion Surveys (Cathodic Protection, Direct Current Voltage Gradient, and Depth of Cover Surveys)
 - In-line Inspection (ILI) tool runs (~40% of the pipeline inspected)
 - Integrity Digs; ILI launcher locations and opportunistic digs
 - Visual Inspection of NPS 16 Bridge Crossing
- Quantitative Risk Assessment (QRA) is being finalized:
 - Ongoing finalization internal and external reviews
 - Tentative issuance date of early Q2 2023
- Ongoing field work taking place on the northern portion of the line to investigate a field indication
- Leak detection survey scheduled for March 26 and 27, 2023
 - Leak survey every 6 months, will re-evaluate once decision on the strategy for the pipeline has been made

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Enbridge's Demand Forecast



- The process steps include:
 - Gather data on load forecast (approved proposals, contract changes, draft plans, econometric forecast, energy transition factors)
 - Gather most recent existing customer usage data and combine with load forecast
 - Perform hydraulic analysis to determine infrastructure requirements
- The assumptions included in the demand forecast include:
 - Systems are designed for the coldest day on record in past 40 years (-32.5 C for Ottawa) with interruptible customers off (IOFF)
 - Carbon pricing and natural gas commodity pricing, building performance and appliance efficiency improvements for existing customers are all included in energy transition factors
 - Some customers are expected to choose not to connect to natural gas as a fuel source and the growth forecast has been reduced accordingly
- Review and assess community/municipal energy plans to determine if there are any impacts to the demand forecast as outlined above

Potential New Demands



- Enbridge has received two major recent <u>firm</u> load addition requests in the St. Laurent region that are to be included/updated in the demand forecast
 - Request to install natural gas service to be used for electrical peak shaving and emergency backup
 - -Request to shift interruptible gas service to firm gas service
- The following slides and analysis do not include these two new firm demands

/

Energy Evolution Plan Impacts



- How the Energy Evolution Plan (EEP) is used by Enbridge in its IRP evaluation was discussed in our last meeting, it was determined that:
 - 1. The EEP would be reviewed to determine if there were peak hour impacts/outcomes from the EEP that would impact Enbridge's demand forecast and that this evaluation would be informed by discussions with the City of Ottawa. Any resulting changes to Enbridge's demand forecast would impact the IRP alternatives analyzed.
 - 2. The EEP would be looked at, together with the City of Ottawa, to determine if there are peak-reduction related programs that Enbridge could add or stack onto, to drive cost efficiencies and a more seamless customer experience.

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Energy Evolution Plan Impacts



- How the Energy Evolution Plan (EEP) is used by Enbridge in its IRP evaluation was discussed in our last meeting, it was determined that:
 - 1. The EEP would be reviewed to determine if there were peak hour impacts/outcomes from the EEP that would impact Enbridge's demand forecast and that this evaluation would be informed by discussions with the City of Ottawa.
 - High level EEP Plan and program information was provided during and post the last meeting (January 16, 2023) however, the City of Ottawa has not provided Enbridge with sufficient EEP details required for Enbridge to assess and include impacts in its demand forecast
 - Discussion at the last meeting found that, at this point in time, Hydro Ottawa does not have sufficient information to determine what level or degree of electrification could be implemented in the St. Laurent area. Once the forecast for the area is aligned for both gas and electricity, Hydro Ottawa can assess any potential impact to the electrical distribution system.
 - Enbridge can proceed with its IRP alternative analysis using the demand forecast that it has presented
 - <u>For Discussion:</u> Confirm the above still holds true and that there is no new information that would impact Enbridge's demand forecast

Energy Evolution Plan Impacts



- How the Energy Evolution Plan (EEP) is used by Enbridge in its IRP evaluation was discussed in our last meeting, it was determined that:
 - 1. The EEP would be looked at, together with the City of Ottawa, to determine if there are peak-reduction related programs that Enbridge could add or stack onto to drive cost efficiencies and a more seamless customer experience.
 - At our January 16, 2023 meeting, the City of Ottawa spoke to their programs at a high-level and followed up with high-level details of the programs.
 - Enbridge confirms that it has completed a review of the program descriptions that the City of Ottawa has provided to determine if Enbridge could add or stack onto them to drive cost-efficiencies.
 - <u>For discussion:</u> City of Ottawa, is there additional program information to supplement what was sent that Enbridge should also evaluate for this project or future projects?

Enbridge's IRP Evaluation



Enbridge Gas's IRP Evaluation Steps / Process

- 1. Review the capacity scenarios to determine the peak hour reduction required
- Evaluate geo-targeted energy efficiency options and any other local programs that could be added / stacked onto
- 3. Evaluate potential to have contract (large) customers in the project area shift their natural gas demands to off-peak periods
- 4. Evaluate supply-side options
- 5. Evaluate if one, or a combination of the above, can reduce the peak hour enough to defer or downsize the project

Step 1 Preliminary Capacity Scenarios





Scenario	Description	Estimated Total Cost (Millions)	Estimated Savings (Millions)	Capacity (m³/h)**	Capacity Loss	Loss - Residential Customer Equivalent	Energy Loss Equivalent ¹ (GW)**
0	Existing pipeline Configuration	N/A	N/A	166,300	N/A	N/A	N/A
1	Design outlined in OEB Application	\$124	N/A	155,500	N/A	N/A	0
2	Replace all with 12" XHP ST	\$122	\$1.3	133,800	14%	18,870	0.34
3*	Replace all with 10" XHP ST	\$121	\$2.6	91,500	41%	55,652	0.59
4*	Replace all with 8" XHP ST	\$120	\$4	58,000	63%	84,783	0.96

^{*}Scenarios are not feasible

^{**}Capacity and Energy values are approximate (straight energy conversion) and for illustrative purposes only

 $^{^{1}}$ (155,300 m3/h × 1h × 37.98 MJ/m3) \div 3,600 MJ/MWh = 1,638.415 MW -or- 1.64 GW

² Canadian Power Holding Inc. (2022). *Operations*. https://canadianpower.com/operations/

³ Portage Power. (2002). Chaudiere Falls Run-of-the-river Hydroelectric Facilities. https://portagepower.com/hydroelectric/chaudiere-falls/

Step 2 – Evaluate geo-targeted energy efficiency



• ETEE

- Enbridge could reduce the peak hour demands of the general service customers (residential, small commercial) in the St. Laurent project area by 13,273 m³/hr at a cost of \$68 million.
 Based on our analysis, this the maximum achievable potential with an unconstrained budget
- The ETEE alternative does not provide a technically feasible option to reduce the pipe size from NPS 16 to NPS 12 for a cost savings of \$1 million
- Enbridge considered stacking the EEP programs onto an ETEE IRP; however, because the ETEE alternative is not technically feasible, stacking onto the EEP programs in the St. Laurent area is not a viable option.

Step 3 – Review Contract Customers



- There are five contract customers with a total of 10,286 m³/hr on the St. Laurent line
- Enbridge contacted the five customers to discuss shifting their firm peak demands to interruptible service or off-peak periods
- All five customers stated that a switch from firm to interruptible service or a demand shift from a peak period to an off-peak period was not possible

Step 4 – Evaluate supply side options



• CNG

- CNG considered not applicable as it would require an injection site on the St. Laurent line and the parking/transport of CNG trailers in the City
- o Enbridge assumes 2,000 m³/hr to be the maximum capability for CNG per trailer
- At a minimum, 20 CNG trailers would be required on site if the St. Laurent line was reduced to NPS 12 taking into account potential weather issues, shipping delays, etc.
- No other supply side options are applicable for this project

Step 5 - Preliminary IRP Assessment



St. Laurent System

OEB Application Peak Hour Design was 155,500 m³/hr

Peak hour reduction of 21,700 m3/hr required to downsize pipe from NPS 16 to NPS 12

IRP Alternatives Potential

Measure	Peak Hour Reduction m3/hr			
CNG	0			
ETEE	13,273			
Contract Customers	0			
Total	13,273			

Conclusion: based on the preliminary analysis Enbridge cannot technically achieve enough peak hour reduction to downsize the St. Laurent project

Filed: 2023-04-06, EB-2022-0200, Exhibit JT5.37, Attachment 1, Page 17 of 18



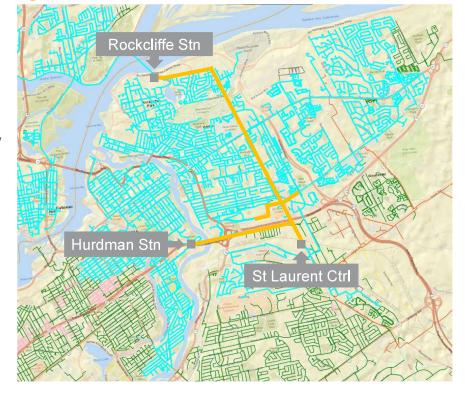
APPENDIX

Enbridge's St Laurent System



The St Laurent System

- The St Laurent core pipeline system is represented by the yellow lines on the map
- The light blue lines represent the area primarily served by the St Laurent system. (Note: in the event of an emergency situation the affected area may be much larger)
- The St Laurent core pipeline system is a 1900 kPa MAOP system
- It is fed by St Laurent Control from a 3240 kPa system
- Customers primarily connected to 420 kPa systems downstream of the St Laurent 1900 kPa system



Filed: 2023-04-06, EB-2022-0200, Exhibit JT5.37, Attachment 2, Page 1 of 4

Heidi Steinberg Laxton

From: Fletcher, Mike < Mike.Fletcher@ottawa.ca>

Sent: Tuesday, April 4, 2023 1:58 PM

To: Chris Ripley; Flowers, Andrea; Hagen, Rebecca; trevorfreeman@hydroottawa.com;

Flores, Margaret; ankitabhowmick@hydroottawa.com; Ahmed Maria

Cc: Cara-Lynne Wade; Bradley Clark; Mohamed Chebaro; Candice Case

Subject: [External] RE: St Laurent IRP Meeting Notes

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Were you expecting this email? TAKE A CLOSER LOOK. Is the sender legitimate? DO NOT click links or open attachments unless you are 100% sure that the email is safe.

Hi Chris,

It was nice to talk to you and Cara-Lynne today. As discussed, we are fine with you responding with the following conditions:

- In addition to the attached presentation, please include my meeting notes with your responses (per below February 22, 2023 at 6:45 PM)
- In the attached presentation: i) with respect to the first bullet on page 9, please clarify that City of Ottawa staff replied with the information available, but the information only informs IRP analysis to a limited extent due to the extent to which Ottawa's Energy Evolution currently has funding and authority and ii) on page 11, please clarify that the process outline is a general one which Enbridge generally uses, used in the case to the St. Laurent pipeline and is a process that Enbridge could continue to use.

With these two conditions we are happy that the information be shared in the re-basing application in response to the interrogatory from Mr. Brophy.

Regards, Mike.

Mike Fletcher

Cell and Text: 613-880-3688

From: Chris Ripley <CRipley@uniongas.com>

Sent: March 30, 2023 7:51 AM

To: Fletcher, Mike <Mike.Fletcher@ottawa.ca>; Flowers, Andrea <Andrea.Flowers@ottawa.ca>; Hagen, Rebecca <rebecca.hagen@ottawa.ca>; trevorfreeman@hydroottawa.com; Flores, Margaret

<margaretflores@hydroottawa.com>; ankitabhowmick@hydroottawa.com; Ahmed Maria <ahmed.maria@ieso.ca>
Cc: Cara-Lynne Wade <Cara-Lynne.Wade@enbridge.com>; Bradley Clark <Bradley.Clark@enbridge.com>; Mohamed Chebaro <Mohamed.Chebaro@enbridge.com>; Candice Case <Candice.Case@enbridge.com>

Subject: RE: St Laurent IRP Meeting Notes

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Rebecca/Mike: As you are aware Enbridge's 2024 Rebasing proceeding is underway. At the Technical Conference this week, Mike Brophy from Pollution Probe requested Enbridge to file the presentation related to the IRP discussions with the City of Ottawa as part of an undertaking.

We need to respond to the undertakings as soon as possible.

Do you have any concerns if we file the presentation (see attachment) as part of an undertaking? If not, we will file the presentation tomorrow (Friday). If you prefer Enbridge to not file the presentation we can explain to Mr. Brophy that these discussions are ongoing and it would be inappropriate to file the presentation at this time.

If you have any questions I am happy to discuss them.

Chris

Chris Ripley (him/he)
Manager, Integrated Resource Planning

Enbridge Gas Inc.

TEL: 519-436-5476 | CELL: 519-365-0450 | chris.ripley@enbridge.com 50 Keil Drive North, Chatham, ON, N7M 5M1

From: Chris Ripley

Sent: Thursday, March 9, 2023 4:35 PM

To: Fletcher, Mike <<u>mike.fletcher@ottawa.ca</u>>; Flowers, Andrea <<u>andrea.flowers@ottawa.ca</u>>; Hagen, Rebecca <<u>rebecca.hagen@ottawa.ca</u>>; trevorfreeman@hydroottawa.com; Flores, Margaret

<<u>margaretflores@hydroottawa.com</u>>; <u>ankitabhowmick@hydroottawa.com</u>; Ahmed Maria <<u>ahmed.maria@ieso.ca</u>> **Cc:** Cara-Lynne Wade <Cara-Lynne.Wade@enbridge.com>; Bradley Clark <Bradley.Clark@enbridge.com>; Mohamed

Chebaro < Mohamed. Chebaro@enbridge.com >; Candice Case < Candice. Case@enbridge.com >

Subject: RE: St Laurent IRP Meeting Notes

Mike, thank you for the meeting on February 22 and for sending your notes. I apologize for the late response. The Rebasing interrogatory process was just completed so I have now found the time to respond. We have made comments below in red including the references to the OEB's IRP Decision as requested. I have also attached the IRP Decision for ease of reference.

Also attached is Enbridge's February 22 presentation which includes an update to slide 9. As discussed at the meeting, we agreed to revise the point about Hydro Ottawa's ability to electrify portions of the St. Laurent area. We asked Hydro Ottawa to review the revised point and they provided comments. The revised point has been included in the updated presentation.

Lastly, I have attached the Posterity Report for the St. Laurent project as filed in the St. Laurent proceeding as we have not completed a final analysis or report for the updates we have been discussing at our recent meetings. Once the demand forecast is finalized, Posterity will update their model and provide a final report. For background, Posterity uses a proprietary model to evaluate and assess energy conservation measures in a particular geographic region with our customer data. Their model calculates the potential design hourly demand reductions for the St. Laurent customers with those energy conservation measures and it also calculates the costs required to achieve those design hourly reductions. We would be happy to explain this model further if you see value.

Filed: 2023-04-06, EB-2022-0200, Exhibit JT5.37, Attachment 2, Page 3 of 4

Enbridge will continue to look at the St. Laurent area to evaluate the future demands. Enbridge would be happy to have a follow-up discussion on any of the materials provided or new developments in the St. Laurent area. In addition, following the conclusion of the integrity review, Enbridge will contact the City to discuss next steps.

Chris

From: Fletcher, Mike < Mike.Fletcher@ottawa.ca > Sent: Wednesday, February 22, 2023 6:45 PM

To: Chris Ripley <<u>CRipley@uniongas.com</u>>; Hagen, Rebecca <<u>rebecca.hagen@ottawa.ca</u>>; trevorfreeman@hydroottawa.com; Flores, Margaret <<u>margaretflores@hydroottawa.com</u>>; ankitabhowmick@hydroottawa.com; Ahmed Maria <<u>a hred.maria@ieso.ca</u>>; Cara-Lynne Wade <<u>Cara-Lynne.Wade@enbridge.com</u>>; Bradley Clark <<u>Bradley.Clark@enbridge.com</u>>; Mohamed Chebaro <<u>Mohamed.Chebaro@enbridge.com</u>>; Glive, Candice <<u>candice.glive@pne-ag.com</u>>

Cc: Flowers, Andrea < <u>Andrea.Flowers@ottawa.ca</u>> **Subject:** [External] St Laurent IRP Meeting Notes

CAUTION! EXTERNAL SENDER

Were you expecting this email? TAKE A CLOSER LOOK. Is the sender legitimate? DO NOT click links or open attachments unless you are 100% sure that the email is safe.

Hello All,

Thanks to all attendees at today's meeting. I have taken the following notes of key points.

- Enbridge's interpretation of the OEB order to conduct IRP with the City of Ottawa in the St. Laurent area is that's its subject to feasibility.
- Reductions to reduce a future St. Laurent pipeline by one size would cost \$68 million vs. a \$1 million capital cost savings and Enbridge is therefore of the opinion that IRP is not feasible. Enbridge to share cost study with the City of Ottawa and Ottawa has asked that the notion that IRP is not feasible in the St Laurent area not be submitted to the OEB until Ottawa has had a change to review and comment on the study. For clarity, Enbridge is not suggesting the \$68 million cost for enhanced geo-targeted energy efficiency (ETEE) programs is the reason IRP is not feasible in the St. Laurent area. Enbridge first looks at the technical feasibility of IRP alternatives meeting the required design hour reduction. Based on the information we have today, ETEE programs cannot achieve the design hour reduction required to meet the reduce or defer the project. The preliminary analysis completed by Posterity demonstrates that the ETEE, based on the current demand forecast, cannot technically meet the design hour reduction needed.
- Enbridge's review of the existing pipeline's integrity to be complete in Q2 2023. The review will not be shared outside Enbridge unless Enbridge makes a leave to construct application to the OEB. This is consistent with Enbridge's existing practices.
- Potential reductions from existing programs are short by 13,800 m3 of gas on a demand day in order to make a difference to pipe size. This includes efficiency improvements but does not include fuel switching. Agreed. Enbridge does not have any detailed information regarding fuel switching that would impact Enbridge's demand forecast. Enbridge does know that the five contract customers (large volume customers) in the St. Laurent area have no plans to switch fuels or reduce their design hour demands.
- Calculations do not include potential reductions in Gatineau but did include 100% reductions at all City facilities and the federal district energy system. At this point in time, Enbridge sees increased growth, not reductions, in Gatineau over the next 10 years.
- Enbridge alluded to other areas of the gas system in Ottawa which might be feasible for IRP. This is a carry forward item. Yes, Enbridge intends to meet with the City of Ottawa on future system needs and the potential for IRP alternatives.
- Hydro Ottawa did not agree with the statement that they would not be able to supply required electricity to the area. They feel that this is something for them to determine and it was noted that infrastructure could potentially be expanded. As noted above, Enbridge has revised the presentation point with Hydro Ottawa's approval.

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- Enbridge stated that a recent OEB ruling is preventing them from offering non-gas alternatives. Mike Fletcher asked to be given and link and if possible, some details about the ruling. If the Ottawa determines that the OEB ruling is indeed counterproductive to emissions reductions, it may raise the issue. This would be contingent upon internal discussion. Please see "Section 7 – Types of IRPAs" at page 29 in the attached OEB's IRP Decision. Specifically on page 35, the OEB states: "Enbridge Gas also proposed non-gas IRPAs, specifically electricity-based alternatives. The OEB has concluded that as part of this first-generation IRP Framework, it is not appropriate to provide funding to Enbridge Gas for electricity IRPAs. This may be an element of IRP that will evolve as energy planning evolves, and as experience is gained with the IRP Framework."

Please advise of any errors or omissions. A follow up meeting could take place after a review of materials that Enbridge will supply the City (today's slides, IRP study, link on the OEB non-gas ruling by the OEB and details if possible).

Regards, Mike

Mike Fletcher (he/him) – Born at 320ppm Project Manager, Climate Change and Resiliency Unit Planning, Infrastructure and Economic Development Department

City of Ottawa, 110 Laurier Avenue West - 4th Floor, Ottawa, ON K1P 1J1 T. 613.580.2424 x29201 | Cell and Text. 613-880-3688 | mike.fletcher@ottawa.ca

The City of Ottawa unanimously approved its community energy transition strategy, Energy Evolution, on October 28th, 2020.

Information on Energy Evolution can be found here

The City of Ottawa declared a climate emergency on April 24th, 2019.

Information on the climate crisis can be found here and here

Note: I work in the office Mondays and Tuesdays only and can only be reached on my cell on the ther days of the week

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