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Enbridge Gas Inc.
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December 6, 2024

Nancy Marconi
Registrar
Ontario Energy Board
2300 Yonge Street, Suite 2700
Toronto, ON M4P 1E4

Dear Nancy Marconi,

**Re: Enbridge Gas Inc. (“Enbridge Gas” or the “Company”)
Ontario Energy Board (“OEB”) File No. EB-2024-0200
St. Laurent Pipeline Replacement Project
Updated Technical Conference Undertaking Responses - REDACTED**

As a follow-up to our letter of December 2, 2024, Enbridge Gas is providing this further response to the letter from the Federation of Rental-housing Providers of Ontario (FRPO) dated November 29, 2024, wherein FRPO requests additional responses from Enbridge Gas in respect of five undertakings and one refusal requested by FRPO during the first day (October 30, 2024) of the technical conference in the above-noted proceeding. Further below, we also provide a brief follow-up to Pollution Probe’s (PP) letter from yesterday.

As a preliminary point and for context, Enbridge Gas notes that FRPO’s requests for additional information principally relate to the sizing of the piping in this pipeline replacement project, and specifically pertain to a small section of the project consisting of NPS 16 piping (as opposed to NPS 12). FRPO questions whether NPS 12 could potentially be used for this small section. It is important to keep in mind that this section of piping is only an approximately 2.4 km section, and the estimated cost difference of downsizing this section from NPS 16 to NPS 12 -- if it were feasible -- would only be \$1.3 million (as explained in the application evidence). This represents an immaterial amount in relation to the overall project cost as well as to the alternatives presented in the evidence. Accordingly, this is a relatively minor issue or point that FRPO’s letter and requests are directed at, and is not material or probative to determining whether the project is in the public interest.

FRPO asserts in their letter that five undertaking responses were “insufficient” and it asks for “more fulsome” responses to be provided to them. Enbridge Gas disagrees that there was anything insufficient with the responses. The undertakings that were given were properly and fully answered. And it appears from assertions in FRPO’s letter that it may not have fully understood some of the responses.

In any event (notwithstanding that the undertakings have been answered), in order to be of assistance and avoid any additional unnecessary delays in the proceeding, Enbridge Gas is providing further responses or clarifications in respect of those undertaking answers to address

FRPO's requests. Those further responses are set out in the attached updated undertaking responses to JTX1.22, JTX1.24, JTX1.26, JTX1.28, and JTX1.29.

In respect of the one refusal referred to in FRPO's letter, related to Exhibit JT1.20, it sought certain cost information in respect of a Leamington pipeline expansion project completed in 2016 (specifically, detailed cost comparison information and documents in respect of use of NPS 16 versus NPS 12 piping in that project). Enbridge Gas maintains its refusal in respect of this request. The requested information (which is not readily available in any event) would not be relevant to the matters at issue in this application. Outdated costing information in a different project, eight years ago, and in a very different context – a rural setting -- would not be instructive to the OEB in evaluating the costing of the 2.4 km section of piping that uses NPS 16 versus NPS 12 size piping in this project.

In respect of the relevant costing information for the project that is at issue in this application, Enbridge Gas has already provided an explanation of the estimated \$1.3 million cost difference between the different size piping for this project in Exhibit JT1.20. However, to provide additional support and justification for this estimate, and to respond to FRPO's assertions that the differences in weight and circumference between the two pipe sizes should warrant a higher incremental cost, Enbridge Gas provides some additional explanation in the attached updated response to Exhibit JT1.20.

We also note that FRPO has included within its letter certain submissions relating to the project, which consist of argument and should more properly be made as part of closing submissions. This letter writing exchange at this juncture is not the appropriate time in the proceeding for arguments on the merits, and we therefore do not propose to respond to those submissions in this letter. We will respond to FRPO's submissions at the appropriate time, as part of closing arguments.

Lastly, by way of follow-up to PP's further letter yesterday, we can confirm that the requested February 10, 2023 draft DNV document is a preliminary, incomplete draft from DNV at a relatively early stage of its iterative engagement with Enbridge Gas, which does not address the finalized QRA that has been filed and on which Enbridge Gas relies in this application – the draft document pre-dates the finalized/filed QRA by more than two months (the filed QRA is dated April 24, 2023). This draft is thus not relevant or probative. DNV's review and opinion in respect of the filed QRA is what is relevant and probative, and that is set out in the DNV summary memo and full report, both of which have already been filed.

In accordance with the OEB's Practice Direction on Confidential Filings, Enbridge Gas is requesting confidential treatment for some responses. Details of the specific confidential information for which confidential treatment is sought is set out in Table 1.

Table 1

Exhibit	Confidential Information Location	Brief Description	Basis for Confidentiality
JTX1.22	Original response: Pg. 1, Table 1	Station Flow The redacted information is station names and associated flow rates.	The redaction relates to the locations of Enbridge Gas critical infrastructure. Public disclosure poses both a safety and a security risk as it may allow third parties to determine gas system configurations and points of sensitivity or vulnerability that may expose Enbridge Gas to security risks.
JTX1.24	Updated response: Pg. 2	Station Names, Inlet Pressure and Flow The redacted information is station names and associated flow rates and inlet pressures.	The redaction relates to the locations of Enbridge Gas critical infrastructure. Public disclosure poses both a safety and a security risk as it may allow third parties to determine gas system configurations and points of sensitivity or vulnerability that may expose Enbridge Gas to security risks.
JTX1.24	Updated response: Attachment 1	System Map The redacted information is the existing system map with river crossing and station locations, pipeline size and MOP.	The redaction relates to the locations of Enbridge Gas critical infrastructure. Public disclosure poses both a safety and a security risk as it may allow third parties to determine gas system configurations and points of sensitivity or vulnerability that may expose Enbridge Gas to security risks.
JTX1.26	Original response: Pgs. 1, 2 and 3	Station Inlet Pressure and Flow The redacted information is station numbers and names.	The redactions relate to the locations of Enbridge Gas critical infrastructure. Public disclosure poses both a safety and a security risk as it may allow third parties to determine gas system configurations and points of sensitivity or vulnerability that may expose Enbridge Gas to security risks.
JTX1.26	Original response: Pg. 4, Figure 1	System Map The redacted information is the existing system map with pipeline MOP, station locations and low points.	The redaction relates to the locations of Enbridge Gas critical infrastructure. Public disclosure poses both a safety and a security risk as it may allow third parties to determine gas system configurations and points of sensitivity or vulnerability that may expose Enbridge Gas to security risks.

Should you have any questions, please contact the undersigned.

Sincerely,

Patricia Squires

Patricia Squires
Manager, Regulatory Applications – Leave to Construct

Cc: Zora Crnojacki (OEB Staff)
Charles Keizer (Torys)
Arlen Sternberg (Torys)
Intervenors (EB-2024-0200)

ENBRIDGE GAS INC.

Answer to Undertaking from
Federation of Rental-housing Providers of Ontario (FRPO)

Undertaking:

Tr: 107

To provide a breakdown of the cost estimate that would be holistic to downsize the nps 16 portion to an nps 12 portion.

Response:

The Project is not designed to serve any future growth in natural gas demands, but rather to ensure that the Company can continue to meet its obligation to serve the firm contractual needs of its existing customers under peak design conditions. The capacity of the proposed pipeline is slightly less than the current due to the greater overall length of the new alignment.

As a result, based on its OEB-approved demand forecasting methodology and current contractual customer commitments, it is not appropriate to seek to downsize the proposed NPS 16 to NPS 12 as doing so would inhibit the Company's ability to meet its firm contractual obligations to natural gas customers and accordingly the solution is not feasible.

However, in an effort to be as responsive as possible and for illustrative purposes only, the Company has provided a high-level estimate of the savings that could occur from downsizing the NPS 16 section of pipeline to NPS 12 in Table 1. The estimated costs in Table 1 are based on the following assumptions:

- Material costs;
- Trenching – 3-5% savings resulting from reducing trench size to 12-inch. Table 1 assumes 5% savings;
- Similar labour and equipment costs;
- Similar welding costs (due to the urban setting of the project); and
- Identical drilling costs.

Table 1: Cost Difference if NPS 12 instead of NPS 16 illustrates the savings are minimal

	Quantity	Difference (\$)	Cost (\$)	Total Savings (\$)
Pipe	2772	60		166,320
Fittings				
EL 45	8	729		5,832
EL 90	21	1,526		32,046
16 x 12 Reducer	3		424	1,272
3WT	1	60,766		60,766
Cap	12	(224)		(2,688)
Trenching Savings	5%		20,000,000	1,000,000
Total				1,263,548

Further Request in FRPO's November 29, 2024 Letter:

Notwithstanding EGI's refusal of our request in the Technical Conference, we believe that the Board would be informed by evidence provided by EGI demonstrating the actual costs with supporting invoices from the Leamington project that show a separation of the costs of carrying, fabrication and inspection between NPS 16 and NPS 12.

Response:

As explained in the accompanying cover letter that is being filed with this updated response, Enbridge Gas maintains its refusal to this specific request. However, Enbridge Gas provides the following additional information in support of the estimated \$1.3 million cost differential provided in the original response to Exhibit JT1.20 and to address points raised by FRPO.

Despite the weight and circumferential differences noted by FRPO between NPS 16 and NPS 12, the equipment and labour components of the costs would be very similar for both pipe sizes. The primary cost driver of the \$1.3 million cost difference was the narrower width of the trench and shallower depth needed with a NPS 12 pipe in the areas where the pipe is to be installed using open cut method. The reason why the smaller size of trench is the primary factor driving cost savings when downsizing this section of the pipeline is because in urban pipeline installation, the pipe is installed joint by joint instead of assembled in a pipeline string on the right of way (ROW) and lowered into the trench in large segments. Therefore the weight of the pipe and welding requirements have a negligible impact on the installation cost.

For this project, the installation is limited to 1-2 welds per day per crew because of the urban installation so the same labour and equipment would be used for either size pipe.

The weight of the pipe has no bearing on the equipment selected (due to the joint by joint installation method), and the costs for radiographic inspection are only minimally different, as radiographic technicians charge per day and will have the same or similar production.

Further, the Horizontal Directional Drilling (HDD) equipment used for NPS 16 or NPS 12 is the same for the length of the drill shots planned on the project therefore these costs would essentially be identical.

ENBRIDGE GAS INC.

Answer to Undertaking from
Federation of Rental-housing Providers of Ontario (FRPO)

Undertaking:

Tr: 130

To reconcile that difference of equally split in FRPO-1 with the two-thirds model through the Rockcliffe control point in the previous confidential table.

Response:

The flows at the Rockcliffe and Gatineau crossings have been outlined below in Table 1, for a 2024 47.5 HDD Winter Design Condition. The contract for supply to Gazifere, which is provided at Exhibit I.1-CAFES Ottawa-7 Attachments 1 and 2, has a Contract Demand and Maximum Daily Transportation Volume of 1,681 10³m³ or 84,050 m³/hr using a 20 hour factor. As indicated in the response to Exhibit I.1-FRPO-1, the supply split is nearly equal between points of entry on design day conditions due to actual system configuration and constraints. Table 1 shows the modeled design flow between the two crossings that feed Gazifere and is based on Gazifere's customer demand at a peak. Actual daily flow will depend on the temperature profile and customer usage on any particular day.

Table 1: Design Hour Supply to Gazifere

Crossing	Modeled Design Flow (m ³ /hr)
██████████	██████████
██████████	██████████

Further Request in FRPO's November 29, 2024 Letter:

Please provide why EGI used the maximum daily contracted flow including the interruptible flow for the purposes of sizing the St. Laurent pipeline.

Please provide the amount of flow reduction from each of the respective Rockcliffe and east feeds to Gazifère when the interruptible flow is eliminated.

Response:

The demand and flows that are represented in the evidence and subsequent interrogatories are the result of demand modelling at design conditions with interruptible flow off, and not the application of a contract volume. The design condition for the system in Ottawa and Gazifère does not include interruptible flow.

ENBRIDGE GAS INC.

Answer to Undertaking from
Federation of Rental-housing Providers of Ontario (FRPO)

Undertaking:

Tr: 135

To provide the two remaining capacity left on the line in its current conditions, for the pipelines that are undertaking jtx1.24: to provide the two remaining capacity left on the line in its current conditions, for the pipelines that are there through the eastern feed, and the minimum inlet needed at the Gatineau control station.

Response:

The remaining capacity on a pipeline is highly dependent on the location of incremental demand, and as such, can vary widely. The remaining capacity for the St. Laurent pipeline has been assessed assuming all incremental load will be added at Rockcliffe station. An incremental load of ~23,000m³/hr can be added prior to a modelled pressure of 1379 kPa (200 PSIG) being observed.

The Eastern feed (Gatineau Crossing) is at capacity and increasing flow through the crossing would result in pressure/capacity constraints on the downstream system.

Further Request in FRPO's November 29, 2024 Letter:

Please provide a map showing the Gazifère high pressure piping (with sizes and pressures at the end of the river crossings into the system and location of district stations with inlet pressure and flow through each station at:

- a) Maximum daily contracted flow
- b) Firm contracted demand

in order to show the effect and substantiate the limitations of providing more demand through the eastern feed.

Response:

The design condition for the Gazifère system does not include interruptible flow and is not based on the contract demands. The demands in Gazifère are the result of a similar

demand forecast methodology as for Ottawa; the flows provided are based on actual demand history and forecasted demand changes. The results will not change based on the question as stated above.

The updated map at Attachment 1 indicates the primary high pressure (3240 kPa) system in Gazifère and the approximate location of Gatineau Control. The two primary supply stations to Gazifère are [REDACTED] fed from the [REDACTED] and [REDACTED] fed from the [REDACTED]. The function of [REDACTED] is to reduce the 3240 kPa inlet pressure and supply the 1200 kPa system along with the [REDACTED]. The majority of Gazifère’s demand is served through the 1200 kPa system which in turn supplies the lower pressure downstream systems that provide the final connection to homes and businesses.

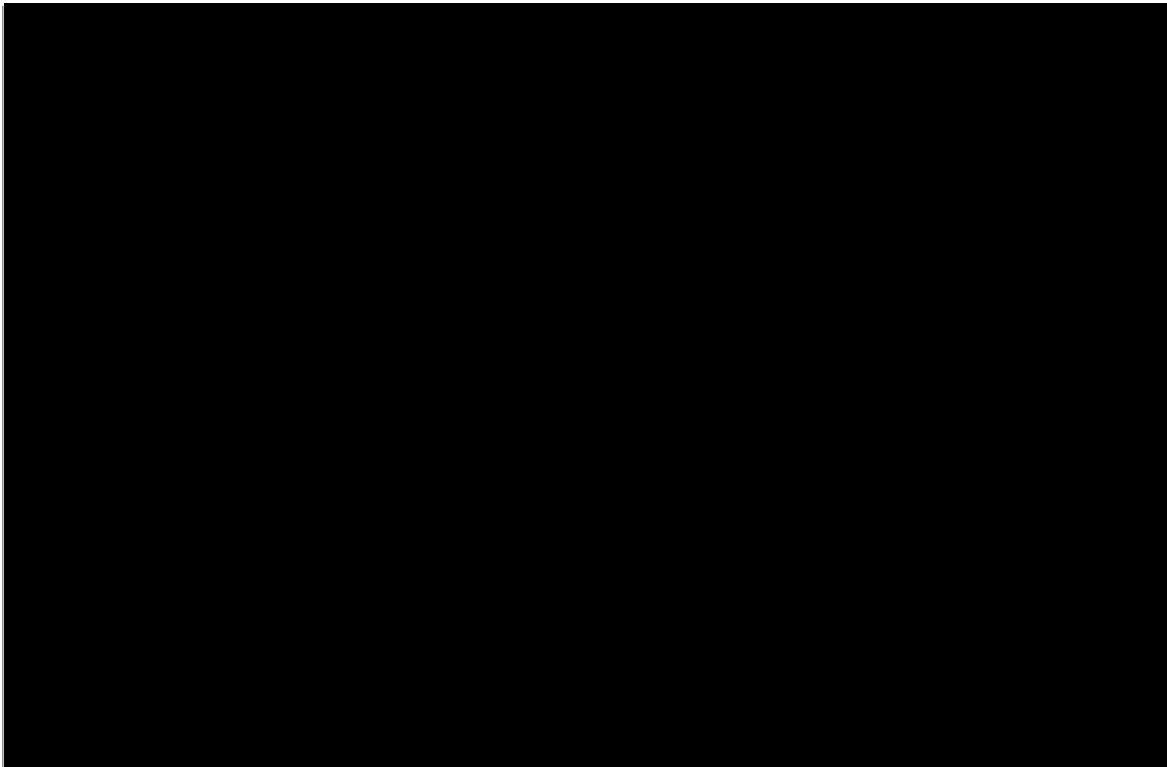
Table 1 shows the changes in pressures and flows through the primary stations feeding Gazifere as the result of the adjustments requested in undertaking JTX1.26 for the Ottawa system.

Table 1

Parameter	[REDACTED]	[REDACTED]	[REDACTED]
Flow (before adjustments) * (m ³ /h) ¹	[REDACTED]	[REDACTED]	[REDACTED]
Flow (after adjustments) * (m ³ /h) ¹	[REDACTED]	[REDACTED]	[REDACTED]
Inlet P (before adjustments) (kPa)	[REDACTED]	[REDACTED]	[REDACTED]
Inlet P (after adjustments) (kPa)	[REDACTED]	[REDACTED]	[REDACTED]

¹Rounded to nearest hundred

PIPELINES BY MOP



ENBRIDGE GAS INC.

Answer to Undertaking from
Federation of Rental-housing Providers of Ontario (FRPO)

Undertaking:

Tr: 143

To take the amount that can be shifted and to net it off the 41,000 that is currently going through the Rockcliffe station and rerun the simulations for frpo-24 and -25, to see if there is any material improvement that could help reduce the cost of this project.

Response:

As outlined in the response to Exhibit JTX1.24, shifting additional flow to the Eastern crossing would result in downstream capacity/pressure constraints.

Given the impact to downstream systems that shifting additional flow to the Eastern crossing would have, modelling has focused on modifications of set pressure at stations [REDACTED], [REDACTED], and [REDACTED] for the potential to reduce flow at these locations. The column "Set pressure modifications" included in Tables 1 and 2 outlines the change in set pressure from the previous response in Exhibit I.2-FRPO-24 and Exhibit I.2-FRPO-25. Set pressures were modified to the extent possible, prior to downstream networks experiencing modeled pressures below the minimum system pressure (MSP).

Modification of set pressures at stations [REDACTED], [REDACTED], and [REDACTED] was found to have a negligible impact on project sizing/scope. However, reduction of pressure at these stations was found to be detrimental to pressures on downstream networks. At the locations outlined in Figure 1, modeled pressures were found to have the decreases outlined below; there was no change in the location of the low point. The MSP of both networks is 140 kPa.

- Low Point A: 155 kPa → 143 kPa
- Low Point B: 159 kPa → 143 kPa

The impact to system low points was consistent in both Exhibit I.2-FRPO-24 and I.2-FRPO-25 scenarios. All other stations feeding downstream networks in the vicinity of those included in Exhibit I.2-FRPO-24 and Exhibit I.2-FRPO-25 were modeled at maximum set pressure and so are not included in the map.

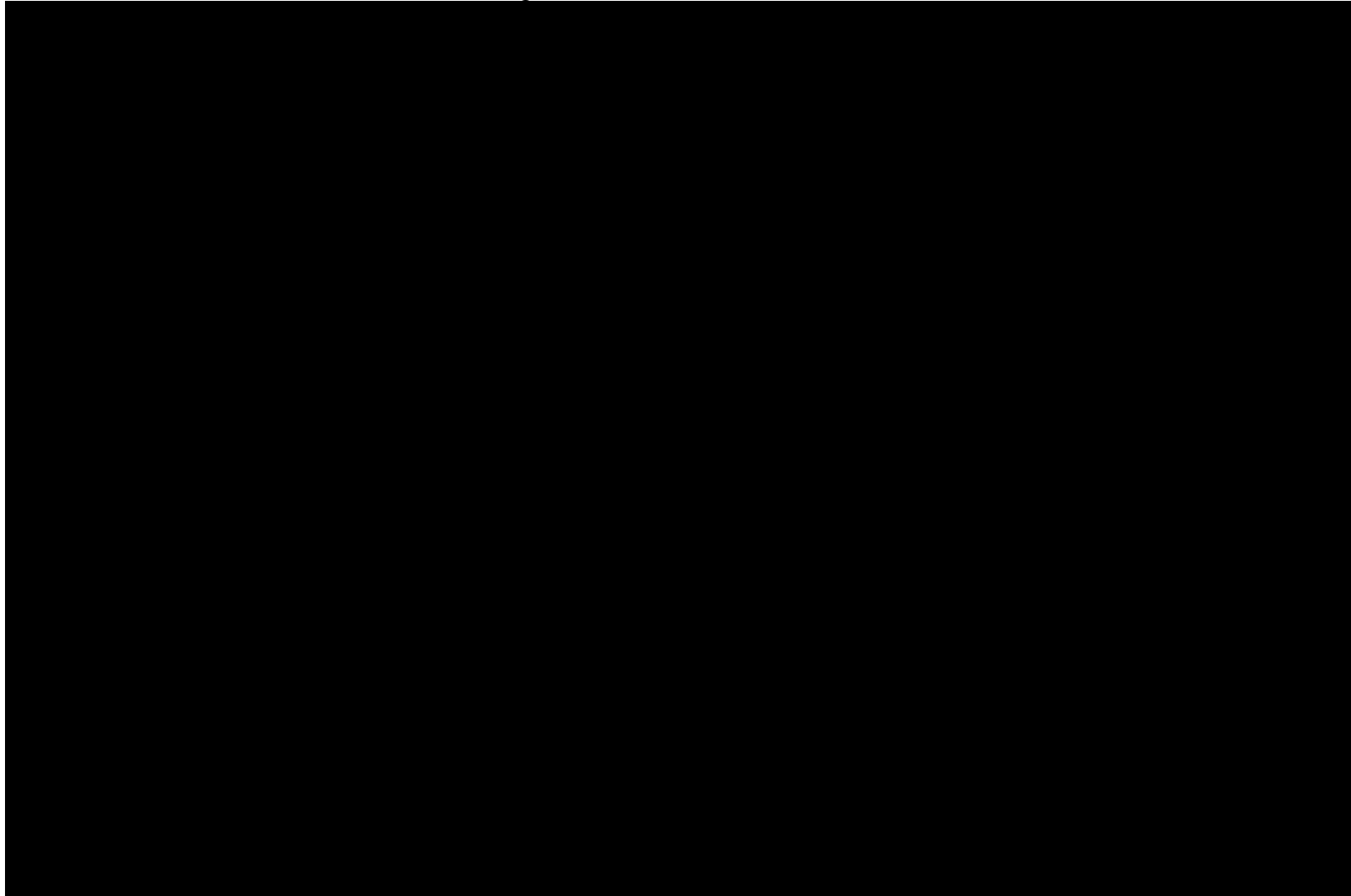
Table 1: Exhibit I.2-FRPO-24 Updated Table
(Proposed Design)

STN #	Stations	Winter 2023-2024		Below Min Inlet?	Set Pressure Modifications (kPa)
		Inlet Pressure (kPa)	Flow (m3/h)		
[REDACTED]	[REDACTED]	1585	3081	No	0
[REDACTED]	[REDACTED]	1588	60259	No	-14
[REDACTED]	[REDACTED]	1634	500	No	0
[REDACTED]	[REDACTED]	1644	317	No	0
[REDACTED]	[REDACTED]	1671	6186	No	0
[REDACTED]	[REDACTED]	1738	13610	No	0
[REDACTED]	[REDACTED]	1586	41098	No	0
[REDACTED]	[REDACTED]	(To be Abandoned)	0	N/A	0
[REDACTED]	[REDACTED]	1637	16246	No	-20
[REDACTED]	[REDACTED]	1579	3121	No	0
[REDACTED]	[REDACTED]	1584	926	No	0

Table 2: Exhibit I.2-FRPO-25 Updated Table
(NPS 12 instead of NPS 16)

STN #	Stations	Winter 2023-2024		Below Min Inlet?	Set Pressure Modifications (kPa)
		Inlet Pressure (kPa)	Flow (m3/h)		
[REDACTED]	[REDACTED]	1586	3081	No	0
[REDACTED]	[REDACTED]	1234	60259	No	-14
[REDACTED]	[REDACTED]	1309	500	No	0
[REDACTED]	[REDACTED]	1320	317	No	0
[REDACTED]	[REDACTED]	1339	6186	No	0
[REDACTED]	[REDACTED]	1421	13610	No	0
[REDACTED]	[REDACTED]	1259	37488	Yes	0
[REDACTED]	[REDACTED]	(To be Abandoned)	0	N/A	0
[REDACTED]	[REDACTED]	1307	16246	No	-20
[REDACTED]	[REDACTED]	1248	3121	No	0
[REDACTED]	[REDACTED]	1252	926	No	0

Figure 1: Low Point Locations



Further Request in FRPO's November 29, 2024 Letter:

Please complete the simulations requested in this undertaking using the reduced demand at Rockcliffe Control station associated with the elimination of the incremental interruptible component of the contract which is not the firm contracted demand.

Response:

Interruptible demand was not included in the design condition analysis performed for JTX1.26. The effects of the changes applied in JTX1.26 have been included in the table to the updated response to Exhibit JTX1.24. No further simulations are therefore required in response to this request.

ENBRIDGE GAS INC.

Answer to Undertaking from
Federation of Rental-housing Providers of Ontario (FRPO)

Undertaking:

Tr: 157

To look at the ability to reduce the pressures at three selected stations and increase the pressure at other stations to offload them, to reduce the pressure and amount of gas that would need to flow through the St. Laurent pipeline.

Response:

Please refer to the response to Exhibit JTX1.26.

Further Request in FRPO's November 29, 2024 Letter:

Please provide the response to this undertaking as stipulated in the transcript (i.e., increasing station pressures above 380 kPa but not above 420 kPa).

Please provide EGI's view on the rationale of why 380 kPa is the preferred maximum set pressure for the Ottawa system given the requirements of CSA Z662.

Response:

An increase in operating pressure above 380 kPa but below 420 kPa in the Ottawa IP systems is not possible, however it also would not be sufficient in order to meet the required demand reduction on the St. Laurent Pipeline to affect a reduction in pipe size. To complete the analysis in JTX1.26 it was first confirmed that the outlet pressures of the stations off the St. Laurent Pipeline were at 380 kPa. Next, the other stations not fed from the St. Laurent Pipeline that were also providing benefit to the downstream IP networks were also confirmed to be set at the same 380 kPa. Following this confirmation, analysis began to bias flow off of the St. Laurent Pipeline by adjusting station set pressures down for those fed from the St. Laurent Pipeline until the system minimum pressure was reached; those results are shown in JTX1.26. The resultant change in demand on the St. Laurent Pipeline with these adjustments is approximately 1,500 m³/hr whereas the reduction that would be required to reduce the NPS 16 to NPS 12 near St. Laurent Control is 25,100 m³/hr¹, or only 5.8% of the required shift in demand.

¹ Exhibit C, Tab 1, Schedule 1, p. 22, para. 43.

ENBRIDGE GAS INC.

Answer to Undertaking from
Federation of Rental-housing Providers of Ontario (FRPO)

Undertaking:

Tr: 164

To provide a high-level assessment of additional cost associated with putting in control valves versus other differential regulation.

Response:

The cost difference, for materials only, for control valves versus pressure regulators for this station is \$500,000.

Due to design considerations including, but not limited to: noise, footprint limitations, and minimizing pressure differential requirements, control valves have already been included in the proposed design for the Rockcliffe station, and as such, these costs have already been accounted for. The differential required for the station is based upon the pressure required across the various components including control valves, metering, piping and valves at the station's maximum flow rate. The total requirement across the station, with the use of control valves, is 138 kPa (20 psi) above the delivery pressure of 1210 kPa (175 psi).

Further Request in FRPO's November 29, 2024 Letter:

Using the demand reduction on the St. Laurent pipeline determined in the above requested fulsome response of JTX1.28, please combine those reductions with those demands eliminated through the interruptible portion of the demands at Rockcliffe Control Station (JTX1.26) and complete the assessment of the NPS 12 substituted for NPS 16.

Further, to the extent that there is any incremental capacity with NPS 12 in place, please provide the amount of NPS 8 that could substitute for NPS 12 immediately upstream of the Rockcliffe Control Station.

Response:

As discussed in the updated responses to JTX1.22 and JTX1.28, the analysis was completed at design condition with interruptible demands off and with the requested system biasing. It was found that there is very minimal flexibility in the system to shift flows, and therefore it was concluded that the changes were not sufficient to affect the pipe sizing.