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January 24, 2020

Sent by Electronic Mail, Courier and RESS Electronic Filing

Ms. Christine E. Long
Registrar and Board Secretary
Ontario Energy Board
27-2300 Yonge Street
Toronto, ON M4P 1E4

Dear Ms. Long:

Re: EPCOR Natural Gas Limited Partnership ("ENGLP") EB-2019-0276 – Motion to Review 2020 to 2024 Rates – Phase 2 Decision – Responses to Written Interrogatories

In accordance with the Ontario Energy Board's Procedural Order No. 1, please find attached interrogatory responses to Ontario Energy Board Staff and the Vulnerable Energy Consumers Coalition, regarding the above-noted proceeding.

Should you have any questions, please do not hesitate to contact the writer.

Sincerely,

[Original signed by]

Daniela O'Callaghan
Legal Counsel
EPCOR Utilities Inc.
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Enclosures

cc: All parties in EB-2019-0276

Staff.1

Reference: **Brian Lippold Affidavit, p. 4, paras 12 and 13**

Preamble: The affidavit notes that during exceptionally cold conditions, the system required constant monitoring due to low pressure. In 2014, the control stations lacked an alarm mechanism with the exception of one dedicated 6-inch high pressure steel line. In order to monitor system pressure, the Operations manager recommended pressure adjustments based on readings that were manually collected by calling into the various control stations. These circumstances required NRG's operations manager to routinely work very long hours in order to monitor system pressures and to dispatch technicians to adjust pressures and pack the system so that customers would have uninterrupted access to heat and hot water. The dispatch technicians would often have to attend control stations alone in the dark and at temperatures below -20 degrees Celsius.

Request:

(a) Please indicate the number of days in 2014, 2015 and 2016 that the dispatch technicians had to physically attend control stations due to low system pressure in the Northeast area of the franchise around Brownsville.

(b) Did NRG consider technical solutions such as sensors or alarm installation to remotely collect pressure data for specific parts of the system.

(c) For the 2018-2019 winter season, did operations personnel work long hours to monitor system pressure or did technicians have to physically adjust pressure and pack the system in order to maintain system pressure? If yes, please provide details.

Responses:

(a) In May of 2016, NRG implemented a work management and billing system to improve its customer service and record keeping. Prior to this time, NRG did not use an electronic

dispatch system. Instead, work orders for dispatch technicians were manually generated in situations where a technician attended a call related to a metered dwelling, commercial or industrial service.

Adjustments to stations or system pressures were assigned to a small, specialized team of dispatch technicians. From January 2014 to May 2016, their work was assigned by either the Operations Manager or the General Manager. With the exception of maintenance work, their work was assigned by phone or text. It is because of this lack of documentation that ENGLP is not able to provide the exact number of incidents in 2014, 2015 and 2016 that dispatch technicians had to physically attend control stations due to low system pressure in the Northeast area of the franchise around Brownsville.

However, based on historical temperature records and the recollection of NRG staff that performed this work, a conservative estimate of the number of times that dispatch technicians were called, outside of regular work hours (on statutory holidays and earlier or later than scheduled shifts), is provided in Table Staff-1 below. These figures represent the minimum number of incidents per year and do not include pressure adjustments made during scheduled work hours.

Table Staff-1
Estimated Low pressure Incidents NRG staff responded to outside of Regular work hours

Year	Min. # of incidents
2014	55
2015	30
2016	40

The system technicians each maintain a physical pressure check log book, containing every pressure check done prior to and within the years indicated above. These entries do not differentiate between routine pressure checks and incidents when dispatch technicians had to physically attend control stations due to low system pressure in the Northeast area. However, these pressure records demonstrate a serious pressure problem in the Brownsville area during the years indicated prior to the implementation of the Putnam to Culloden Pipeline.

(b) Yes. Prior to 2014 and continuing through 2016, NRG worked with Lakeside Controls to source and install several automated adjustment systems. These automated adjustment systems were piloted in the field in an effort to find solutions that did not require technician attendance and manual manipulation of station controls other than those located on custody transfer stations. However, power and hard phone lines were not available in rural areas of NRG's service territory. In rural areas, the automated adjustment systems had to be powered by solar energy and staff had to communicate using cellular phones to dial out or in. The use of these technologies proved to be very unreliable in the field. Furthermore, these systems could only be used on small control valves. The key drawback to these systems is that they cannot be used to open bypasses on Custody transfer stations and could only control flow in areas within the system.

While alarms could have been installed at NRG's custody transfer stations to alert technicians of pressure issues, the presence of these alarms would not have prevented long working hours since technicians would still be required to respond to the alarms and manually adjust valves to open bypasses to pack the system or reverse station flows in order to divert gas as required.

(c) No. During the 2018-2019 winter season, technicians did not have to work long hours to monitor or attend to system pressures in the Northeast quadrant of the system. There were no call-outs and no station adjustments required. The previously concerning Brownsville area did not register pressures below 60 psig at any time during the winter of 2018-2019.

Staff.2

Reference: **Brian Lippold Affidavit, pp. 4-5, para 18**

Preamble: The evidence of EPCOR Natural Gas and the affidavit of Mr. Lippold indicates that Natural Resource Gas Limited (NRG, the predecessor utility to EPCOR Natural Gas) experienced low system pressure in several areas of its franchise. Low system pressure issues were specifically noted in the Northeast and Southwest areas of the franchise. The concerns were further augmented in the fall of 2014 when due to severe weather NRG experienced system pressure drops in the Northeast area near Brownsville, to as low as 5 psi.

Request:

(a) Please clarify if the pressure drop to 5 psig in the Northeast area near Brownsville was a one-day event or stretched for multiple days during the cold spell of 2014.

(b) How many customers were at risk of losing service?

Responses:

(a) The pressure drop to 5 psig in the Northeast area near Brownsville stretched for multiple days during the cold spell of 2014. Pressure readings in Brownsville fell to as low as 5 psig even after all custody transfer station bypasses had been opened while at the same time interrupting service to larger industrial customers. At the time, these mitigating steps were the only options available to NRG to prevent the loss of service to its firm customers.

(b) NRG did not document the number of meters at risk of losing service. There are two significant communities on the Culloden line. These communities are Brownville proper and the Town of Culloden. There are 175 residential services in the town of Brownville and 47 residential services in the town of Culloden. All of these services were at risk of unplanned interruption.

In addition, there are two livestock operations that could have been at risk of unplanned interruption. Any loss of service to poultry barns could represent significant financial loss with the death of incubating chicks.

Staff.3

Reference: **Brian Lippold Affidavit, p. 10**

Preamble: The SNC-Lavalin study in its draft report of March 2016, recommended projects to address pressure issues experienced in the northeast and southwest of the system. However, these recommendations did not take into account the additional gas supply from Union Gas Limited (now Enbridge Gas Inc.) at the Bradley Station. The affidavit indicates that NRG did not ask SNC-Lavalin to revise its study based on the additional gas supply from Union Gas because: (a) the time required to complete a new analysis and revise the study would likely result in significant delays, and (b) the time required to complete a new analysis and revise the study would likely result in significant delays to the resolution of inadequate flows that needed to be urgently addressed.

Request:

(a) Did NRG inform SNC-Lavalin of the changed circumstances and seek their opinion on the scope, cost and timing for conducting a new analysis and revising the study? If no, why not?

(b) Did NRG seek an opinion from SNC-Lavalin for only the Putnam to Culloden pipeline rather than revising the entire study? If no, why not?

(c) Did NRG inform the Ontario Energy Board (OEB) that the results of the SNC-Lavalin study may not be valid as new supplies have altered the flows and pressures within the distribution system? Did the SNC-Lavalin study include any disclaimers around the changed circumstances and how additional supplies may have altered the results of the study?

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Responses:

(a) NRG did not reengage SNC-Lavalin (SNC) on the study because the new developments with respect to gas supply from Union Gas were not within the original scope of the study, as agreed to by the Board. Therefore, NRG was adhering to the process that had been established for the study with the Board's approval. In addition, NRG was under time constraints to implement a timely solution to the severe pressure issues in the Northeast near Brownsville, as well as to file its cost of service study for which the SNC study was required.

As noted in the Lippold Affidavit, filed December 4, 2019, SNC completed the study in March of 2016.[1] Union Gas confirmed by letter, dated April 7, 2016 that it could supply an additional 3700 m3/hour at the Bradley Station. The study was conducted at a much slower pace than NRG had expected and NRG management had to regularly make inquiries of SNC to move the study forward. Revising the study at this point to reflect the additional gas supply would have further delayed NRG in filing its already delayed cost of service application (EB-2016-0236) and likely rendered NRG unable to resolve severe system integrity issues prior to the next fall/winter season as planned.

Simply put, re-engaging SNC on the study, to consider the implications of the additional gas available from Union Gas, was not acceptable to management, given the delays that would inevitably result in finding a solution to serious safety and system integrity issues.

(b) No. NRG did not see value in having SNC update the study since NRG had evaluated the options that were presented in the study in addition to at least six other options identified in the course of discussions with Union Gas.[2] Following management's consideration of the SNC study, as well as the other six options identified through discussions with Union Gas, management exercised its business judgement and determined that the Putnam to Culloden pipeline was the best solution to address low system pressures in the Northeast in light of the additional supply from Union Gas at Bradley Station. The Putnam to Culloden pipeline was substantially similar to the inferior solution proposed in the SNC study (generally running along Lewis Road and continuing along Whittaker Road and terminating in the Brownsville area).[3]

[1] EB-2019-0276, Affidavit of Brian Lippold, page 10, at paragraph 30.
[2] EB-2019-0276, Affidavit of Brian Lippold, page 27, starting at paragraph 6.
[3] EB-2018-0336, Response to 1-Staff-6 (Phase 2), part (a), (b), and (d), and map at page 3 of the response.

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(c) NRG did not provide comments to the Board on the validity of the SNC study.

However, NRG notified the Board that it had secured additional volumes of 3,700 m3/hour from Union Gas at the Bradley station[4] and advised the Board of the projects (including the Putnam to Culloden pipeline) that NRG would undertake to address the low pressure issues in the system.[5] The OEB granted the withdrawal of the NRG application and noted in its decision as follows: "Relying on NRG's assurances that the agreement reached between Union Gas and NRG and the facilities that are proposed to be constructed will resolve the system integrity and volume issues that were raised by NRG in the application, the OEB grants NRG's request to withdraw the application."[6]

[4] EB-2015-0308, NRG Letter to the OEB, filed March 3, 2016. The OEB responded to this letter on March 14, 2016.
[5] EB-2015-0308, NRG Letter to the OEB, filed May 31, 2016, at paragraphs 3 and 4.
[6] EB-2015-0308, OEB Letter to NRG, dated July 22, 2016.

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Staff.4

Reference: **Brian Lippold Affidavit, p. 12, para 39**

Preamble: The affidavit indicates that based on the result of the take-off analysis, NRG concluded that improving flows in the Northeast of the system from the Bradley Station would require a steel pipeline, triggering a leave to construct application. As an alternative, NRG elected to supply the Northeast franchise area with additional gas flows by way of a plastic pipeline fed locally from the Putnam Station.

Request:

(a) Please confirm that NRG considered only those options to address system pressure issues in the Northeast that did not require filing a leave to construct application with the OEB.

(b) Please list the benefits and disadvantages of a steel pipeline to improve flows in the Northeast of the system from the Bradley Station.

(c) Please indicate if NRG excluded the most effective option to address system pressure issues in the Northeast area of the franchise because it required filing a leave to construct application with the OEB.

Responses:

(a) In 2015, NRG considered several options to address system pressure issues in the Northeast, a number of which would have been cost prohibitive or required a leave to construct (LTC) application that would have delayed implementation of a system integrity solution. Examples of the options considered include the "Putnam-Mosley Station" and the "Mount Elgin Station, which are further described below."[1,2]

[1] Refer to Phase 2 Evidence, page 8, paragraph 6.
[2] Refer to EB-2015-0308, Affidavit of Brian Lippold, page 12-14, paragraph 34-37.

As indicated on page 7 of the Lippold Affidavit, NRG had instructed Union Gas on October 23, 2015, to move forward on the Putnam-Mossley Station reinforcement and to file a LTC application. On November 2, 2015 Union Gas replied altering the original proposal and requiring NRG to build facilities in Union Gas's service territory. This required a steel pipe to bridge the distance between the Putnam-Mossley station and the NRG border which increased project costs dramatically. This project was then eliminated because of the significant burden that the project cost would have placed on NRG's ratepayers.

Accessing supply at the Union Gas' Mount Elgin Station, considered as a contingency to the Putnam-Mosley Station option, would also have required a LTC application. Union Gas provided NRG with a reinforcement cost estimate of $11.6 million for this option. The project would have also required NRG to invest in infrastructure to move this gas into the Northeast quadrant of the system from the Mount Elgin Station. Accordingly, this project option was also eliminated because of the significant burden the project cost would have placed on NRG's ratepayers.

(b) The main benefit of a steel pipeline from Bradley Station to the Northeast area of the system is its ability to deliver higher gas volumes because of the increase in maximum allowable operating pressures that steel offers when compared to the low maximum operating pressures of polyethylene gas line. Therefore, greater volumes could potentially be delivered to the area to improve pressures.

The disadvantages of constructing steel pipeline are as follows:

1. Steel pipeline is greater than 6 times the cost of polyethylene pipeline;
2. Steel pipeline projects take much longer to complete;
3. Unlike plastic, steel requires substantial and costly ongoing maintenance;
4. Hot-tapping costs and pressure reduction stations required with steel make adding new customers along the path economically unfeasible.
5. Steel installations are less safe than plastic options. If ruptured, higher pressure steel pipelines are difficult to perform hot work repairs on and volumes of gas expelled in the event of puncture or rupture are much higher than plastic.

(c) NRG did not exclude the "most effective" option. A prudent utility operator will weigh a number of factors before determining which option makes the most sense. The use of "most effective" by Board Staff in this question seems to exclude any cost or timing considerations. As noted in the example provided in response to (a), each of the options that NRG excluded

which would have required a LTC application would have delayed implementation of a system integrity solution (possibly upwards of 18 months) and would have resulted in a significantly higher cost impact to NRG's ratepayers.

Union Gas limited the pressure and amount of gas that NRG could take at the Bradley Station to 150 psig and 3,700m3/hour. Given the excessive distance between the Bradley Station and the Northeast quadrant of NRG's system, a steel pipeline at such a low pressure would not have leveraged its design advantages and effectively delivered the required volumes.

Furthermore, the option selected was one that could be implemented in a timely manner, to address the critical low pressure issues in the Brownsville area in advance of the next fall/winter season.

Staff.5

Reference: **Brian Lippold Affidavit, pp. 12-13, para 41(c)**

Preamble: The evidence states that after careful consideration, NRG determined a number of measures to manage the new gas supply from the Bradley Station. One of these measures included the Putnam to Culloden pipeline, which was a pipeline independent from the other projects and increased gas pressures in the Northeast quadrant while also protecting the pull of gas away from the Northeast quadrant by tying into the local Putnam Station.

Request:

(a) Please explain the following in the above sentence, "and increased gas pressures in the Northeast quadrant while also protecting the pull of gas away from the Northeast quadrant by tying into the local Putnam Station."

Responses:

(a) The Putnam to Culloden pipeline increased gas pressures in the Northeast quadrant by directly connecting gas supplies from the Putnam Station to crucial low pressure areas in the northeast. See Staff.6(a) for a more detailed explanation.

The Putnam to Culloden pipeline protected the pull of gas away from the Northeast quadrant as follows:

- In the absence of the Putnam to Culloden pipeline, high demand and low pressures in the Aylmer area would draw gas supply away and consume gas from all stations, including the Putnan Station, essentially starving the Northeast quadrant of any migrating gas from west to east.

- It is notable that the SNC study clearly illustrated that restrictions on flows from west to east existed on the system and were related to a number of mains smaller than 4 inches in diameter. Such restrictions exacerbated the concerning pressures in the Northeast.

Staff.6

Reference: **Brian Lippold Affidavit, p. 13, para 43**

Preamble: The evidence states that in order to achieve its intended effect, the Putnam to Culloden pipeline did not require additional volumes or pressure at Putnam Station (which would have required costly upstream reinforcements). The Putnam to Culloden pipeline increased pressures in the Northeast quadrant near Brownsville because it had the effect of connecting the Putnam Station directly to the Northeast and thereby diverted gas volumes to crucial areas.

Request:

(a) Please provide a more detailed or better explanation of the above noted paragraph.

(b) Please explain how the pipeline diverted gas volumes and where were these gas volumes diverted from? Were the gas volumes from the new gas supply at the Bradley Station?

Responses:

(a) Gas from the Putnam station had previously served the Aylmer area prior to NRG securing additional volumes from Union Gas at the Bradley Station. Instead of gas flowing south to the Aylmer area (as had previously been the case), NRG redirected the gas from Putnam Station so that the gas flowed to Brownville through the Putnam to Culloden pipeline.

Put simply, the new volumes of gas provided at the Bradley Station replaced the gas that previously flowed to Aylmer. As stated in evidence, the Bradley to Wilson Line Project replaced the gas in the Aylmer area that was previously provided by the Putnam Station.[1]

(b) See response to (a).

[1] EB-2019-0276, Affidavit of Brian Lippold, page 10, at paragraph 37 and page 12 at paragraph 44(b).

Staff.7

Reference: **Brian Lippold Affidavit, p. 13, para 45**

Preamble: The evidence notes that the Putnam to Culloden pipeline was a priority project since it alleviated the dangerously low pressures documented in the Northeast quadrant near Brownsville. In fact, NRG determined that the Putnam to Culloden pipeline was the most important of the four system integrity projects.

Request:

(a) Please explain how NRG determined that the Putnam to Culloden pipeline was the most important of the four system integrity projects.

(b) Please explain why the Bradley Station project which was primarily responsible for receiving the new gas supply from Union Gas was not as or more important than the Putnam to Culloden pipeline project.

(c) The SNC-Lavalin study did not examine the Putnam to Culloden pipeline. Why did SNC-Lavalin not examine the proposed pipeline from Putnam Station to the Culloden Line?

(d) Did NRG develop a scoring matrix that evaluated different factors such as cost, benefits, number of customers at risk of losing service and system pressure to prioritize system integrity projects? If yes, please provide the results of the scoring matrix. If no, please explain why a systematic quantifiable approach was not used to prioritize system integrity projects.

(e) Did NRG exclude the volumes from the locally sourced premium priced gas and establish a priority list of system integrity projects?

(f) If NRG had excluded the volumes available from the locally sourced premium priced gas, how would the prioritization of system integrity projects be impacted in terms of system pressure and number of customers at risk of losing service?

Responses:

(a) A key responsibility of NRG management was to ensure the safe operation of the utility and in that regard, it placed the highest priority on issues impacting public and employee safety.

Between 2014 and 2016, NRG experienced a significant safety issue with the dangerously low pressures documented in the Northeast quadrant of the system. These low pressures created a risk of: (a) customer service interruptions in the fall and winter months that posed serious safety risk to the public and to its residential customers; (b) customer service interruptions in the fall and winter months that could adversely impact the crops and livestock of industrial-commercial customers; and (c) health and safety risk to ENGLP employees who needed to monitor and adjust system pressures in these conditions.

The low pressure issues in the Northeast quadrant posed the greatest safety risk to the utility at the time. Accordingly, management prioritized the Putnam to Culloden pipeline as the highest priority system integrity project in order to eliminate this significant safety risk.

(b) The Bradley Station project was an important system integrity project. However, it did not address the severe low pressure issues in the Northeast quadrant because additional gas provided by Union Gas at the Bradley Station was not in close proximity to this critical area.

As noted in the response to (a) above, management, in the exercise of its business judgment, prioritized the severe low pressures in the Northeast quadrant as the greatest safety risk to its customers and employees at the time. Accordingly, management deemed the Putnam to Culloden pipeline project, which would alleviate the dangerously low pressures in this area by way of a plastic pipeline fed locally from the Putnam Station, to be the most important project at that time.

(c) The SNC study did not examine the Putnam to Culloden pipeline. See response to Staff.3 (b).

(d) NRG did not develop a scoring matrix. As outlined in the responses above to (a), (b) and (c), NRG identified the severe low pressures in the Northeast quadrant to be the highest priority system integrity project because of the significant safety risks that this issue presented to the

system. It was abundantly clear that addressing these safety risks in a timely fashion was the utmost priority for NRG, given the significant potential harm that could result to customers and NRG employees if the low pressure issues in the Northeast quadrant were not resolved. No other system integrity project presented the same degree of risk for NRG or its stakeholders.

(e) No. Excluding the locally sourced premium priced gas from the system supply would not have improved the noted safety risks in the Northeast quadrant of the system. If volumes from the locally sourced premium priced gas had been excluded from the system supply when NRG evaluated the system integrity priorities, it would have identified a need to address low pressure issues in the Southeast area of the system in addition to completing the Putnam to Culloden pipeline. Since no economically viable alternative was available at the time to replace the locally sourced premium priced gas, excluding locally sourced premium priced gas from the system supply would have had a significant negative financial impact on the ratepayers whereby the resulting increases to distribution rates would have greatly exceeded the premium paid for the locally sourced gas.[1]

(f) See response to (e) above.

[1] EB-2018-0336, ENGLP Reply Submission, page 17 of paragraph 55.

Staff.8

Reference: **Brian Lippold Affidavit, p. 15, para 54**

Preamble: For the Putnam to Culloden pipeline, the evidence notes that a good utility practice is to loop a line in order to ensure continuity of service in the event of a line break or leak. The Putnam to Culloden pipeline achieves this and improves system reliability through a two-way feed. This two-way feed pipeline allows additional gas to be put into the system and it also ensures that, in the event of a break or leak along this stretch of main, the flow of gas can be isolated at the leak and customers can be back-fed from the other direction, thereby minimizing impact to customers.

Request:

(a) Please identify other areas of the EPCOR Natural Gas distribution system where the supply is through a two-way feed to ensure continuity of service in the event of a line break or leak.

(b) The evidence notes that there are approximately 69 existing residential and commercial customers that are receiving service through the Putnam to Culloden pipeline. Why is a two-way feed important to serve only 69 of the 8,000 EPCOR Natural Gas customers?

Responses:

(a) Virtually every other main within ENGLP's distribution system that is not at the end of the system, is a two-way feed. This is standard practice for gas utilities and is the case with both Enbridge Gas and formerly Union Gas' systems.

The reason that the first extension of the Culloden line, installed in 2012, was not fed in two directions was the line was initially extended to serve two large corn dryers. Supplying these customers through a one-way feed would not pose a significant risk because they are both seasonal, interruptible customers.

Having loops in a utility's system also provides additional line pack to assist during peaks. The final benefit of having two-way feeds is realized when operations teams perform line maintenance or when partial asset replacement is required and continuity of service can be maintained while the maintenance or replacement is performed.

(b) ENGLP indicated that approximately 69 existing residential and commercial customers are receiving service through the Putnam to Culloden pipeline; however, the secondary benefit of this line that was achieved by creating this loop, protects far more than the 69 new customers connected along that line.

By connecting Putnam Station all the way to Salford Road and then connecting Salford Road to Brownsville by way of Cromarty Drive, the utility is now protecting hundreds of customers by eliminating one way feeds on both Cromarty Dr. and Culloden Rd.

Staff.9

Reference: **Brian Lippold Affidavit, p. 15, para 55**

Preamble: The evidence states that there are approximately 69 existing residential and commercial customers that are receiving services through the Putnam to Culloden pipeline. The line has the potential to connect approximately 250 future residential rate class customers in the South-West Oxford area.

Request:

(a) Please explain why the Putnam to Culloden pipeline was classified as a system integrity project and not as a distribution growth project.

Responses:

(a) The Putnam to Culloden pipeline was classified as a system integrity project, because, as stated in earlier evidence[1,2]and in response to the Board's interrogatories, the Putnam to Culloden pipeline was first and foremost constructed to eliminate the risks associated with NRG's well-documented pressure issues in the Brownsville area. It was critical that the low pressure system issues in the Northwest quadrant be expeditiously addressed in order to ensure safe and reliable gas for all of NRG's customers, as well to reduce the very real health and safety risks for NRG employees associated with managing the low pressure issues in challenging winter conditions.

As noted in the responses to Staff.8, this project also further enhanced system integrity by achieving improved system reliability through the two-way feed.

The ability to add new customers and potentially respond to the needs of Southwest Oxford's rural residents and local government were always secondary (but nonetheless important) benefits of the project.

[1] EB-2018-0336, Phase 2 Evidence dated August 1, 2019, page 12, at paragraph 13
[2] EB-2018-0336 (Phase 2), Reply Submission, filed September 23, 2019, page 14, at paragraph 44-45.

Staff.10

Reference: **Brian Lippold Affidavit, p. 17, para 61**

Preamble: The affidavit states that the quantity of gas supplied by NRG Corp. represents under 2% of the total gas usage for the entire system.

Request:

(a) Please provide the volume breakdown for 2015, 2016 and 2017 to substantiate the claim that the quantity of gas supplied by NRG Corp. represents under 2% of the total gas usage for the entire system.

Responses:

(a) Refer to Table Staff-10-1. The table below uses calendar years. "Under 2%" was quoted in reference to premium priced gas purchases divided by entire system volumes, i.e. inclusive of IGPC – see column E. All NRG Corp. volumes, regardless of price, as a percentage of entire system volumes is captured at column F.

Table Staff-10-1 – Percentage of NRG. Corp Gas Vs Entire System Usage (1)

A Year	**B** Premium Price Local Production (m3)	**C** All Local Production inclusive of Premium Price (m3)	**D** Total System Volumes Including IGPC (m3)	**E (B/D)** Percentage, Premium (%)	**F (C/D)** Percentage, All Local Production volumes (%)
2015	999,997	1,963,501	60,518,007	1.65%	3.24%
2016	1,000,001	1,406,688	65,666,603	1.52%	2.14%
2017	1,000,000	1,598,444	63,245,049	1.58%	2.53%

(1) Note that annual volumes purchased were provided as part of evidence in OEB proceeding EB-2018-0336 at Exhibit 4, Tab 1, Schedule 1, but for a year starting October 1 and ending September 30.

Staff.11

Reference: **Brian Lippold Affidavit, p. 17, paras 62-63**

Preamble: The evidence notes that NRG was mindful of the issue of premium priced local gas raised by the OEB in the 2011 rates proceeding where the OEB expressed concern of NRG Corp.'s market power and the incremental cost to ratepayers for such premium gas. The evidence further notes that NRG took a number of concrete steps including the possibility of obtaining additional supplies from Union Gas Limited, possibility of trucking in compressed natural gas and obtaining additional well gas from areas outside of the system.

Request:

(a) Please confirm if NRG issued any RFQs or RFPs for obtaining additional supplies within the franchise area during the years 2012 to 2017. If no, why not?

(b) Did any gas producer approach NRG or communicated with NRG (via letter, phone call, e-mail or fax) offering to sell natural gas to NRG during the period 2011 to 2017? If yes, please provide additional details and the outcome of the meeting or negotiations. Also, please provide all evidence related to the communications between the prospective seller/s and NRG (e-mails, faxes and/or letters). If there was a phone call, please provide details of the call.

(c) Did NRG attempt to remove or reduce the premium for the locally sourced gas by discussing the matter or renegotiating with NRG Corp.? If yes, please provide details and the outcome of the negotiations. If no, why not?

(d) Please explain why NRG in its 2016 rates application (EB-2016-0236) requested recovery of 1.5 million cubic metres of natural gas purchased from NRG Corp. at a premium price in volumes that was 50% higher than that approved by the OEB in EB-2010-0018.

(e) Please provide all communications between NRG and NRG Corp. related to the purchase of the premium priced gas for the period 2012 to 2017.

(f) Did NRG explore the possibility of extending the Springwater pipeline into the southeast area of the distribution system where local gas was required? Please describe all options that were considered for the Springwater pipeline.

(g) What would have been the estimated cost of extending the Springwater pipeline into the southeast area of the distribution system where locally produced premium priced gas is required?

(h) In the OEB's Phase 2 Decision and Order (EB-2010-0018) dated May 17, 2012, the OEB on page 8 noted, "The issue before the Board is not so much the fact that it is inappropriate to purchase gas from a related company but rather that the pricing mechanism being sought by NRG seems to demonstrate that NRG Corp. exercises market power within the utility's franchise area....The Board is concerned that NRG's customers would pay significantly higher than market rates for what could be a material portion of their gas supply."
Please provide evidence in NRG's rates application (EB-2016-0236) wherein NRG made attempts to address the OEB's concerns and provide all capital projects undertaken by NRG to address the concerns and reduce the market power exercised by the former NRG Corp. through the pricing of locally produced gas.

a. Did NRG establish a link between the system integrity projects that it proposed to implement in its 2016 rates application and the purchase of system integrity gas from NRG Corp.? If no, why not?

b. Please explain how NRG prioritized capital projects to address system integrity in light of the OEB's Phase 2 Decision and Order in EB-2010-0018.

Responses

(a) NRG did not issue any general RFPs or RFQs for natural gas supply during the noted time period. The reason for this is straightforward – NRG management knew all of the well producers in the area, and had for decades.

(b) EPCOR is aware that during that time period, Metalore Resources Limited ("Metalore") had discussions with NRG on more than one occasion about supplying natural gas to NRG. Our understanding is that Metalore was unwilling to provide firm supply of gas at a competitive price. We do not believe that any other supplier contacted NRG. Metalore also reached out to EPCOR after it purchased NRG. On December 18th, 2017 via email, Mr. Lippold was contacted by the President of Metalore who indicated that he had title to several wells in Houghton Township. Metalore provided EPCOR with a map of well locations both inside and outside of NRG's service territory. Mr. Lippold arranged for an initial meeting with Mr. Chillian at the Aylmer office on January 25th, 2018.

After the meeting, EPCOR arranged a site meeting to allow their experts to fully assess well locations (relative to NRG), site access, safety conditions, equipment at the Metalore wells, and production potential of the wells. At a follow-up meeting with representatives of Metalore, NRG indicated that it would be interested in discussing a purchase arrangement, subject to: (i) Metalore odourizing its gas (a safety issue); (ii) Metalore making certain equipment repairs to ensure MOE compliance; (iii) Metalore reconditioning its meters to ensure Measurement Canada compliance; and (iv) agreeing on a sale price for the gas.

Metalore's position is that they would not spend money making their wells and meters compliant until a price was agreed upon. EPCOR has offered pricing based on Enbridge's WACOG, but in an email to EPCOR in September 2019, Metalore indicated: "Our break-even price is close to $4/GJ after service to wells and all-in costs - so obviously, we won't be doing a deal with EPCOR just to lose money."

(c) NRG Corp. was unequivocally firm in its position that it was unwilling to sell the gas to NRG at a lower price as the premium was required to (a) cover the cost of maintaining the wells and (b) provide the required volumes to NRG.

(d) EPCOR believes that NRG sought to recover its costs to buy 1.5 million cubic metres of natural gas purchased from NRG Corp. at a premium price because that is the volumes it expected to have to purchase. The amounts of local gas purchased by NRG from NRG Corp. in the years prior to and after the 2016 rate application were as follows:
2014 – 2,508,059 cubic metres
2015 – 1,963,501 cubic metres
2016 – 1,406,688 cubic metres
2017 – 1,598,444 cubic metres

(e) Given that NRG and NRG Corp. were non-arm's length, we are not aware of any written correspondence between the two entities.

(f) No, NRG did not consider extending the Springwater main to the Southeast area of the system where the wells are located as such an extension would not have been economically feasible since the Springwater line ends at least 60 km from the area where wells are located.

(g) A cost assessment to extend the Springwater line was not conducted for the reason noted in response (f).

(h) It is unclear to EPCOR what is being sought in this interrogatory. It appears to be seeking references to evidence in EB-2016-0236 (an application that was withdrawn prior to interrogatories) where NRG would have stated that a certain capital project was being implemented to address NRG's reliance on locally-produced gas. As the Board knows, the evidence in that case included the system integrity study wherein an independent expert concluded that there was no cost-effective way to eliminate reliance on locally-produced gas.

a. There was no link between the system integrity projects and the purchase of system integrity gas purchased from NRG Corp., as no feasible options to replace the volumes purchased from the local wells in the Southern area of its system were available. As noted in the response to Staff.7, NRG prioritized the capital projects proposed in its 2016 rates application based on correcting dangerously low pressures in the Northeast and Southwest area in close proximity to Aylmer.

b. See responses to Staff.7.

VECC-1

Reference: **Affidavit of Brian Lippold, December 4, 2019, page 5**

Preamble: "*The fall 2014 service interruptions arose due to a delayed grain drying season, that overlapped with prolonged periods of sub-zero temperatures, and which created an unsustainable demand for gas from both industrial-commercial customers and residential customers. Consequently, NRG experienced system pressure drops in the Northeast quadrant near Brownsville, to as low as 5 psi. When the pressure drops below 10 psi, there is a serious risk of system outages*."

Request:

(a) Please explain what (if any) customers were interrupted in 2014 due to low pressure issues.

(b) Are seasonal grain (and other crop) drying customers generally or exclusively interruptible load customers? What is the total number of firm and interruptible customers?

(c) Other than the fall/winter 2014 event what other experience has ENGLP had with pressure being below 10 psi in the Brownsville service area?

Responses:

(a) Several corn dryers were interrupted in late November and early December of 2014 for varying periods of time.

NRG took a systematic approach to mitigate the acute pressure issues observed in the Northeast quadrant of the system. Each interruptible customer that was located in an area of low pressure and interruptible customers that had the potential to draw gas away from such areas was contacted by telephone by the General Manager and put on notice of disruption.

NRG then worked with these customers to manage the pressures and disruptions, including allowing some corn drying operations that utilize continuous flow dryers to rotate disruptions during times when the system was able to tolerate the consumption.

(b) With the exception of tobacco and ginseng drying operations which typically complete drying by the end of September each year (in advance of the high consumption heating months), crop drying customers are almost exclusively interruptible loads. ENGLP has 33 customers in this rate class (Rate 4 interruptible customers).

(c) Until the completion of the Putnam to Culloden pipeline, ENGLP regularly experienced pressures below 10 psi in the Brownsville area. Whenever bypasses were not fully open and daytime winter temperatures dropped below -5 ℃ for prolonged periods of time, it was common for pressures in the Brownville area to be at or below 10 psi.

VECC-2

Reference: **Affidavit of Brian Lippold, December 4, 2019, page 5 & 15**

Preamble: None

Request:

(a) Please provide a map showing the location of new customers added along the Putnam-Culloden pipeline.

(b) Please identify any attachments forecast over the next two years along the pipeline route. Specifically, please show the location of the anticipated 250 residential customers in the South-West Oxford area.

Responses:

ENGLP does not share specific customer information including names and exact addresses. As such locations are approximate, and no list of formal addresses is provided with this response.

(a) See attached map at Schedule 1 to this response which identifies approximate locations of all 69 customers who were added, 29 of which were located immediately along the route of the Putnam to Culloden pipeline.

(b) The existing connected customers have been noted with green dots (with larger green dots denoting multiple customer accounts).

i. <u>Attachments forecast over the next two years:</u>

- 2020: Main line addition on Forbes Road from the existing Putnam-Culloden pipeline and terminating at a grain drying facility. This project will connect one industrial class customer.

- 2020: Main line addition on McBeth Road from the existing pipeline running along Culloden Road and terminating at Dereham Line. This project will connect

12 residential (houses), 4 commercial buildings, 1 grain dryer, and 2 poultry barns. Grain dryers are typically industrial loads, and poultry barns can fall into one of several rate classes depending on load profile.

- 2020 or 2021: System Expansion to serve residential and commercial customers in the Village of Salford.

On Thursday, January 16, 2020 the OEB granted Certificate rights to connect the Village of Salford (EB-2019-0232). There are a maximum of 77 potential customers—72 residential and 5 commercial customers).

In light of the very recent approval by the OEB, operations staff are reviewing capital plans, construction schedules, and connection timelines to best determine when this new community can be connected. At this time ENGLP cannot specify the dates (2020 or 2021) when the project mains will be completed or when the associated customers will be ready to receive a connection.

ii. Location of the anticipated 250 residential customers in the South-West Oxford Area.

For clarity, the evidence refers to "potential to connect" 250 customers, not 250 "anticipated customers". At page 15 of the Affidavit, "the line has the potential to connect approximately 250 future residential rate class customers in the South-West Oxford area."

Please refer to the map at Schedule 1. The estimate of 250 potential customers was based on the number of residential addresses in an identified area. This work was completed by a former employee of NRG and determined by driving the streets of South-West Oxford within NRG's franchise area and taking note of the addresses. ENGLP was unable to locate an email record which confirms this number. The map indicates approximately 200 potential customers using black dots. This total is exclusive of the 77 potential customers with respect to the Village of Salford (EB-2019-0232) which is located in the Township of South-West Oxford, and for which CPCN rights were granted.

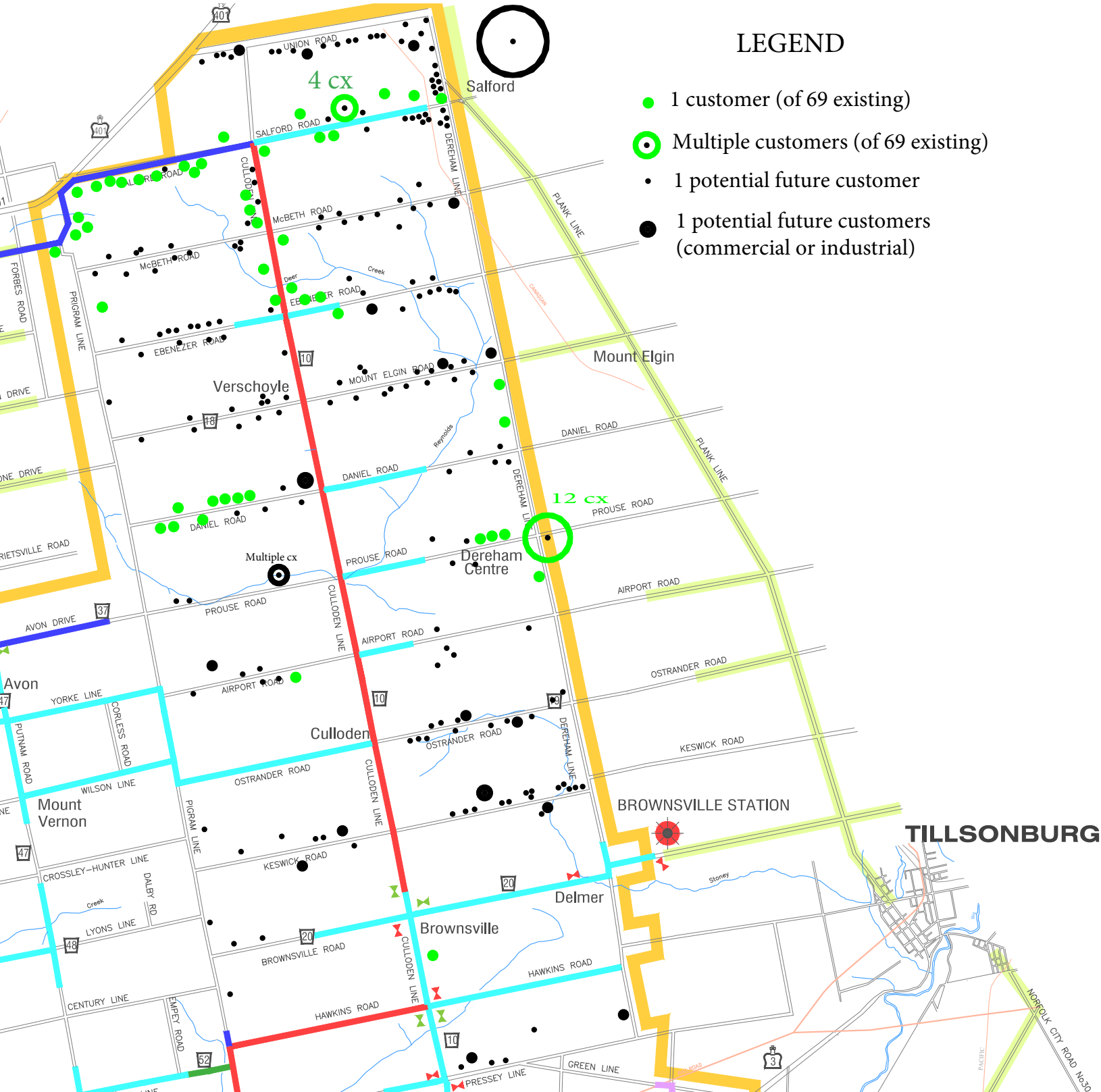
Letters from the Township of South-West Oxford (Township) dated April 10, 2019 and August 9, 2019 from the CAO of the Township were received requesting that EPCOR provide natural gas service to Salford. In its intervention in the EB-2019-0232

proceeding, Enbridge indicated on November 20, 2019 that it was "more economic for EPCOR to attach these customers [in the Village of Salford]".

At page 15 of the December 4, 2019 Lippold Affidavit, Mr. Lippold notes ENGLP's circumstances as they were in December 2019. If the OEB approved ENGLP's application to connect Salford, this community represented 77 additional potential customers.

Schedule 1 (VECC-2)

up to 77 cx
(as of January 16, 2020
Salford is in-franchise)



VECC-3

Reference: **Affidavit of Brian Lippold, December 4, 2019, page 10**

Preamble: None

Request:

(a) Paragraph 33 at the above reference compares an SNC recommended pipeline to the route chosen by ENGLP (then NRG). Does the route described in paragraph 34 meet the same objectives as set out in the SNC Study?

(b) Did ENGLP do a cost comparison of the projects described in paragraph 33 with that described in paragraph 34? If so, please provide that cost comparison.

Responses:

(a) The route chosen by ENGLP (then NRG) accomplishes the same primary objective of raising pressures in the Brownsville area as the recommended SNC project. However, the NRG option was superior because it was a more direct route and as noted previously by ENGLP, it created a loop by the using the existing Culloden line and connecting it to Cromarty Rd. via Pigram Rd., which improved system reliability by ensuring continuity of service to customers in the area in the event of a line break or leak. In addition, this opened up options for NRG to create other loops in the future by intersecting several lateral concession roads to later connect to Dereham line to protect further customers from a loss of service in the event of a line strike.

Furthermore, the Putnam to Culloden pipeline, allowed NRG to serve significantly more additional customers resulting in the additional benefits of supporting growth.

It should also be noted that the solution recommended by SNC was also flawed in that it recommended connecting a four inch line to a two inch line which would have created an unnecessary restriction or bottleneck.[1] An additional flaw in the SNC proposed solution was

[1] EB-2018-0336 (phase 2), ENGLP Reply Submission dated September 20, 2019, Page 15, Paragraph 45

that it recommended twinning lines on Ostrander road, which would have created twice the static pressure which in turn would have lessened the flow that this solution would have achieved.

(b) The SNC recommendation was eliminated as an option for the reasons noted in the response to (a) above and as such, no formal cost comparison of the option and the Putnam to Culloden pipeline was completed.

VECC-4

Reference: **Affidavit of Brian Lippold, December 4, 2019, page 13**

Preamble: None

Request:

(a) Mr. Lippold explains that he felt compelled to address the risks associated with low pressure in the Brownsville area prior to another winter season. Was the Putnam-Culloden pipeline completed prior to the 2015 winter season?

Response:

(a) The Putnam to Culloden pipeline was completed in September of 2016.

NRG began investigating solutions to address severe low pressure issues in the Northeast quadrant in the winter of 2014/2015[1] and was originally targeting implementation of a solution prior to the 2015 winter season. This could not be achieved as Union Gas was not able to supply additional gas volumes and pressure at the Bradley Station prior to the 2015 winter season.[2] Although a solution was not implemented prior to the 2015 winter season, the pressure issues persisted and the concern regarding low pressures in the area, particularly in the fall/winter, remained. NRG continued to work with Union Gas on a solution and stressed the importance of implementing a solution before the following winter season (2016).[3]

The Putnam to Culloden pipeline was initiated after Union Gas confirmed on March 7, 2016, that additional gas supplies would be available the Bradley Station. It should also be emphasized that NRG made significant efforts to engage with Union Gas in 2014 and 2015, in an effort to resolve the low pressure issues prior to the winter of 2015. However, in NRG's view, these efforts were frustrated by Union Gas' uncooperative, unresponsive and dismissive responses.[4]

[1] EB-2015-0308, Affidavit of Brian Lippold, page 7, at paragraph 21.
[2] EB-2015-0308, Affidavit of Brian Lippold, Exhibit "Q".
[3] EB-2015-0308, Application, page 5-6, at paragraphs 11 and 12.
[4] EB-2015-0308, Affidavit of Brian Lippold, page 6, para 25.

VECC-5

Reference: **Affidavit of Brian Lippold, December 4, 2019, general**

Preamble: None

Request:

(a) Other than expanding pipeline were any demand side options explored to mitigate low pressure issues? If so, what options were considered and why were they rejected?

Response:

a) Demand side options alone were not sufficient to address the severe low pressure issues in the system.

In particular, traditional methods of demand side management, through the promotion of customer conversion to high efficiency equipment, would not provide an effective solution to the low pressure issues. This was because the majority of customers in ENGLP's system had already converted to high efficiency space heating and water heating equipment and, as a result, additional conversion to such equipment would not reduce demand sufficiently to effectively mitigate low pressure issues. Additionally, agricultural customers had already largely converted to more efficient drying equipment, such that improvements in efficiency by these customers would not have reduced demand sufficiently to alleviate the low pressure issues.

VECC-6

Reference: **Affidavit of Brian Lippold, December 4, 2019, page 17**

Preamble: None

Request:

(a) What project might have been completed in 2015 to alleviate the need for NRG Corp supplied gas to the Southeast quadrant of the ENGLP (NRG) distribution system?

(b) What was the incremental (delta) total cost of NRG Corp supplied gas in each of 2015 through 2019? That is, what was the annual premium paid for natural gas in each of those years?

Responses:

(a) There were no cost-effective projects that could have been completed in 2015 that would have alleviated the need for NRG Corp. gas.[1]

(b) For 2015 through 2018 this information was provided as part of the response to interrogatory 4-STAFF-42(c) in the ENGLP Aylmer Cost of Service Rates Case (OEB Proceeding EB-2018-0336). Please refer to the table below which includes the 2019 estimate:

[1] EB-2019-0276, Affidavit of Brian Lippold, page 8, paragraph 26(f) notes that NRG sought to increase gas supply from Union Gas in the Southeast quadrant of the system but that this option was not viable due to the high cost associated with reconfiguring the NRG system in the south to address uptake of gas from small diameter lines and undersized values and connections. Furthermore, as stated in EB-2015-0308, Application and Evidence, Affidavit of Brian Lippold, page 3 of 19, Union Gas offered to tie to their high-pressure Tillsonburg line to North Walsingham Station, located on the eastern edge of its system in the southeast quadrant of NRG's system, at a cost exceeding $5 million.

Table VECC-6(b)
Cost Difference Resulting from Volumes Purchased at Tranche A Contract Price
($)

		A **2015**	B **2016**	C **2017**	D **2018**	E **2019**
1	Cost Differential	89,039	173,736	139,783	138,415	179,439(1)

(1) For 2019 the incremental total cost of NRG Corp supplied gas is estimated as $179,439, using 10 months of actual costs and 2 months of forecast costs. Note that the calculation of gas commodity cost used the Gas Inventory Revaluation and PGCVA 2019 figures were sourced from EPCOR's Q1'2020 QRAM filing (EB-2019-0288). The Gas Inventory Revaluation and PGCVA from the EB-2019-0288 filing were calculated using forecast volumes and costs for November 2019 and December 2019. Due to the timing of submitting ENGLP's response, shortly after 2019 year-end, the actual figures were not yet available.