Elson Advocacy

March 9, 2020

BY COURIER (2 COPIES) AND RESS

Ms. Christine Long
Board Secretary
Ontario Energy Board
2300 Yonge Street, Suite 2700, P.O. Box 2319
Toronto, Ontario M4P 1E4

Dear Ms. Long:

Re: EB-2019-0188 – Enbridge Gas Inc. – North Bay (Northshore and Peninsula Roads) Community Expansion Project

Enclosed please find the interrogatories of Environmental Defence in the above matter.

Please do not hesitate to contact me if anything further is required.

Yours truly,

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EB-2019-0188
Enbridge Gas Inc.
North Bay (Northshore and Peninsula Roads) Community Expansion Project

Interrogatories of Environmental Defence

Interrogatory #1

Reference: Exhibit B, Tab 2, Schedule 6

Preamble: Please answer the below questions regarding these three scenarios:
(1) Volumes plateau at the year 5 forecast level and do not increase thereon in.
(2) After year 10, volumes decline 10% per year for ten years to nil.
(3) Volumes are 20% less than forecast throughout the economic life of the project.

Questions:

(a) For each scenario, what system explanation surcharge ($/m3) in year 11 onward would be needed to ensure the project breaks even (i.e. an NPV of 0 and PI of 1)? Please make assumptions as necessary and state all assumptions. Please provide a response assuming the SES would remain constant from year 11 onward. If Enbridge believes an escalating SES would be more likely, please also provide that additional information. For the purpose of this answer, please set aside whether the market could bear the increased surcharge.
(b) For each scenario, please calculate the revenue shortfall compared to the revenue forecast (i) over years 1 to 10, and (ii) over years 11 to 40. Please express the answer in both nominal terms and NPV.

Interrogatory #2

Reference: Exhibit B, Tab 2, Schedule 6

Questions:

(a) Does Enbridge undertake **not** to seek to increase the surcharge levied on customers in the project area (the SES) in years 11 through 40 to recover revenue shortfalls or cost overruns arising in years 1 through 10?
(b) If there are revenue shortfalls or cost overruns over years 1 to 10, would Enbridge seek to recover all or some those amounts by increasing the system expansion surcharge levied on customers in the project area in future years (e.g. year 11 or onward)? If yes, what proportion and in what circumstances? Assume for the sake of the answer that the market would bear the increase.
(c) If there are significant revenue shortfalls in year 11 onward, would Enbridge seek to recover all or some those amounts by increasing the system expansion surcharge levied

on customers in the project? If yes, by how much? Assume for the sake of the answer that the market would bear the increase.

Interrogatory #3

Reference: Exhibit B, Tab 2, Schedule 6

Questions:

(a) Are existing customers 100% insulated from the responsibility for revenue shortfalls and cost overruns? Please explain your answer. For the purpose of this answer, set aside the $8.7 million subsidy.
(b) If there are significant revenue shortfalls or cost overruns in years 1 though 10 that Enbridge is unable to recoup from increasing the system expansion surcharge, does Enbridge undertake not to seek to recoup the amounts from existing Enbridge customers?
(c) If there are significant revenue shortfalls or cost overruns in years 11 though 40 that Enbridge is unable to recoup from increasing the system expansion surcharge, does Enbridge undertake not to seek to recoup the amounts from existing Enbridge customers?
(d) If the proposed expansion becomes a stranded asset in 2040 and the project NPV remains far below 1, are existing customers protected from the liability? Please explain.
(e) If existing customers are protected from liability for revenue shortfalls, please explain the accounting and regulatory mechanisms in place to ensure that is the case. For example, are the capital costs added to rate base or accounted for separately? Would future board orders or accounting steps be needed to ensure that existing customers are protected?

Interrogatory #4

Reference: Exhibit B, Tab 2, Schedule 6

Preamble: According the Canadian Energy Regulator:

> "The Board requires all pipelines to set aside funds to safely cease operation of a pipeline at the end of its useful life. In 2016, TCPL estimated it would cost $2.9 billion to do this for the Mainline. These funds will be collected over 25 years and are being set aside in a trust."[1]

Questions:

(a) How much would it cost to safely cease operations of the proposed pipeline if in the future the pipeline was no longer used and a decision was made to cease operations and abandon the pipe?
(b) If the proposed pipeline becomes a stranded asset in 2040, who would be responsible to pay the abandonment costs? All Ontario gas ratepayers?

Interrogatory #5

[1] https://www.cer-rec.gc.ca/nrg/ntgrtd/pplnprtl/pplnprfls/ntrlgs/trnscndmnln-eng.html

Reference: Exhibit B, Tab 2, Schedule 6

Preamble: Please answer the below questions regarding these three scenarios:
(1) Volumes plateau at the year 5 forecast level and do not increase thereon in.
(2) After year 10, volumes decline 10% per year for ten years to nil.
(3) Volumes are 20% less than forecast throughout the economic life of the project.

For each scenario, assume the surcharge is held constant at $0.23 over the full 40 years (e.g. to prevent customers converting away from gas).

Questions:

(a) For each scenario, please reproduce the Project Discounted Cash Flow in Exhibit B, Tab 2, Schedule 6. Please indicate the PI and NPV.
(b) For each scenario, please explain who would ultimately bear the revenue shortfalls (e.g. Enbridge, existing ratepayers, or new project ratepayers).
(c) For each scenario, please complete the following chart indicating who would bear the revenue shortfalls:

Responsibility for Revenue Shortfalls – Scenario Analysis				
	Year 1	…	Year 30	Total
Scenario 1: Forecast volumes plateau in year 5 and do not increase thereon in				
Enbridge				
Existing Ratepayers				
New Project Ratepayers[2]				
Scenario 2: Forecast volumes after year 10 decline 20% per year for five years to nil				
Enbridge				
Existing Ratepayers				
New Project Ratepayers				
Scenario 3: Forecast volumes are 20% less than forecast throughout the economic life of the project.				
Enbridge				
Existing Ratepayers				
New Project Ratepayers				

[2] i.e. Ratepayers served by the new community expansion.

For each of the above, please make assumptions as necessary and state all assumptions. If the calculations are a challenge, please answer the question on a best-efforts basis and with any caveats as necessary. If certain parts of the answer cannot be estimated, please explain why and complete as much of the answer as possible.

Interrogatory #6

Reference: Exhibit B, Tab 1, Schedule 2, Page 1; Exhibit B, Tab 1, Schedule 1

Preamble: Enbridge states: "A door-to-door survey was also completed for the Project in January 2018. The survey informed residents about the Project, estimates of the cost to convert to natural gas, and information regarding a surcharge to contribute towards the cost of the Project. The survey also requested information pertaining to dwelling characteristics, use of dwelling, current fuel type and interest in converting to natural gas-fuelled appliances.

Enbridge also states: "Enbridge Gas included the surcharge in savings estimates referenced in telephone or door-to-door surveys for the Proposed Project Area, and determined forecasted attachments based on the results of these surveys."

Question:

(a) Please list all surveys conducted of the residents in the project area, the date each was conducted, and the type.
(b) Please provide a copy of all survey forms delivered to residents in the project area (i.e. the blank form, not the completed survey).
(c) Please provide a copy of the scripts, speaking points, or similar such materials for the telephone and door-to-door surveys conducted for the Proposed Project Area.
(d) Please provide a copy of any information sheets or pamphlets given to potential customers in the project area during door-to-door surveys.
(e) Please provide the all data collected in the surveys including, but not limited to, the tallied responses to each survey question, and including, but not limited to, the breakdown of the various likelihoods of converting to gas (very likely, likely, not likely, etc.).

Interrogatory #7

Reference: Exhibit B, Tab 1, Schedule 2, Page 2; Exhibit B, Tab 2, Schedule 2

Preamble: Enbridge states that: "the results of the door-to-door survey described above indicate that 37% of the people surveyed are interested in obtaining natural gas service."

Question:

(a) Please provide all savings estimates communicated to potential customers in the January 2018 door-to-door survey on which the attachment forecast is based.
(b) Please provide the data, assumptions, and spreadsheets used to calculate those savings estimates. Please include, among other things, all underlying data and assumptions regarding commodity prices, carbon prices, carbon intensity, transmission and distribution costs, and so on. If any costs relating to a fuel type are excluded from the analysis, please state so.
(c) With respect to the savings estimates communicated to potential customers in the door-to-door survey on which the attachment forecast is based, please provide the carbon intensity / emissions factor assumed for each fuel type (e.g. CO2e/m3 and CO2e/kWh).
(d) The IESO presentation at the following link forecasts a carbon intensity of electricity of under 35 g CO2e/kWh on average over the next 10 years. Does Enbridge believe this is a reasonable forecast? - http://www.ieso.ca/-/media/Files/IESO/Document-Library/engage/cf/AppendixB6---Climate-Change-final.pdf?la=en (see p. 17).
(e) If the carbon intensity of electricity was assumed to be more than 40 g CO2e/kWh in Enbridge's savings calculations, please recalculate the savings estimates based on 35 g CO2e/kWh.
(f) Please confirm the assumptions with respect to carbon pricing underlying the savings estimates.
(g) With respect to the savings estimates communicated to potential customers in the door-to-door survey on which the attachment forecast is based, please recalculate the savings estimates based on the current federal carbon pricing (i.e. rising to $50/tonne in 2022).
(h) With respect to the savings estimates communicated to potential customers in the door-to-door survey on which the attachment forecast is based, please recalculate the savings estimates based on the cost of carbon emissions in "Canada's Ecofiscal Commission, *Bridging the Gap: Real Options for Meeting Canada's 2030 GHG Target*, November 2019"[3] (i.e. carbon price increases on a straight line basis to $210 tonne CO2e in 2030).
(i) If the carbon intensity of electricity was assumed to be more than 40 g CO2e/kWh in Enbridge's savings calculations, please recalculate the savings estimates produced in (f) and (g) based on 35 g CO2e/kWh.

For each of the above, please make assumptions as necessary and state all assumptions. If the calculations are a challenge, please answer the question on a best-efforts basis and with any caveats as necessary. If certain parts of the answer cannot be estimated, please explain why and complete as much of the answer as possible.

For each of the above, please provide the live excel spreadsheets to allow Environmental Defence to test different assumptions.

Interrogatory #8

Reference: Exhibit B, Tab 1, Schedule 2, Page 2; Exhibit B, Tab 2, Schedule 2

Question:

[3] https://ecofiscal.ca/wp-content/uploads/2019/11/Ecofiscal-Commission-Bridging-the-Gap-November-27-2019-FINAL.pdf

(a) Please complete the following table based over the project lifetime (40 years) and the volume forecasts underlying the project economics in the application.

Carbon Cost Assumptions Underlying Customer Attachment Forecast vs. Federal Backstop Rates and Ecofiscal Commission Scenario				
	Year 1	…	Year 40	Total
Forecast volume (m3)				
Carbon emissions (CO2e)				
Carbon costs underlying customer attachment forecast[4]				
Carbon costs – federal carbon price, no increases beyond 2022[5]				
Carbon costs per Canada' Ecofiscal Commission[6]				

Please make assumptions as necessary and state all assumptions. If forecasting is a challenge, please answer the question on a best-efforts basis and with any caveats as necessary. If certain parts of the table cannot be estimated, please explain why and complete as much of the table as possible.

Please provide a live spreadsheet with any formulas.

Interrogatory #9

Reference: Exhibit B, Tab 1, Schedule 2, Page 2; Exhibit B, Tab 2, Schedule 2

Question:

(a) The federal government has committed to "help homeowners and landlords pay for retrofits by giving them an interest-free loan of up to $40,000."[7] Has Enbridge asked the federal government whether heat pumps will qualify? If not, why not. If yes, what information did Enbridge receive?
(b) If heat pumps will qualify for the federal governments $40,000 interest free loans, does Enbridge expect this will impact its customer attachment forecast (e.g. due to customers

[4] This is the cost of carbon emissions assumed in the savings estimates communicated to potential customers in the door-to-door survey on which the attachment forecast is based (see Exhibit B, Tab 1, Schedule 2, Page 2; Exhibit B, Tab 2, Schedule 2). If carbon is not accounted for, please include 0.
[5] This is the cost of carbon emissions based on the federal carbon backstop assuming no increases beyond $50/tonne.
[6] This is the cost of carbon emissions based on "Canada's Ecofiscal Commission, Bridging the Gap: Real Options for Meeting Canada's 2030 GHG Target, November 2019" (https://ecofiscal.ca/wp-content/uploads/2019/11/Ecofiscal-Commission-Bridging-the-Gap-November-27-2019-FINAL.pdf). This assumes the carbon price increases on a straight-line basis to $210 tonne CO2e in 2030.
[7] https://www2.liberal.ca/wp-content/uploads/sites/292/2019/09/Forward-A-real-plan-for-the-middle-class.pdf

choosing to convert to heat pumps instead of natural gas due to the lack of up-front cost for the former)? If not, why not. If yes, by how much?

(c) With respect to the savings estimates communicated to potential customers in the door-to-door survey on which the attachment forecast is based, please confirm that the costs of heating with electricity were based on resistance hearing (e.g. baseboards).

(d) Please compare the cost of (1) heating a typical residential home with natural gas and cooling it with electricity versus (2) heating and cooling it with electric air source heat pumps. Please provide the comparison over a ten-year period. Please make assumptions as necessary and state all assumptions. If the calculations are a challenge, please answer the question on a best-efforts basis and with any caveats as necessary.

(e) With respect to the savings estimates communicated to potential customers in the door-to-door survey on which the attachment forecast is based, please compare (i) the cost of electric heating assumed in the estimates and (ii) the cost of electric heating by heat pumps per "Szekeres, A., Jeswiet, J. Heat pumps in Ontario. Int J Energy Environ Eng 10, 157–179 (2019)".[8] Please provide the comparison on an annual basis and over a 10 year period.

(f) With respect to the savings estimates communicated to potential customers in the door-to-door survey on which the attachment forecast is based, please compare (i) the cost of electric heating assumed in the estimates and (ii) the cost of electric heating by heat pumps per "IESO, *An Examination of the Opportunity for Residential Heat Pumps in Ontario*, March 6, 2017".[9] Please provide the comparison on an annual basis and over a 10 year period.

Interrogatory #10

Reference: Exhibit B, Tab 1, Schedule 2, Page 2; Exhibit B, Tab 2, Schedule 2

Preamble: Enbridge states that: "the results of the door-to-door survey described above indicate that 37% of the people surveyed are interested in obtaining natural gas service."

Question:

(a) Please contact the individuals who stated that they are interested in obtaining natural gas service, provide them with information on potential cost savings from converting to heat pumps, and ask (a) whether they would be interested in converting to electric heat pumps and (b) whether they would be interested in converting to electric heat pumps if given an interest-free federal government loan to do so.

(b) In a confidential interrogatory response, please provide the names and contact information of the potential customers who stated that they are interested in obtaining natural gas service so Environmental Defence can survey (a) whether they would be interested in converting to electric heat pumps and (b) whether they would be interested in converting to electric heat pumps if given an interest-free federal government loan.

[8] https://link.springer.com/article/10.1007/s40095-018-0292-6

[9] http://www.ieso.ca/-/media/files/ieso/document-library/conservation-reports/an-examination-of-opportunity-for-residential-heat-pumps-in-ontario.pdf?la=en

Interrogatory #11

Reference: Exhibit B, Tab 1, Schedule 2, Page 2; Exhibit B, Tab 2, Schedule 2

Question:

(a) Please provide a breakdown of the cost to connect an average-sized residential customer to the gas distribution system, including a breakdown between the costs the customer is responsible for (e.g. new equipment, etc.) and the costs Enbridge is responsible for (e.g. connection from the meter to the distribution pipe). Please provide an estimate (i) where the required ducts already exist (e.g. oil-furnace conversion) and (ii) where the required ducts need to be added (e.g. baseboard conversion).
(b) If not included in (a), please provide the approximate average cost for connecting a residence to the distribution system, including the work from the customer meter to the distribution system.
(c) Based on average residential consumption, how long would it take for a customer to pay sufficient distribution charges to Enbridge to cover the capital costs incurred by Enbridge to initially connect the customer to the distribution system? Please make assumption as necessary and state any assumptions. Please provide the underlying calculations.

Interrogatory #12

Reference: Exhibit B, Tab 1, Schedule 2, Page 2; Exhibit B, Tab 2, Schedule 2

Question:

(a) Please provide Enbridge's best data on the current fuel types used by existing customers, including an estimated breakdown between electricity, wood, propane etc.

Interrogatory #13

Reference: Exhibit B, Tab 1, Schedule 2, Page 2; Exhibit B, Tab 2, Schedule 2

Preamble: The project economics depend in large part on Enbridge's customer attachment forecast.

Question:

(a) For the purpose of assessing the risks associated with customer attachment forecasts, please complete the following table comparing the forecast customer attachments in past Enbridge expansion projects and actual attachment figures.

Please make assumptions as necessary and state all assumptions. If forecasting is a challenge, please answer the question on a best-efforts basis and with any caveats as

necessary. If providing the volumes and revenue is too onerous, please explain why and provide at least the customer attachment figures.

Enbridge Customer Attachment Forecast Track Record				
	Year 1	Year 2	Year 3	…
Chippewas of Kettle and Stony Point First Nation				
Forecast customer attachments (#/yr)				
Actual customer attachments completed (#/yr)				
Forecast volumes (m3/yr)				
Actual volumes (m3/yr)				
Annual Demand (GJ)				
Forecast revenue ($)				
Actual revenue ($)				
Lambton Shores				
Forecast customer attachments (#/yr)				
Actual customer attachments completed (#/yr)				
Forecast volumes (m3/yr)				
Actual volumes (m3/yr)				
Annual Demand (GJ)				
Forecast revenue ($)				
Actual revenue ($)				
Milverton, Wartburg & Rostock				
Forecast customer attachments (#/yr)				
Actual customer attachments completed (#/yr)				
Forecast volumes (m3/yr)				
Actual volumes (m3/yr)				
Annual Demand (GJ)				
Forecast revenue ($)				
Actual revenue ($)				
Delaware Nation at Moraviantown				
Forecast customer attachments (#/yr)				
Actual customer attachments completed (#/yr)				
Forecast volumes (m3/yr)				
Actual volumes (m3/yr)				

Annual Demand (GJ)				
Forecast revenue ($)				
Actual revenue ($)				
Prince Township				
Forecast customer attachments (#/yr)				
Actual customer attachments completed (#/yr)				
Forecast volumes (m3/yr)				
Actual volumes (m3/yr)				
Annual Demand (GJ)				
Forecast revenue ($)				
Actual revenue ($)				

(b) For each project listed in the above table, please list the planned and actual in-service date.

Interrogatory #14

Reference: Exhibit B, Tab 2, Schedule 2; Exhibit B, Tab 1, Schedule 4, p. 1

Question:

(a) Please complete the below table.

Forecast Demand from Customers in the Project Area				
	Year 1	Year 2	…	Year 11
Annual Demand (m3)				
Average Day Demand (m3/day)				
Design Day Demand (m3/day)				
Annual Demand (GJ)				
Average Day Demand (GJ/day)				
Design Day Demand (GJ/day)				

(b) Will the gas for this expansion project travel through the Hamilton Value? If the answer is no or maybe, please describe the likely gas transmission pathway(s) that will serve the project area.

(c) Please express the forecast demand from customers in the project area as a percentage of the demand from all community expansion projects listed in O. Reg. 24/19. Please include annual, average day, and design day demand. Please provide the figures for each year over the first 10 years. If that is not possible, please explain why and please provide

the best information available (e.g an average or a figure for year 10). If Enbridge does not have and cannot publicly access the forecast demand from expansion projects put forward by other proponents, please provide as much information as possible on a best efforts basis.

(d) What annual, average day, and design day demands are assumed per customer for (i) residential, (ii) residential – seasonal, and (iii) small commercial.

Interrogatory #15

Reference: Exhibit B, Tab 1, Schedule 4

Question:

(a) How much capital does Enbridge expect to invest in this project? Please provide a table showing an annual breakdown and the total as nominal and NPV values.
(b) How much profit (i.e. return) does Enbridge plan to earn in relation to this project ($ and %)? Please provide a table showing an annual breakdown and the total. Please make assumptions as necessary, state all assumptions, and state any caveats.
(c) If the actual volumes (m3) are 20% higher than forecast in the application throughout the economic lifetime of the project, who would benefit from the additional revenues? Would Enbridge increase its profits, and if yes, by how much? Please provide a table showing an annual breakdown and the total. Assume capital costs remain as forecast.
(d) If the capital costs are 20% lower than forecast in the application throughout the economic lifetime of the project, who would benefit? Would Enbridge increase its profits, and if yes, by how much? Please provide a table showing an annual breakdown and the total. Assume revenues remaining as forecast.
(e) Does Enbridge undertake not to seek to increase the surcharge levied on customers in the project area (the SES) in years 11 through 40 to recover revenue shortfalls or cost overruns arising in years 1 through 10?

Interrogatory #16

Reference: Exhibit B, Tab 2, Schedule 6

Questions:

(a) If revenues are higher than forecast in years 1 to 10, does Enbridge undertake to reimburse all of those surplus funds to customers? If yes, would they be reimbursed to existing customers (e.g. refunding part of the $8.7 million subsidy) or to customers in the project area (e.g. through decreases in the SES)? Please explain. Please provide an example based on 20% higher-than-expected revenues. Assume capital costs remain as forecast.
(b) If capital costs are lower than forecast in years 1 to 10, does Enbridge undertake to reimburse all of those surplus funds to customers? If yes, would they be reimbursed to existing customers (e.g. refunding part of the $8.7 million subsidy) or to customers in the project area (e.g. through decreases in the SES)? Please explain. Please provide an

example based on 20% higher-than-expected revenues. Assume revenues remain as forecast.

(c) If revenues are higher than forecast in years 11 to 40, does Enbridge undertake to reimburse all of those funds to customers? If yes, would they be reimbursed to existing customers (e.g. refunding part of the $8.7 million subsidy) or to customers in the project area (e.g. through decreases in the SES)? Please explain. Please provide an example based on 20% higher-than-expected revenues. Assume capital costs remain as forecast.