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November 22, 2021

Christine E. Long
Registrar and Board Secretary
Ontario Energy Board
2300 Yonge Street, P.O. Box 2319
Toronto ON
M4P 1E4

Dear Ms. Long

**RE: EB-2020-0293 Enbridge Gas St. Laurent Ottawa North Replacement Project
Energy Probe Interrogatories**

Attached are the interrogatories of Energy Probe Research Foundation (Energy Probe) in the EB-2020-0293 proceeding, the application by Enbridge Gas Inc. to the Ontario Energy Board for the approval of its St. Laurent Ottawa North Replacement Project.

Respectfully submitted on behalf of Energy Probe.

Tom Ladanyi
TL Energy Regulatory Consultants Inc.

cc. Roger Higgin (Sustainable Planning Associates Inc.)
Zora Crnojacki (OEB Staff)
James Sidlofsky (OEB Staff)
Adam Stiers (Enbridge Gas Inc.)

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ONTARIO ENERGY BOARD

IN THE MATTER OF the Ontario Energy Board Act, 1998,
S.O. 1998, c. 15, (Schedule B) (the “Act”);

AND IN THE MATTER OF an Application by Enbridge
Gas Inc. for an order granting leave to construct in the City
of Ottawa, under section 90 of the Act.

AND IN THE MATTER OF an Application by Enbridge
Gas Inc. for an order approving the forms of Working Area
Agreement and Transfer of Easement agreement, under
section 97 of the Act.

Enbridge Gas Inc. Leave to Construct Application: St. Laurent North Ottawa

Energy Probe Research Foundation Interrogatories

November 22, 2021

1.1.Energy Probe.1

References: Exhibit B, Tab 1, Schedule 1, Page 1, paragraph 1 and Figure 1, page 3

Preamble: “Enbridge Gas Inc. (Enbridge Gas or the Company) has identified the need to abandon and replace approximately 16 km of nominal pipe size (NPS) 12 inch extra-high pressure (XHP) steel (ST) natural gas main and approximately 400 m of NPS 16 XHP ST natural gas main in the City of Ottawa, Ontario.”

- a) What is the length and diameter of the existing pipeline located on St. Laurent Boulevard and when was it originally placed in service?
- b) What is the length and diameter of the existing pipeline located on Sandridge Road and when was it originally placed in service?
- c) What is the length and diameter of the existing pipeline located along Highway 417 and when was it originally placed in service?
- d) Where is the southern connection? If connected at a station please indicate on an updated Figure1. What is the size age and condition of the connecting pipeline

1.1.Energy Probe.2

Reference: Exhibit B, Tab 1, Schedule 1, page 6, paragraph 13

Preamble: “The Cliff Street Heating Plant is one of Canada’s largest central heating and cooling plants. It supplies steam and chilled water through 12 km of tunnels and serves over 52 office buildings in downtown Ottawa.”

- a) Does the Cliff Street Heating Plant use natural gas for fuel?
- b) Is Enbridge aware of any plans to close the Cliff Street Heating Plant or convert it to another form of energy?

1.1.Energy Probe.3

Reference: Exhibit B, Tab 1, Schedule 1, page 8, paragraph 15

Preamble: “The potential consequences of a failure are amplified due to the location of the St. Laurent Pipeline. It is located in a high consequence area containing wall-to-wall concrete, a densely populated downtown core containing residential, commercial, in industrial and institutional customers, utility congested road allowances and railways/public transit that are in close proximity to the pipeline”.

- a) What is the total length of the existing St. Laurent Pipeline?
- b) Please explain the term “wall-to-wall concrete”.
- c) What length of the St. Laurent Pipeline is located in areas with wall-to-wall concrete?

1.1.Energy Probe.4

References: Exhibit B, Tab 1, Schedule 1, page 12, paragraphs 19, 20,21, Figure 3, Tables 1 and 2

Preamble: “This situation would also interrupt natural gas supply to the Rockcliffe Control Station which is one of two supply sources for Gazifère. Table 1 shows the customers impacted by customer type in the Enbridge Gas and Gazifère franchise areas. The Company estimates that it would cost approximately \$54 million to repair the St. Laurent Pipeline, make safe and re-light affected customers in the Enbridge Gas franchise area.”

- a) Why is the repair cost \$54 million as opposed to \$22 million noted in paragraph 21?
- b) What is the type, age and condition of the connecting mains into the Gazifere service area?

1.1.Energy Probe.5

Reference: Exhibit B, Tab 1, Schedule 1, page 33, paragraph 49

Preamble: “There have been 10 compression couplings found on the St. Laurent Pipeline to date, all of which have been properly restrained or removed.”

- a) Of the 10 compression couplings, how many were on the pipeline itself and how many were on service lines or laterals attached to the pipeline?
- b) Have there been any leaks or pull-outs of compression couplings on the St. Laurent Pipeline? If the answer is yes, please provide the number and year of occurrence of each?

2.1.Energy Probe.6

Reference: Exhibit B, Tab 1, Schedule 1, page 34, paragraph 50

Preamble: The first option was to reactively repair leaks as they occur (Repair Option). The second option was to replace the St. Laurent Pipeline (Replace Option).

Did Enbridge consider only replacing the pipeline on St. Laurent Boulevard and not replacing the lines on Sandridge Road and Highway 417? Please discuss.

2.1.Energy Probe.7

Reference: Exhibit B, Tab 1, Schedule 1, page 36, Table 8

Please provide a detailed breakdown of the \$3,678,750 estimate of the following items listed in Table 8 under St Laurent Blvd & Tremblay Road

- a) Removal of Line Stop Fitting
- b) Installation of 125m of NPS12, transition from NPS12 to NPS16
- c) Fitting Retrofit – 16x16x16 tee branch to NPS 12 Tremblay Road Lateral
- d) Valve Retrofit – Valve replacement to full port valve

2.1.Energy Probe.8

Reference: Exhibit B, Tab 1, Schedule 1, page 38, Table 9

Please explain how “overhead costs” of \$10,000 and “contingency costs” of \$205,000 were estimated showing all calculations.

2.1.Energy Probe.9

Reference: Exhibit B, Tab 1, Schedule 1, page 39, Figure 16

Please confirm that some of the retrofit and filter locations are on gas mains that Enbridge is not planning to replace.

2.1.Energy Probe.10

References: Exhibit B, Tab 1, Schedule 1, page 40, paragraph 58 and page 41, Table 10

- a) Please define the term “failure”. Is every leak a “failure” or is only an explosion a failure?
- b) Does Table 10 refer to “failures” from the time of original construction of pipelines or gas mains or does it refer to time to failure from the present? If the answer is the present, what is the date that is assumed for the present?

2.1.Energy Probe.11

References: Exhibit B, Tab 1, Schedule 1, page 41, paragraph 60, and page 42, Table 11

- a) What are “Reliability Engineering techniques”?
- b) What is a “leak” and how is it different from “failure”?
- c) Are all leaks the same or are there minor and major leaks?
- d) How many years has the pipeline on St. Laurent Boulevard been in operation?
- e) How many leaks and failures have there been on the St. Laurent Boulevard pipeline?
- f) How many years has the pipeline on Sandridge road been in operation?
- g) How many leaks and failures have been on the Sandridge Road pipeline?
- h) How many years has the pipeline on Highway 417 been in operation?
- i) How many leaks and failures have been on the pipeline on Highway 417?
- j) When was Highway 417 built?

2.2.Energy Probe.12

Reference: Exhibit B, Tab 1, Schedule 1, page 46, paragraph 65

Preamble: “The costs related to the two options were then discounted using the methods prescribed in EBO 188 to arrive at a net present value for each.”

- a) Please file a spreadsheet showing the discounting of the two options, listing all numerical assumptions.
- b) What does the E.B.O. 188 DCF analysis show regarding the repair and replace options?

2.2.Energy Probe.13

Reference: Exhibit B, Tab 1, Schedule 1, page 46, paragraph 65

Preamble: “For the Repair Option analysis, Enbridge Gas assumed that 40.9 corrosion and fitting leaks would occur on the St. Laurent Pipeline over the next 40 years (2023 to 2062).”

- a) Please explain the process that resulted in the assumption that there would be 40.9 corrosion and fitting leaks over the next 40 years showing all calculations.
- b) Did Enbridge assume that the replace option would not have any leaks over the next 40 years? Please explain your answer.

3.1.Energy Probe.14

References: Exhibit D, Tab 1, Schedule 1, page 10, Table 9, and page 11, paragraph 16.

- a) Did Enbridge use actual unit costs of similar projects in preparing this estimate? If the answer is no, please explain why not? If the answer is yes, please list the projects and file relevant unit costs.
- b) Please break out the cost of the replacement of the pipelines on Sandridge Road and Highway 417.
- c) Are “Labour” costs the costs paid to the construction contractor and do they include some materials costs. Please explain your answer and break out the costs of materials paid to the construction contractor.
- d) Why are the “External Permitting and Land” costs so much higher for Phase 4? Please explain your answer and provide the components of the costs showing the amount of each component.
- e) Please explain what are “Outside Services” costs and provide the components of the costs showing the amount of each component.
- f) Please explain what are “Direct Overheads” costs and provide the components of the costs showing the amount of each component.
- g) Please explain why contingency percentages were applied to all direct capital costs.
- h) Please classify the Phase 3 and Phase 4 estimates according to the AACE International Cost Estimate Classification System.

- i) Please describe the uncertainties regarding Phase 4 that would require a higher contingency for Phase 4 than for Phase 3. Please discuss the risks of potential route and length of changes and unknown soil conditions including costs of removal of contaminated soil.
- j) Please explain what are “Indirect Overheads” costs and provide the components of the costs showing the amount of each component.
- k) Please explain how Interest During Construction cost was estimated and show all assumptions, inputs, and calculations.

Respectfully submitted on behalf of Energy Probe by its consultants,

Roger Higgin
Sustainable Planning Associates Inc.

Tom Ladanyi
TL Energy Regulatory Consultants Inc.