EB-2022-0157
Enbridge Panhandle Expansion Project

Interrogatories of Environmental Defence on Enbridge Reply Evidence

November 18, 2022

Interrogatory # 3.3-ED-17.

Reference: Reply Evidence, p. 3

Question(s):

(a) Please indicate which Enbridge employees prepared the reply evidence. If more than one employee was involved, please indicate the role of each.
(b) Please provide the CV of each of the Enbridge employees referred to in (a).
(c) Please indicate if Enbridge is asking that the evidence of the employees referred to in (a) be accepted as expert evidence, and if yes, please indicate the scope of expertise. If not, please explain why that is not necessary.

Interrogatory # 3.3-ED-18.

Reference: Reply Evidence, p. 4-5, Attachment 2

Preamble:

> On page 4, Enbridge states: "Stage 2 assesses the net benefits that new general service customers realize by attaching to the natural gas system due to the incremental capacity provided by the transmission system expansion project that is the subject of the assessment."
>
> On page 5, Enbridge refers to "Dr. McDiarmid's assumption that as of 2023 all incremental residential and commercial general service natural gas attachments would choose high-efficiency all-electric configurations instead of attaching to the natural gas" and describes this as an "unrealistic and baseless assumption"
>
> Cells D1 to J14 of Attachment 2 to the reply evidence state as follows:

Assumed Mix of Alt Fuel Market Share if Gas Not Available		
Residential & Commercial		
Heating Oil	%	24%
Propane	%	10%
Electricity	%	67%
Total		100%

Question(s):

(a) Please confirm that the stage 2 analysis focuses only on new general service customers that attach to the natural gas system due to the incremental capacity provided by the transmission system expansion project in question (i.e. only those incremental attachments that are made possible by the expansion project). If that is not confirmed, please reconcile that with the quote from page 4 listed above.
(b) If the stage 2 analysis focuses on customers connecting to the gas system that would not have been able to connect but for the transmission system expansion, please confirm that these customers would not have the option of choosing gas if the transmission expansion is not put in place.
(c) Please confirm that, according to Exhibit I.ED.2, 2-5% of the general service customer attachments are assumed to be fuel conversions, and therefore 95% to 98% would be new construction. If that is not confirmed, please explain and provide the correct figures.
(d) Please confirm that Enbridge's stage 2 analysis, including its recalculated analysis at Attachment 1 and 2 of the reply evidence, assume that 24% of customer attachments will use heating oil and 10% will use propane if gas is not available.
(e) In light of the fact that 95% to 98% of customer attachments are new construction, please justify Enbridge's fuel mix assumption among customer attachments.
(f) Where gas is not available, please provide Enbridge's best estimate for the percent of new construction homes that will install (i) a new oil heating system and (ii) a new propane heating system. If possible, please provide an estimate specific to the Panhandle region. Please justify the answer.
(g) Please provide data on the fuel mix used in new construction in Ontario.

Interrogatory # 3.3-ED-19.

Reference: Reply Evidence, p. 4-5, Attachment 2

Preamble:

On page 5, Enbridge refers to "Dr. McDiarmid's assumption that as of 2023 all incremental residential and commercial general service natural gas attachments would choose high-efficiency all-electric configurations instead of attaching to the natural gas" and describes this as an "unrealistic and baseless assumption"

Cells D1 to J14 of Attachment 2 to the reply evidence state as follows:

Assumed Mix of Alt Fuel Market Share if Gas Not Available		
Residential & Commercial		
Heating Oil	%	24%
Propane	%	10%
Electricity	%	67%
Total		100%

Question(s):

(a) Please confirm that:
    (i) Enbridge's stage 2 analysis relies on an "assumed mix of alt fuel market share if gas not available";
    (ii) 95% to 98% of customer attachments are new construction in this case (per I.ED.2); and
    (iii) Dr. McDiarmid's recalculation of Enbridge's stage 2 analysis does not assume that all incremental residential and commercial general service natural gas attachments would choose high-efficiency all-electric configurations instead of attaching to the natural gas *because the relevant analysis assumes that gas is not available (as noted in (i) above)*.
(b) If that is confirmed, please refile the a corrected version of the reply or retract the above statement.

Interrogatory # 3.3-ED-20.

Reference: Reply Evidence, p. 5

Preamble:

> Enbridge states as follows at paragraph 12 of its Reply Evidence: "In the alternative, for illustrative purposes, if the assumption used by Dr. McDiarmid in the ED Evidence (that high-efficiency electric end-use equipment is 312% efficient) was incorporated into Enbridge Gas's Stage 2 assessment by adjusting the cost of electricity in the alternative energy mix, this results in a 20-year Stage 2 NPV of positive $97 million.1 This calculation incorporates the electric efficiency assumption and also provides for a more appropriate representative alternative energy mix.
>
> Enbridge states as follows in I.ED.2: "The general service attachments on the Panhandle System is assumed to be approximately 2-5% fuel conversions."
>
> Enbridge confirmed in JT1.18 that the customer attachments in the stage 2 analysis and those in I.ED.2 are not materially different.

Question(s):

(a) Please recalculate and re-file Attachment 2 on the assumption that the fuel mix for the customer attachments in the stage 2 analysis are 100% electric heat pumps for all new construction.
(b) Please recalculate and file Attachment 2 on the assumption that the fuel mix for the customer attachments in the stage 2 analysis are 100% electric heat pumps for all new construction and for 50% of the anticipated fuel conversions.
(c) Please provide Enbridge's estimate from its DSM proceeding of the cost of installing a cold-climate heat pump versus a gas furnace and air conditioner.
(d) Please provide details on the incentives available for customers to install cold-climate heat pumps.

Interrogatory # 3.3-ED-21.

Reference: Reply Evidence, p. 8

Preamble:

> Enbridge states as follows at paragraphs 19 & 20 of the reply evidence:
>
> > "For additional clarity, region 4 refers to a warmer climate than region 5. Region 4 represents "climates similar to the Midwestern US" while region 5 "would cover most of the southern half of the provinces in Canada". The Project area is understood to reside in region 5.
> >
> > Enbridge Gas did not claim that the upfront cost of an HSPF 10 region 5 electric air-source heat pump is $11,100. Enbridge Gas's understanding of its own information is that the upfront cost of $11,100 is relevant to an HSPF 10 region 4 electric air-source heat pump."

Question(s):

(a) Please confirm that Enbridge concurs with the following statement by NRCan: "On a seasonal basis, the heating seasonal performance factor (HSPF) of market available [air-source heat pump] units can vary from 7.1 to 13.2 (Region V). It is important to note that these HSPF estimates are for an area with a climate similar to Ottawa."[1] If Enbridge disagrees, please explain why and provide the correct figures.
(b) The reference to HSPF 10 is from Exhibit I.10h.EGI.STAFF.77 in EB-2021-0002. Please confirm that analysis was based on "2 archetype homes in Toronto" and that Toronto is in region 5.
(c) If the HSPF figure used in Exhibit I.10h.EGI.STAFF.77 in EB-2021-0002 was indeed a region 4 figure, even though the analysis would require a region 5 figure, please indicate whether that was intentional or an error.

Interrogatory # 3.3-ED-22.

Reference: Reply Evidence, p. 9

Preamble:

> Enbridge states as follows at paragraph 21 of the reply evidence:
>
> > Rather than using an average natural gas commodity cost over a defined period (e.g., previous 12 months, or previous calendar year), Dr. McDiarmid states on page 3 of the ED Evidence that, "I adjusted fuel costs to reflect the full October 2022 costs". This approach is problematic, because it does not account for the

[1] https://www.nrcan.gc.ca/energy-efficiency/energy-star-canada/about/energy-star-announcements/publications/heating-and-cooling-heat-pump/6817

potential short-term price volatility of the natural gas commodity, as is currently being experienced in 2022 due to various economic fundamentals and unique geo-political issues (e.g., war in Ukraine).

Question(s):

(a) Please confirm that Enbridge's October 2022 gas commodity prices do not reflect the full increases in market gas commodity prices at that time due to the price smoothing that Enbridge has implemented.
(b) Without price smoothing, approximately what percent higher would Enbridge's gas commodity prices have been as of October 2022.

Interrogatory # 3.3-ED-23.

Reference: Reply Evidence, pages 10-15

Question(s):

(a) Please compare the cost-effectiveness of decarbonizing commercial greenhouses using options that do not require pipelines (e.g. biomass or high-efficiency electric heat pumps) versus options that involve gaseous fuels delivered via pipelines of the type proposed for this project.
(b) Please provide any studies or analysis comparing the cost-effectiveness of decarbonizing commercial greenhouses using options that do not require pipelines (e.g. biomass or high-efficiency electric heat pumps) versus options that involve gaseous fuels delivered via pipelines of the type proposed for this project.