EB-2022-0248
Mohawks of the Bay of Quinte Community Expansion Project

Supplementary Interrogatories of Environmental Defence

Interrogatory # 3.0-ED-29

Reference: Exhibit E, Tab 1, Schedule 1, Attachment 2

Preamble:

> Interrogatory 3.0-ED-16(e) requested the following:
>
> "Please provide Enbridge's best estimate of the relative cost-effectiveness of an average customer in the project area converting to an air-source cold climate heat pump versus gas. Please generate (i) the lifetime difference in total capital costs and operational costs (NPV) based on customer prices over the equipment lifetime and (ii) the difference in average annual operational costs over the equipment lifetime. Please include all material customer-facing costs and benefits, including energy costs, carbon costs, the Greener Homes Grant incentives for heat pumps, and the gains from more efficient summer cooling of an air source heat pump versus a traditional air conditioner. Please provide all calculations and assumptions. Please make assumptions and state caveats as necessary."
>
> This interrogatory requests further detail in light of the OEB's decision on intervenor evidence.

Questions:

(a) Please re-run the cost comparison spreadsheet underlying Interrogatory 3.0-ED-16(e) with the following assumptions:
   - (i) Customer-facing gas and electricity prices for the project ara are based on either: (A) the average price over the past 12 months inflated by 2% annually going forward or (B) the current prices inflated by 2% annually going forward;
   - (ii) A carbon price forecast consistent with the IESO 2050 Pathways to Decarbonization Report, namely: that the carbon price "[c]ontinues rising by $15/tonne from 2030-2035, and thereafter increases with the rate of inflation."
   - (iii) The installed cost and performance (COP/HSPF & SEER) of the cold climate air source heat pump is based on the Moovair Central heat pumps;[1]
   - (iv) The average SEER of an air conditioner is 13 (per EB-2021-0002, Exhibit I.10h.STAFF77);

[1] The specs for the Moovair central can be found here: https://moovair.ca/central-moov-2022/.

(v) Two scenarios for water heating: (A) the customer keeps their existing electric water heater and (B) the customer purchases a Rheem hybrid high-efficiency heat pump water heater;
(vi) The customer's air conditioner is at 50% of its useful lifetime and its future replacement costs are avoided if the customer installs a heat pump; and
(vii) The customer will incur the average Extra Length Charge if they switch to gas, based on the calculations in the following interrogatory response.

(b) Fall each scenario, please provide the lifetime NPV and the first-year annual operating costs for both options.
(c) Please provide the spreadsheet underlying the answer to Interrogatory 3.0-ED-16(e) and to (a) above.
(d) Please confirm that Moovair is a heat pump developed and sold by The Master Group, which is the largest independent HVAC-R distributor in Canada.[2] [To explain why we suggest using that model as a concrete example.]
(e) Do the average-use figures assumed in Enbridge's revenue forecast correspond to customers with gas for space heating only or also gas for other uses, such as water heating?
(f) Please confirm that there are over 430 models of centrally-ducted heat pumps on the Greener Homes Grant eligible equipment list with an HSPF (Region 5) of 10 or higher and that the top-rated Carrier 3-ton units have an HSPF (Region 5) of 11.3.
(g) Please confirm that there are over 270 models of centrally-ducted heat pumps rated for 30,000 BTUs or higher on the Greener Homes Grant eligible equipment list with an HSPF (Region 5) of 10 or higher.
(h) Please provide the conversion rate between region 4 and 5 HSPF figures and between HSPF and COP.
(i) Please provide a table for the duration of the customer attachment horizon with rows for:
(i) The number of forecast attachments;
(ii) The average capital cost per attachment (e.g. dedicated service line and meter);
(iii) The amount of the attachment costs in (ii) covered by rates on average;
(iv) The amount of the attachment costs in (ii) covered by the customer on average;
(v) The total attachment costs (dedicated service line and meter) for each year; and
(vi) A reconciliation of (v) with the incremental capital figures in the DCF table in E-1-1 Attachment 2.

Interrogatory # 3.0-ED-30

Reference: Exhibit E, Tab 1, Schedule 1, Attachment 2

Preamble:

These questions relate to the costs of individual customer attachments (i.e. dedicated service line and meter), the portion of those costs that will be borne via up-front payments by customers considering a switch to gas, and how this might impact the number of attachments as customers consider gas versus heat pumps.

[2] https://moovair.ca/why-moovair/

As an illustration of the rural nature of the project area, the following image from Google Maps shows five residences in the project area that are an average of 48 metres from the edge of the shoulder to the closest point on the residence.[3]

Questions:

(a) Please confirm that, in its rebasing case, "Enbridge Gas is proposing a harmonized service length threshold of 20 metres and an updated ELC [Extra Length Charge] of $122 per additional metre that will apply consistently across all franchise areas."
(b) Please confirm that the Extra Length Charge applies in community expansion areas. If not, please explain, including an explanation as to when that changed, why that changed, and whether approval was sought from the OEB for that change.
(c) Please provide a table showing, for all the buildings in the project area, the *approximate* length of service line that will be required. If Enbridge does not have that information, please obtain it on an approximate basis using mapping tools. The list does not need to use addresses. Please use simplifying assumptions if Enbridge wishes to do so (e.g. that the service line will run in a straight line from the edge of the shoulder to the nearest point on the house). [Note that this should not be onerous, and Environmental Defence would complete the task if it was permitted to submit evidence. We tested this task with Google Maps, and we were able to record measurements of approximately 5 buildings per minute.]
(d) Please add to the table from (c): the approximate Extra Length Charge that would apply for that building (pre-tax) and the total including tax (if tax is applied).
(e) Please explain how Enbridge determines the length for the purpose of calculating the Extra Length Charge. For instance, is the length measured from the actual gas main, or

[3] The individual distances from left to right, in metres, are approximately 44, 55, 65, 45, 32.

from some other point (e.g. the edge of the road or the edge of the shoulder)? For customers on the opposite side of the road as the main, do they or Enbridge cover the incremental costs of getting the service line underneath the road? Is this pipe going to run on the north or south side of the road?