

EB-2022-0013

Alectra Utilities - ICM Application for 2023 Electricity Distribution Rates and Charges

Interrogatories of Environmental Defence

Interrogatory # 3-ED-1

Reference: Exhibit 3, Tab 1, Schedule 4, Page 7

Preamble: “Alectra Utilities has identified 28 distinct projects that are required to address urgent and necessary cable renewal work in the Enersource and PowerStream RZs...The list of projects includes 13 cable injection projects and 15 projects for cable replacement.”

Questions:

- (a) In the case of projects involving cable replacement, how was the size of the replacement wire determined?
- (b) In the case of projects involving cable replacement, did Alectra consider using larger wires to accommodate increasing electrification resulting from the decarbonization of space heating and transportation? If yes, please provide the details.
- (c) If sizing up the wires used in the proposed cable replacement is not technically feasible, please explain.
- (d) If sizing up the wires used in the proposed cable replacement is technically feasible, please provide an estimate of the incremental increase in cost.
- (e) If larger wires were used, what would be the savings in transmission losses over the lifetime of the wires? Please provide the figures in both kWh/year and kWh at peak.

Interrogatory # 3-ED-2

Reference: Exhibit 3, Tab 1, Schedule 4, Page 7

Questions:

- (a) In general, what is Alectra’s methodology for sizing equipment installations to ensure that future needs associated with the electrification of transportation and heating can be met?
- (b) Does Alectra assume that its wires should be able to handle 100% electrification of transportation and heating?
- (c) Please provide copies of any studies that Alectra has conducted on how electrification will impact capital planning and equipment sizing.

Interrogatory # 3-ED-3

Reference: Exhibit 3, Tab 1, Schedule 4, Page 7

Preamble: “With the completion of the proposed cable replacement projects, Alectra Utilities will replace the existing deteriorated and failing cable in 15 neighbourhoods with new cable installed in protective conduit that will provide reliable service for the next 55 years.”

Questions:

- (a) Approximately how many customers (residential, commercial and industrial) are served in the areas where cable replacement is proposed?
- (b) Please confirm the estimated lifetime of the new cable is 55 years.
- (c) What is the capacity of the wires (MW) that would be used in the cable replacement?
- (a) How has Alectra Utilities considered avoiding future costs of wire replacement related to decarbonisation through electrification in the project areas where cable would be replaced? Please explain.
- (d) What is the approximate current EV penetration in the areas in which the cable would be replaced?
- (e) If all residential customers in the areas where cable would be replaced were to adopt EVs during the lifetime of the new cable, what would the contribution be to peak demand for planning purposes in MW? Please provide caveats or a range of possible figures as we understand that a lot will depend on behaviours.
- (f) If all residential customers in the areas where the cable would be replaced were to replace gas furnaces with electric heat pumps during the lifetime of the new cable, what would be the contribution to peak demand in MWh for planning purposes? Please feel free to provide caveats or a range of possible figures as we understand that a lot will depend on behaviours.

Interrogatory # 3-ED-4

Reference: Exhibit 3, Tab 1, Schedule 4, Page 7

Questions:

- (a) Please provide a table listing all the relevant projects and indicate whether equipment being installed would need to be replaced in the event of (i) 100% electrification of all vehicles, (ii) 100% electrification of space and water heating, and (iii) both (i) and (ii). Please make and state any assumptions as necessary. Please indicate any caveats.
- (b) Will the spending have any impact on the ability of customers to install distributed energy resources? Would alternatives to the project have impacts on this? Please explain in details.

Interrogatory # 3-ED-5

Reference: Exhibit 3, Tab , Schedule 4, Page 7

Preamble: “The list of projects includes 13 cable injection projects and 15 projects for cable replacement. [...] With the completion of the proposed cable injection projects,

Alectra Utilities will achieve two objectives: i) prevent further cable failure 19 outages; and ii) reduce the need for higher future costs to replace the cable.”

Questions:

- (a) Approximately how many customers (residential, commercial and industrial) are served in the areas where cable injection projects are proposed?
- (b) Please confirm the estimated lifetime of cable that has been injected with silicone.
- (c) What is the capacity of the wires in MW that would be subject to cable injection?
- (d) How has Alectra Utilities considered avoiding future costs of wire replacement related to decarbonisation through electrification in the cable injection project areas? Please explain.
- (e) What would be the difference in cost if the cables in the cable injection project areas were replaced with larger wires are contemplated above in 3-ED-1(d)?
- (f) What is the approximate current EV penetration in the cable injection project areas?
- (g) If all residential customers in the cable injection project areas were to adopt EVs during the lifetime of the new cable, what would the contribution be to peak demand for planning purposes in MWh? Please feel free to provide caveats or a range of possible figures as we understand that a lot will depend on behaviours.
- (h) If all residential customers in the areas where the cable injection project areas were to replace gas furnaces with electric heat pumps during the lifetime of the new cable, what would be the contribution to peak demand in MWh for planning purposes? Please feel free to provide caveats or a range of possible figures as we understand that a lot will depend on behaviours.