



July 11, 2022

Ms. Nancy Marconi  
Registrar  
Ontario Energy Board  
2300 Yonge Street  
P.O. Box 2319  
Toronto, ON M4P 1E4

Re: Alectra Utilities Corporation – ICM Application  
AMPCO Interrogatories  
Board File No. EB-2022-0013

Dear Ms. Marconi:

Attached please find AMPCO's interrogatories in the above proceeding.

Please do not hesitate to contact me if you have any questions or require further information.

Best Regards,

A handwritten signature in blue ink, appearing to read 'Colin Anderson'.

Colin Anderson  
President

Copy to: Alectra Utilities Corporation

**EB-2022-0013**

**Alectra Utilities Corporation (Alectra)  
Application for Incremental Capital Module funding  
effective January 1, 2023**

**AMPCO Interrogatories July 11, 2022**

AMPCO-1

Ref 1: Exhibit 1 Tab 1 Schedule 4 Page 5

Alectra indicates when the DSP was prepared, Alectra Utilities had identified that 14% (3,173 km of a total of 22,140 km) of underground cable had a Health Index of poor or very poor condition. Notwithstanding the planned and reactive cable replacement work that Alectra Utilities conducted in the intervening years, the revised assessment of cable condition identified that the population of poor and very poor condition cable had increased to 3,793 km, representing 17% of the total cable population.

Ref 2: EB-2019-0018 2020 EDR Application Exhibit 4 Tab 1 Schedule 1, 5.2.3 Performance Measurement for Continuous Improvement Page 103

In the DSP, Alectra Utilities indicates it plans to rehabilitate or replace 2,184 km of underground cable over the five years DSP planning period, which represents 69% of the 3,173 km of underground cable identified as being in Poor or Very Poor condition as indicated in the 2018 Asset Condition Assessment.

- a) Please confirm the Health Index of primary XLPE cables is calculated based on age. Provide the data inputs to the Health Index.
  
- b) Please complete the following table:

Underground Cables Health Index Distribution (km)

	Total km	Very Poor km	Poor km	Fair km	Good km	Very Good km
EB-2019-0018						
EB-2021-0013						

c) Please complete the following table for the sub-set of XLPE Cables:

XLPE Cables Health Index Distribution (km)

	Total Km	Very Poor km	Poor km	Fair km	Good km	Very Good km
EB-2019-0018						
EB-2021-0013						

d) Please confirm the distribution of Health Index values classified from Very Good to Very Poor has not changed from EB-2019-0018.

e) Please provide the km and percentage of the 3,173 km of underground cable identified in EB-2019-0018 as being in Poor or Very Poor condition that was rehabilitated or replaced over the 2020 to 2021 period.

f) Please provide the km and percentage of the 3,173 km of underground cable identified in EB-2019-0018 as being in Poor or Very Poor condition that is planned to be rehabilitated or replaced over the 2022 to 2024 period.

AMPCO-2

Ref: Exhibit 1 Tab 1 Schedule 4 Page 3

The evidence states “The decision to reduce and defer significant investments in System Renewal was necessary to align the level of investment with the funding in base rates. The pace at which cable failures have intensified in existing or new emerging neighbourhoods is greater than what was contemplated in the DSP. These factors have resulted in an increasing volume of underground assets being replaced reactively through reactive capital or emerging underground renewal.”

AMPCO seeks to understand the Reactive Capital \$ and km directed to XLPE Cable. Please complete the following table:

<b>Capital Investment \$</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Reactive Capital (\$) (All Assets)						
Reactive Capital (\$) XLPE Cable (All Rate Zones)						
PRZ: Reactive Capital (\$) XLPE Cable						

ERZ: Reactive Capital (\$) XLPE Cable						
PRZ: Reactive XLPE Cable Renewal km						
ERZ: Reactive XLPE Cable Renewal km						

AMPCO-3

Ref: Exhibit 3 Tab 1 Schedule 1 Page 5

Alectra Utilities reduced and deferred significant investments in System Renewal over the five-year period, primarily driven by a decrease in investments in underground asset renewal of \$125.2MM (before consideration of the proposed ICM investments).

Please identify the proposed ICM projects in this application that are included in the \$125.2MM.

AMPCO-4

Ref: Exhibit 3 Tab 1 Schedule 2 Page 2 Figure 1

Figure 1 provides reliability information for 2010-2021.

Please complete the attached excel spreadsheet.

AMPCO-5

Ref: Exhibit 3 Tab 1 Schedule 2 Page 3 Figure 2

Figure 2 provides SAIDI information by Cause Code.

Please complete the attached excel spreadsheet.

AMPCO-6

Ref: Exhibit 3 Tab 1 Schedule 2 Page 2

Alectra filed its first five-year Distribution System Plan (DSP) on an integrated basis in its 2020 rate application.

Please provide copies of any subsequent versions of the DSP.

AMPCO-7

Ref: Exhibit 3 Tab 1 Schedule 2 Page 3 Figure 2

Please complete the attached excel spreadsheet.

AMPCO-8

Ref: Exhibit 3 Tab 1 Schedule 2 Page 4 Figure 3

Please provide Figure 3 excluding MEDs.

AMPCO-9

Ref: Exhibit 3 Tab 1 Schedule 2 Page 4 Figure 3

Please complete the attached excel spreadsheet.

AMPCO-10

Ref: Exhibit 3 Tab 1 Schedule 2 Page 6 Figure 5

Please provide the km of underground XLPE Cable in the following ranges as per the 2020 ACA:

- a) Under 30 years
- b) 31-40 Years
- c) 41-50 Years
- d) 51-60 Years

AMPCO-11

Ref: Exhibit 3 Tab 1 Schedule 2 Page 6 Figure 5

Please provide the average age of XLPE Cable as per the 2020 ACA.

AMPCO-12

Ref: Exhibit 3 Tab 1 Schedule 2 Page 13 Table 21

- a) Please provide Table 21 for the PRZ only.
- b) Please provide Table 21 for the ERZ only.

AMPCO-13

Ref: Exhibit 3 Tab 1 Schedule 2 Page 13 Table 21

- a) Please provide Table 21 on the basis of km.
- b) Please provide the total km of cable replacement and cable injection for the PRZ over the 2018 to 2022 period.
- c) Please provide the total km of cable replacement and cable injection for the ERZ over the 2018 to 2022 period.

AMPCO-14

Ref: Exhibit 3 Tab 1 Schedule 4 Page 2

Alectra indicates it responds to and remediates an average of 488 cable failures events each year.

- a) Please provide the calculation that underpins this statement.
- b) Please complete the following Table:

<b># Cable Failure Events</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022 (YTD)</b>
All Rate Zones							
PRZ							
ERZ							

AMPCO-15

Ref: Exhibit 3 Tab 1 Schedule 4 Page 1

Alectra Utilities has identified that the implementation of incremental cable renewal solutions in 28 neighbourhoods in 2023 and 2024 will result in mitigating approximately 250,000 customer hours of interruption and avoid approximately \$180MM in future capital renewal costs, by injecting cable now, rather than replacing cable later.

Please provide the calculations that underpin the above statements.

AMPCO-16

Ref: Exhibit 4 Tab 1 Schedule 1

Please provide an excel version of the following Appendices:

- a) Attachment #5
- b) Attachment #6
- c) Attachment #9
- d) Attachment #10
- e) Please provide an excel version of the Capital Project Listings for the PowerStream Rate Zone and Enersource Rate Zone for each of the years 2020 (Actual), 2021 (Actual) and 2022 Forecast.

#### AMPCO-17

Ref: Exhibit 3 Tab 1 Schedule 2 Page 16

Alectra Utilities examined the increasing hours of interruption due to failing direct-buried XLPE cable by overlaying maps of recent XLPE cable failures and cable asset condition for the Enersource and PowerStream RZs, where most of the cable failures are occurring.

Alectra Utilities combined reliability statistics by grid against the 2020 ACA as part of an enhanced overlay methodology. Reliability heat maps illustrate the most recent (2016 – 2021) outages due to cable failures, including the location of recently (2016-2021) completed projects, planned projects in base rates and the proposed incremental cable renewal projects.

- a) Please provide a copy of the 2020 ACA.
- b) Please provide copies of any subsequent ACAs.
- c) Please provide an excel listing of the completed XLPE cable projects for the years 2016 to 2021 by year and include the project number, description, rate zone, cost, km and community.<sup>1</sup>

#### AMPCO-18

Ref: Exhibit 3 Tab 1 Schedule 4 Page 7

---

<sup>1</sup> Alectra Utilities carries on the business of distributing electricity within the communities of Mississauga, Hamilton, St. Catharines, Brampton, Alliston, Aurora, Barrie, Beeton, Bradford, Markham, Penetanguishene, Richmond Hill, Thornton, Tottenham, Vaughan, Guelph and Rockwood

Alectra Utilities has identified 28 distinct projects that are required to address urgent and necessary cable renewal work in the Enersource and PowerStream RZs. Alectra Utilities leveraged its Asset Analytics platform to identify the projects for ICM funding. As identified above, the utility employs overlays of reliability and cable condition maps to identify emerging hotspots and completes a full engineering assessment of the remediation needs. The engineering assessment of cable failures was completed utilizing the most recent reliability results as of year-end 2021.

- a) When did Alectra develop and implement the Asset Analytics platform?
- b) Please explain the platform and the driver for the Asset Analytics platform.
- c) Please discuss the extra functionality provided by the Asset Analytics platform.
- d) Please explain how the Asset Analytics platform computes asset condition assessments.
- e) Please provide the data inputs to the Asset Analytics platform.
- f) Please provide the internal document that directs Alectra's use of the Asset Analytics platform.
- g) Please provide any third party reviews/assessments of Alectra's Asset Analytics platform.
- h) Please provide a sample engineering assessment for an ICM project.
- i) Please confirm the time span of reliability results used in the engineering assessments.
- j) Please discuss if the most pressing neighbourhoods for cable renewal have changed in 2023 and 2024 as a result of the Asset Analytics platform results.
- k) Please discuss if Alectra applies the CopperLeaf C55 system to optimize the capital investment portfolio on an annual basis. If yes, please explain how this impacts the identification and prioritization of ICM Projects.
- l) Does Alectra score projects on an annual basis?. If yes please provide the project scores for the base and ICM projects for 2023 and 2024.

AMPCO-19

Ref: Exhibit 3 Tab 1 Schedule 4 Page 7



Alectra’s assessment identified 78 projects that will address hotspots for cable failures in need of renewal over the 2023 to 2024 time period; 20 high priority projects in the Enersource RZ and 32 high priority projects in the PowerStream RZ. Of these 52 projects, base funding was sufficient to address 24 cable renewal projects.

- a) Please confirm the other 26 projects (78-52) are included in base funding in other rate zones in 2023 and 2024.
- b) Please identify any projects previously turned down by the Board in previous decisions which are now included in base funding in 2023 and 2024.

AMPCO-20

Ref: Exhibit 3 Tab 1 Schedule 4 Page 8 Table 28

Table 28 provides a listing of proposed ICM Projects for PRZ and ERZ for the years 2023 and 2024.

- a) Please add the following columns to Table 28:
  - i. Km
  - ii. # Customers
  - iii. Failures Avoided Per Year
  - iv. Hours of Customer Interruption Avoided Per Year
  - v. Community<sup>2</sup>
  - vi. Priority Ranking
- b) Please provide an excel version of the Table in part (a).
- c) Please produce a list of projects previously turned down by the Board in previous decisions which are now included as ICM projects in this application.

AMPCO-21

Ref: Exhibit 3 Tab 1 Schedule 4

Page 22: Project 151901: Cable Replacement – Hemus Square in Mississauga (Area 16)

The evidence states “The 2020 ACA identified the cables in this project to be beyond the end of useful life of 40 years and in very poor condition.

---

<sup>2</sup> Alectra Utilities carries on the business of distributing electricity within the communities of Mississauga, Hamilton, St. Catharines, Brampton, Alliston, Aurora, Barrie, Beeton, Bradford, Markham, Penetanguishene, Richmond Hill, Thornton, Tottenham, Vaughan, Guelph and Rockwood

Page 23: Project 151436: Cable Injection – Winston Churchill & The Collegeway in Mississauga

The evidence states “In the 2020 ACA, these cables were determined to be beyond typical useful life of 30 years and in fair condition.

Please explain the difference between the terms end of useful life and typical useful life and the reference to 40 years and 30 years, respectively.

AMPCO-22

Ref: Exhibit 4 Tab 1 Schedule 1 Attachment 11, Workbook Results Business Customers, Choices Cable Replacement Strategies – Additional Feedback, Small Business, Page 34

After making their choice on which cable replacement strategies they prefer, respondents were given an opportunity to make additional comments. 3% of customers in the ERZ indicated they need more info - rates, funding, progress.

Please provide the total number of responses and the specific comments made.

AMPCO-23

Ref:Exhibit 4 Tab 1 Schedule 1 Attachment 11, Workbook Results Business Customers, Choices Cable Replacement Strategies – Additional Feedback Medium & Large Business, Page 35

Please provide the total number of responses and the specific comments made.

AMPCO-24

Ref: EB-2019-0018 J1.2 Attachment #1 All Cable Projects

J1.2 provides a list of all cable renewal projects (injection and replacement) contained within the 2020-2024 Distribution System Plan (“DSP”). Alectra identified the projects which are included in the M-Factor.

- a) Please identify the ICM projects in EB-2022-0013 that are on the J1.2 list as either base or M-Factor projects.
- b) Please provide an updated version of J1.2 Attachment #1 in excel format that indicates the year each project is completed or identify if the project has been deferred beyond 2024 or cancelled.

AMPCO-25

Please provide the Operating and Maintenance (O&M) investment amounts (\$) for underground cable for each of the years 2016 to 2021.

AMPCO-26

Ref: Exhibit 3 Tab 1 Schedule 4

- a) Please provide the total km of XLPE cable in PRZ and ERZ and the cable renewal rate for each rate zone for each of the years 2016 to 2024.

AMPCO-27

Ref: EB-2019-0018 Responses to SEC Questions Delivered: October 11, 2019, Question-SEC d)

Alectra provided a forecast of ROE for the 2020 to 2024 period as shown in Table 1, below.

**Table 1 – ROE Forecast**

	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>
<b>ROE</b>	6.80%	6.80%	7.10%	6.50%	6.40%

Please provide 2020 actuals and the updated forecast for 2022, 2023 and 2024.