July 21, 2023

VIA RESS

Ms. Nancy Marconi
Registrar
Ontario Energy Board
2300 Yonge Street
27th Floor, Box 2319
Toronto, ON M4P 1E4
Email: registrar@oeb.ca

Dear Ms. Marconi;

RE: ALECTRA UTILITIES CORPORATION ("ALECTRA UTILITIES") INCREMENTAL CAPITAL MODULE ("ICM") APPLICATION FOR 2024 ELECTRICITY DISTRIBUTION RATES AND CHARGES (EB-2023-0004)

Alectra Utilities Corporation ("Alectra Utilities") submits an application for approval of ICM funding in the PowerStream and Enersource Rate Zones ("RZs") effective January 1, 2024.

This application is being filed in accordance with the OEB's *Filing Requirements for Electricity Distribution Rate Applications – Chapter 3 Incentive Rate-Setting Applications*, issued June 15, 2023 (the "Chapter 3 Filing Requirements").

This application includes live versions of the ICM Models for each RZ and the Geometric Mean Calculation.

Alectra Utilities has filed an electronic version of this application via the OEB's RESS filing system.

Should you have any questions or require additional information, please do not hesitate to contact the undersigned.

Yours truly,

Natalie Yeates
Director, Regulatory Affairs and Reporting
natalie.yeates@alectrautilities.com

cc: Charles Keizer, Torys LLP

EXHIBIT LIST

IN THE MATTER OF the *Ontario Energy Act, 1998*, being Schedule B to the *Energy Competition Act, 1998*, S.O. 1998, c.15;

AND IN THE MATTER OF an Application by Alectra Utilities Corporation to the Ontario Energy Board for an Order or Orders approving or fixing just and reasonable rates and other service charges for the distribution of electricity as of January 1, 2024.

APPLICATION

Alectra Utilities Corporation (the "Applicant" or "Alectra Utilities"), is a corporation incorporated under the *Ontario Business Corporations Act*, and is licenced by the Ontario Energy Board (the "OEB") to own and operate electricity distribution facilities under licence number ED-2016-0360.

Alectra Utilities hereby applies to the OEB pursuant to section 78 of the *Ontario Energy Board Act, 1998*, as amended (the "OEB Act"), for orders approving Incremental Capital Module ("ICM") funding in the PowerStream and Enersource Rate Zones ("RZs"), through distribution rate riders effective January 1, 2024.

This Application is prepared in accordance with the OEB's:

a. *Report of the Board – New Policy Options for the Funding of Capital Investments: The Advanced Capital Module, dated September 18, 2014;*

b. *Report of the Board – New Policy Options for the Funding of Capital Investments: Supplemental Report, dated January 22, 2016;*

c. *Handbook for Utility Rate Applications (the "Rate Handbook"), dated October 13, 2016;*

d. *Filing Requirements for Electricity Distribution Rate Applications – Chapter 3 Incentive Rate-Setting Applications issued June 15, 2023 (the "Filing Requirements"); and*

e. *Letter Re: Incremental Capital Modules During Extended Deferred Rebasing Periods, issued February 10, 2022 (the "ICM Policy Update Letter").*

In the ICM Policy Update Letter, the OEB updated its existing ICM policy to provide additional flexibility to consolidated electricity distributors to apply for incremental capital funding for an annual capital program during the extended deferred rebasing period. In addition to the existing ICM requirements, electricity distributors in years six to ten of their deferral period must demonstrate the following:

- An urgent need for such additional funding that is based on new information that has arisen since the utility's most recent rebasing application related to the management of risk associated with asset condition, reliability and quality of service and public safety;
- A history of good utility practice in capital planning, capital program management and asset maintenance;
- How the ICM investment addresses customer needs and preferences and delivers benefits to customers; and
- Exhaustion of other available options to manage its costs within the envelope provided by the existing price cap or another applicable formula.

In the OEB's decision in Alectra Utilities' 2023 ICM application, the OEB found as follows:

- The cable program is urgent based on new information that has arisen, specifically the asset condition report and preparation of the DSP after the RZs were last rebased. The OEB found that Alectra Utilities has met this criterion;[1]
- Alectra Utilities is adequately addressing customer needs and preferences, given the customer engagement survey feedback filed with the application;[2] and
- Alectra Utilities meets the requirements of good utility practice.[3]

This application is consistent with OEB policy in relation to the availability of, and basis for, ICM funding for consolidating distributors.

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[1] EB-2022-0013, Decision and Order, November 17, 2022, pp.17-18

[2] Ibid., p.18

[3] Ibid., pp.21-22.

This Application is supported by pre-filed written evidence which may be amended from time to time. For the reasons set out in this Application, Alectra Utilities submits that the proposed distribution rates are just and reasonable.

PROPOSED EFFECTIVE DATE

Alectra Utilities requests that the OEB make its Final Rate Order effective January 1, 2024. If the OEB does not expect that the Final Rate Order will be issued by such date, the Applicant requests that the OEB approve the recovery of any differences in ICM revenue between the effective date and the implementation date of the OEB's Decision and Order establishing final rates and charges.

FORM OF HEARING REQUESTED

Alectra Utilities requests that the elements of this Application be heard by way of written hearing.

CONTACT INFORMATION

Alectra Utilities requests that copies of all documents filed with the OEB by each party to this proceeding be served on the Applicant and the Applicant's counsel as follows:

The Applicant:

Natalie Yeates
Director, Regulatory Affairs and Reporting
Alectra Utilities Corporation
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The Applicant's Counsel:

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Dated at Mississauga, Ontario this 21st day July, 2023.

ALECTRA UTILITIES CORPORATION

Natalie Yeates

Director, Regulatory Affairs and Reporting

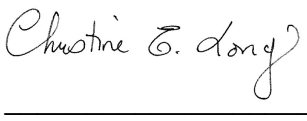
CERTIFICATION OF THE EVIDENCE

As Executive Vice-President and Chief Financial Officer of Alectra Inc., I certify that, to the best of my knowledge, the evidence filed in this Application is accurate, consistent, and complete.

Danielle Diaz, CPA, CA
Executive Vice-President and Chief Financial Officer

CERTIFICATION REGARDING PERSONAL INFORMATION

As Vice-President Regulatory Affairs and Privacy Officer of Alectra Utilities Corporation, I certify that, to the best of my knowledge, the evidence filed in this Application does not include any personal information, as defined in the *Freedom of Information and Protection of Privacy Act*, that is not otherwise redacted in accordance with Rule 9A of the OEB's *Rules of Practice and Procedure*.



Christine E. Long, LL.B
Vice-President, Regulatory Affairs and Privacy Officer

EXECUTIVE OVERVIEW

This Executive Overview provides a summary of the structure and key aspects of this application, in which Alectra Utilities is requesting approval of Incremental Capital Module ("ICM") funding for urgent underground cable renewal investments in the PowerStream and Enersource rate zones ("RZs") for 2024.

Each of the sixteen capital projects in this application was already filed with the OEB in Alectra Utilities' 2023 ICM application (EB-2022-0013), which sought ICM funding for urgently needed underground cable renewal investments in both 2023 and 2024. All of the planned projects in both years were identified and planned on the same basis, to address the same issue: deteriorating underground distribution cable in various communities that Alectra Utilities serves. While the OEB did not establish ICM riders for the 2024 projects in the prior application, its decision on the point was based solely on the OEB's policy on multi-year ICM applications, and not on the merits of the proposed projects or their eligibility for ICM funding.[4] On the merits of the proposed ICM projects, the OEB found that both the 2023 and 2024 requests have a significant influence on operations and on the reliability of distribution service in the PowerStream and Enersource RZs.[5] The eleven proposed ICM projects in the PowerStream RZ in this application are the same as the 2024 projects identified in the 2023 ICM application for the PowerStream RZ. The five proposed ICM projects in the Enersource RZ consist of four of the 2023 ICM projects and one 2024 ICM project from the 2023 ICM application.

Application Structure

Exhibit 2 sets out the OEB's ICM filing requirements and demonstrates how Alectra Utilities has satisfied the eligibility criteria of materiality, need and prudence and the additional criteria as set out in the OEB's February 2022 ICM Update. Exhibit 3 sets out the evidence in respect of the proposed ICM investments, including the need and drivers for the investment; the outcomes and

[4] EB-2022-0013, Decision and Order, November 17, 2022, p.16. The OEB treated Alectra Utilities' 2024 projects as an ACM request outside of a rebasing application, and denied it on that basis.

[5] Ibid., p.11.

benefits for customers; and how the ICM investment addresses customer needs and preferences. Exhibit 4 includes attachments in support of various aspects of the Application.

Background

Alectra Utilities, a wholly-owned subsidiary of Alectra Inc. ("Alectra"), is an Ontario corporation with its corporate head office in the City of Mississauga. 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, pursuant to Ontario Energy Board ("OEB") Electricity Distributor Licence No. ED-2016-0360.

In April 2016, Enersource Hydro Mississauga Inc. ("Enersource"), Horizon Utilities Corporation ("Horizon Utilities"), and PowerStream Inc. ("PowerStream") (collectively the "predecessor Applicants") filed an application (the "MAADs Application"; EB-2016-0025) pursuant to the *Report of the Board: Rate-making Associated with Distributor Consolidations* and the *Handbook to Electricity Distributor and Transmitter Consolidation* (the "MAADs Handbook") seeking OEB approval to amalgamate to form Alectra Utilities, for Alectra Utilities to purchase and amalgamate with Hydro One Brampton Networks Inc. ("Hydro One Brampton") under section 86 of the *Ontario Energy Board Act 1998* (the "Act"), and for other related relief. In the MAADs Application, the predecessor Applicants selected a 10-year rebasing deferral period. On December 8, 2016, the OEB issued its Decision and Order granting the requested approvals in the MAADs Application, including the 10-year rebasing deferral period. This application was granted, and the amalgamation took effect February 1, 2017.

In March 2018, Alectra Utilities and Guelph Hydro Electric System Inc. ("GHESI") filed an application (the "Alectra/Guelph MAADs Application"; EB-2018-0014) seeking OEB-approval to amalgamate under section 86 of the Act. This application was granted, and the amalgamation took effect January 1, 2019.

As indicated in the MAADs Handbook and in the report entitled *Rate-making Associated with Distributors Consolidation*, issued July 23, 2007 (the "2007 Report"), as well as the updated report on the same topic issued by the OEB on March 26, 2015 (the "2015 Report"), Alectra Utilities' RZs will continue on their current rate plan terms until such terms expire. Once expired, all RZs

migrate to the Price Cap Incentive Rate-setting option ("Price Cap IR"). Currently, all of Alectra Utilities' RZs are on the Price Cap IR for the purpose of setting electricity distribution rates. Under the Price Cap IR rate plan, Alectra Utilities is permitted to apply for: a) inflationary increases to rates, adjusted for an efficiency factor; and b) funding of incremental capital projects through the ICM mechanism.

Investment is Needed to Address the Ongoing, Accelerating Deterioration of Underground Distribution Cable

As demonstrated in Alectra Utilities' 2023 ICM application for urgent cable renewal investments and in this application, Alectra Utilities must urgently invest to address worsening reliability due to deteriorated underground direct-buried cable and related equipment. While the company has been investing in these assets for multiple years, the increasing deterioration of this equipment is outpacing the level of investment supported by Alectra Utilities' base rates, resulting in an increasing volume of underground assets being replaced reactively. Beyond the inherent inefficiency of reactive replacement, the current level of underground cable renewal investment is insufficient to maintain the reliability of the distribution system in many communities. This investment cannot wait until Alectra Utilities rebases; if the company does not increase the pace of renewal above the level funded in base distribution rates, it forecasts that one out of every four neighbourhoods in its service territory will be served by deteriorated and unreliable cables by 2025.

The OEB's Decision on Alectra Utilities' 2023 ICM request recognized the urgent need to respond to the deterioration of these assets, stating that "…the cable program is urgent based on new information that has arisen, specifically the asset condition report and preparation of the DSP after the RZs were last rebased."[6] The OEB further clarified that "because the relevant time period for assessing whether the information is new is the time of the last rebasing, submissions regarding recent reliability information in the last few years or an updated survey are not helpful to determining this requirement for ICM funding."[7] This application for rates effective January 1,

[6] EB-2022-0013, Decision and Order, November 17, 2022, p.17.

[7] Ibid., p.18.

2024, seeks ICM funding to support Alectra Utilities' continuing investment to address deteriorated underground direct-buried cable.

Alectra Utilities filed its first five-year Distribution System Plan ("DSP") on an integrated basis in its 2020 rate application. The DSP provided a comprehensive and detailed description of Alectra Utilities' capital investment plans for its distribution system over the 2020 to 2024 planning period, including the need to invest in underground cable and related accessories. In the DSP, Alectra Utilities identified that defective equipment was a leading cause of declining reliability, both in terms of frequency and duration of outages. The DSP identified failures of underground direct-buried cable and cable accessories as a leading contributor to the declining reliability. A key objective of renewal investments in the DSP was to maintain historical reliability levels across the system.

Since preparing the DSP, Alectra Utilities has continued to enhance its capital planning tools, allowing the company to further focus its investments on work that provides value for customers. In particular, Alectra Utilities has implemented an Asset Analytics Platform to evolve the existing condition-based asset management practice towards predictive analytics, reliability-driven maintenance and machine learning. The Asset Analytics Platform provides Alectra Utilities with the functionality to compute asset condition assessments, overlay reliability data sets with maps to identify emerging hotspots and combine large data sets to establish cross-sectional relationships. Enhanced analytics has enabled Alectra Utilities to incorporate the most recent reliability events against up-to-date asset condition information to identify localized emerging issues. While these enhanced processes and tools will continue to benefit the utility's planning into the future, in this application they have specifically helped Alectra Utilities focus the underground cable renewal investments proposed for ICM funding on those assets and neighbourhoods where incremental investments will yield the greatest value.

Proposed Incremental Investment: Underground Cable Renewal

This section summarizes the incremental underground cable renewal investments that Alectra Utilities proposes to fund through the ICM funding requested in this application.

To address this urgent need, and consistent with its 2023 ICM Application, Alectra Utilities has identified incremental capital investments in the PowerStream and Enersource RZs to either

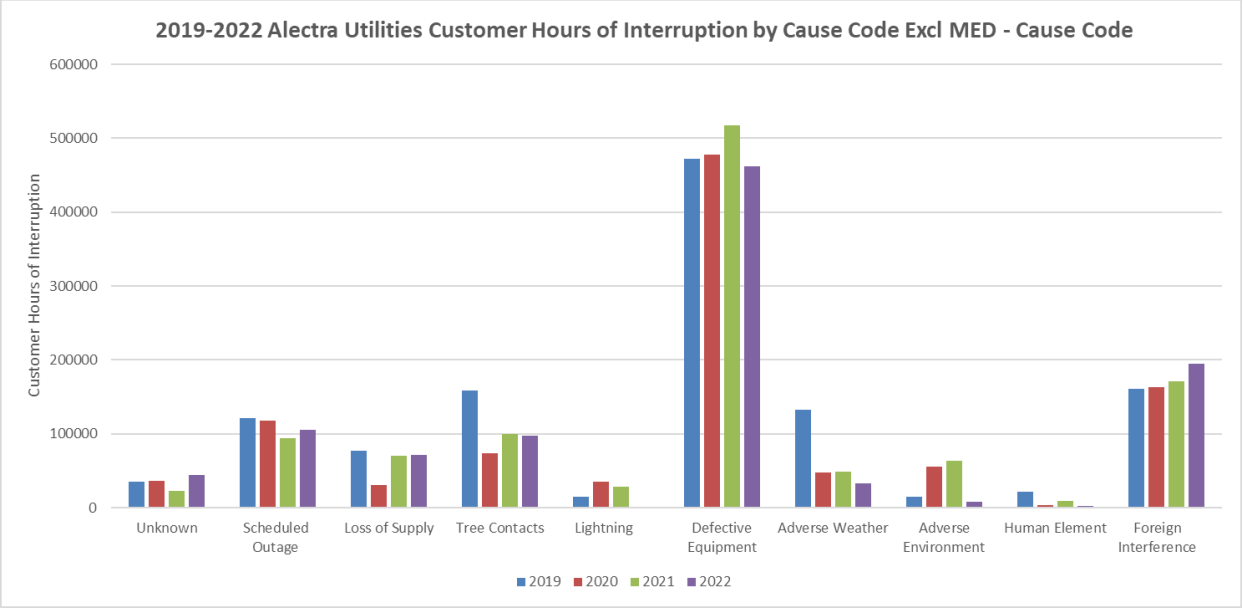
replace or, where feasible, to rehabilitate using silicone injection to extend the life of the cable in these RZs. These investments are driven by deteriorating asset condition, specifically, an increase in cable failures in localized "hotspots." As summarized below, investment is needed urgently to address an increasing trend in the hours that customers' service is interrupted due to defective equipment. Alectra Utilities has continued to refine the approach that is has used to identify the proposed incremental investments, using data analytics to identify neighbourhoods where significant outages are likely to occur due to failures of underground cable, and address these assets in a focused, localized basis. Based on the condition of the assets in a given location, Alectra Utilities may either replace deteriorated assets, or "rejuvenate" existing cable through silicone gel injection. The latter method is less disruptive to customers and can provide greater value than outright replacement, since renewal through injection extends the life of existing cable at one-sixth the cost of outright replacement. Injection also provides environmental benefits by reusing the existing cable. Timely investment is critical to the viability of this approach, as injection is not possible once cables have deteriorated too far. More detailed information on the proposed capital investments is provided in Exhibit 1, Tab 3, Schedule 4.

Since the 2020 DSP was prepared, system reliability has worsened due to several factors, including deteriorated distribution equipment and the increased impact of adverse weather events and storms. 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 4,766 km, representing 21% of the total cable population based on 2022 data.[8] This deteriorating trend is indicative of a longer-term issue that Alectra Utilities will continue to face in coming years: although the current population of deteriorated underground cable in the system is large, there is a much larger wave of cable that will deteriorate over the next twenty years.

[8] In the 2023 ICM Application, Alectra Utilities identified that the population of poor and very poor condition cable had increased to 3,793 km, representing 17% of the total cable population based on 2021 data.

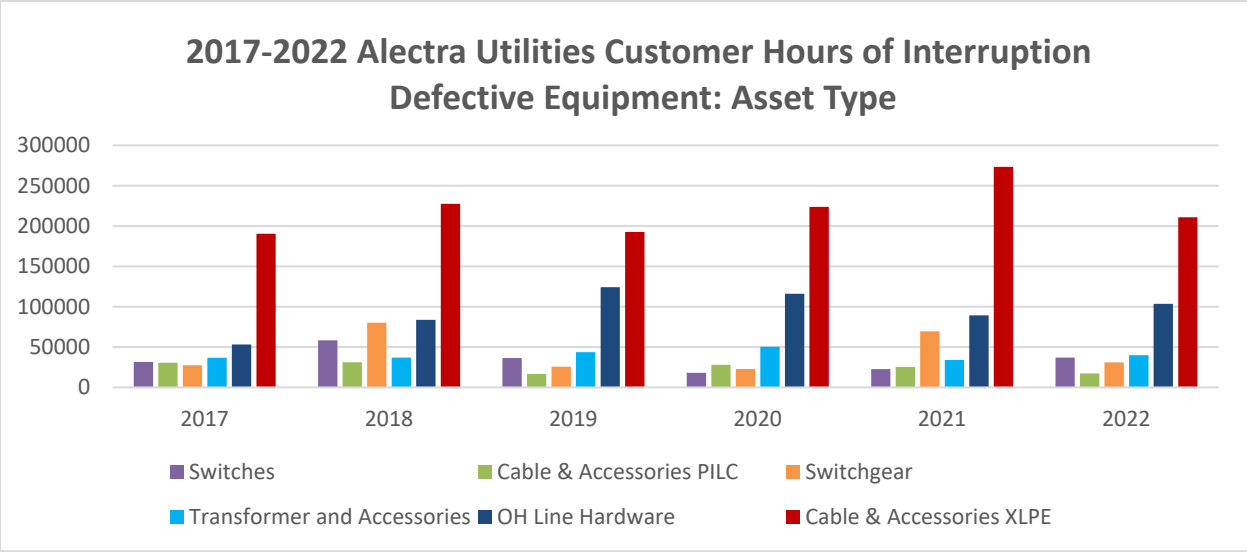
Further, as identified above, Alectra Utilities implemented an Asset Analytics platform to enable predictive maintenance of vegetation management which has reduced the outage impacts from tree contacts. Since 2020, outages resulting from the failure of defective equipment account for 46% of all customer hours of interruption.

Figure 1 – Customer Hours of Interruption by Cause Code



Direct-buried underground cable and accessories continues to be the most significant driver of equipment failures. Since 2018, the highest number of interruptions (65%) occurred in the PowerStream and Enersource RZs.

Figure 2 – Customer Hours of Interruption by Asset Type



Alectra Utilities is requesting approval of ICM funding of $25.1MM in 2024, for the PowerStream and Enersource RZs. A summary of the proposed investment, by RZ, is provided in Table 1 below.

Table 1 – 2024 Proposed ICM Capital Expenditure

2024 ICM	ERZ	PRZ	Total
Cable Injection	2,792,127	8,458,401	11,250,528
Cable Replacement	5,073,076	8,815,107	13,888,183
Total Incremental Capital	**7,865,203**	**17,273,508**	**25,138,711**

As described above, Alectra Utilities is experiencing an increase in localized cable failures and plans to address these cables through a combination of two cable renewal strategies: cable injection and cable replacement. Based on the analysis of recent underground cable failures and asset condition assessment analysis, Alectra Utilities has identified the volume of localized hotspots with the highest probability of imminent failure. These are the neighbourhoods included for ICM funding.

In each neighbourhood, Alectra Utilities will implement the cable renewal strategy (cable injection and/or cable replacement) that delivers the best value for customers. To ensure the ICM investment is the most cost-effective option for customers, Alectra Utilities will leverage cable injection in neighbourhoods where it is feasible to do so (cables that are in very poor condition

and too far deteriorated are not considered for injection). Approximately 50% of the proposed ICM projects will address deteriorated cables in the affected neighbourhoods with cable injection technology. The injection of silicone gel reinforces the weakened insulation and can extend the useful life of the cable up to 20 years without the costly and disruptive need to excavate or to replace entire cables. A key factor in planning these investments is that during the life of a cable there is a limited period during which lower cost injection work can be executed and, if that window is missed, then cable replacement will be the only remaining option. The cost of cable replacement is 6 times greater than the cost of injection on a per kilometer basis. The benefits of cable injection include: cost savings; minimal environmental impact; and fewer outages.

Each of the projects that comprise the proposed ICM investment is driven by specific reliability concerns identified in the respective neighbourhoods. These projects have been identified for ICM funding as the asset condition, reliability and quality of service in these areas create an urgent need for funding. This investment will provide benefits to the customers and will help avoid situations in which Alectra Utilities is forced to respond reactively to a growing wave of deteriorated assets through more costly and less efficient means of renewal.

Without ICM funding, the outcome is a continued decline in reliability with an increase in localized cable failures. Further, critical investments would need to be deferred, resulting in increasing reactive expenditures and greater renewal costs in the long term. The proposed ICM investment of $25.1MM for the PowerStream and Enersource RZs in 2024 will address the urgent reliability needs in the neighbourhoods with deteriorated cables and is expected to avoid approximately $108MM in future cable renewal expenditures.

Customer Engagement

Alectra Utilities engaged Innovative Research Group (“Innovative”) in 2022 to seek customer input on proposed 2023 and 2024 ICM investments in the PowerStream and Enersource RZs as part of Alectra Utilities’ 2023 ICM Application. Each proposed ICM project in this application was

included in the 2023 ICM application[9] and formed part of the customer engagement survey undertaken by Innovative in 2022. The total estimated project costs for the 16 proposed ICM projects in this application is $25.1MM compared to $24.7MM included in the 2023 application for these same projects in either 2023 or 2024. This is a difference of $0.4MM or 2% primarily due to updated cost estimates. The results from the 2022 customer engagement survey remain valid given that the investment options and outcomes to address the challenges posed by deteriorating underground cable are consistent with the 2023 ICM application. The 2022 customer engagement results are summarized in Exhibit 3, Tab 1, Schedule 3 in this application.

The eleven proposed ICM projects in the PowerStream RZ in this application are the same as the 2024 projects identified in the 2023 application for the PowerStream RZ. In the 2023 ICM decision, the OEB approved $2MM of the $8.7MM requested in ICM funding for the Enersource RZ. As a result, Alectra Utilities proceeded with three of the eight 2023 ICM projects proposed for recovery in the Enersource RZ. The 2024 ICM project list for the ERZ in this application consists of four of the 2023 ICM projects and one 2024 ICM project from the 2023 application.

The ICM customer engagement survey focused on customer preferences as between specific investment options and outcomes to address the challenges posed by deteriorating underground cable. Customers were presented with the trade-offs between bill impacts, reliability outcomes, and volume of cable injected or replaced under four different scenarios, including a “status quo” approach that would maintain the level of investment that would be funded within base rates. For each option, where applicable, customers were presented with the proposed incremental capital amount over the 2023 and 2024 period; the monthly and cumulative bill impact over the 2-year period; and the expected outcomes/benefits of the proposed investment.

As set out in the Customer Engagement Report filed as Attachment 11 in the 2023 ICM application, customers want Alectra Utilities to invest more in renewing deteriorated underground cable. In both RZs, a majority of customers across all rate classes supported an increase in investment in both strategies, and customers consistently preferred a more rapid pace of

[9] The ICM projects in this application were identified in the 2023 ICM application as either a 2023 or 2024 ICM project.

expenditure on these projects. In its Decision in Alectra Utilities' 2023 ICM application, the OEB found "…that Alectra Utilities is adequately addressing customer needs and preferences, given the customer engagement survey feedback filed with the application."[10]

[10] EB-2022-0033, Decision and Order, November 17, 2022, p.18.

INCREMENTAL CAPITAL MODULE ("ICM")

Alectra Utilities is requesting approval for incremental capital funding for the PowerStream and Enersource RZs in 2024. Alectra Utilities has capital investment needs for these RZs that are not funded through existing distribution rates.

The OEB's Incremental Capital Module ("ICM Model") for the PowerStream and Enersource RZs is filed as Attachment 3 for the PowerStream RZ and Attachment 5 for the Enersource RZ.[11] The OEB's ICM policy, as set out in the *Report of the Board New Policy Options for the Funding of Capital Investments: The Advanced Capital Module,* dated September 18, 2014 and the subsequent *Report of the OEB New Policy Options for the Funding of Capital Investments: Supplemental Report* (collectively referred to as the ICM Report), dated January 22, 2016, was established to address the treatment of a distributor's capital investment needs that arise during a Price Cap IR rate-setting plan and which are incremental to a calculated materiality threshold.

On February 10, 2022, the OEB issued a Letter re: *Incremental Capital Modules During Extended Deferred Rebasing Periods* (the "ICM Policy Update Letter"). The letter provides an update to the OEB's ICM policy for electricity distributors during extended rebasing deferral periods arising from utility consolidations. The policy update is applicable to utilities in years six to ten of their deferral period. For Alectra Utilities, this represents the 2022 to 2026 years of its rebasing deferral period; As of 2023, Alectra Utilities is in year 7 of its deferral period.

In the letter, the OEB stated that:

> *"To further enhance the efficiency of the regulatory process and to provide a further incentive for distributors considering consolidation, the OEB is updating the existing ICM policy for responding to capital investment needs of electricity distributors that select an extended deferred rebasing period (beyond five years) under the OEB's current MAADs policy. Specifically, the OEB is providing additional flexibility for these*

[11] Alectra Utilities has filed a modified version of the ICM Model for the Enersource RZ to facilitate the calculation of the materiality threshold for 2024, which is year 11 post legacy Enersource's last rebasing. The current model calculates the materiality thresholds up to year 10.

electricity distributors to apply for incremental capital funding for an annual capital program during the extended rebasing period…"

In addition to the existing ICM requirements, electricity distributors in years six to ten of their deferral period must demonstrate the following:

- An urgent need for such additional funding that is based on new information that has arisen since the utility's most recent rebasing application related to the management of risk associated with asset condition, reliability and quality of service and public safety;
- History of good utility practice in capital planning, capital program management and asset maintenance;
- How this ICM investment addresses customer needs and preferences and delivers benefits to customers; and
- Exhaustion of other available options to manage its costs within the envelope provided by the existing price cap or another applicable formula.

In the OEB's decision in Alectra Utilities' 2023 ICM application, the OEB found that the company had satisfied the above criteria in respect of the proposed ICM projects, which continue to form the basis of this application.[12]

Table 2 below, summarizes the existing ICM filing requirements and the additional filing requirements included in the OEB's February 2022 ICM Policy Update. Alectra Utilities has mapped each ICM filing requirement to the ICM eligibility criteria of material, need and prudence.

[12] EB-2022-0013, Decision and Order, November 17, 2022, pp.17-18; pp. 21-22.

Table 2 – ICM Filing Requirements

	ICM Filing Requirements	Evidence Reference
Materiality	Completed ICM Models in Excel and PDF	Attach 3;5
	Calculation of the revenue requirement (i.e., the cost of capital, depreciation, and PILs)	Attach 3;5
	Calculation of each incremental project's revenue requirement that will be offset by revenue generated through other means (e.g., customer contributions in aid of construction)	Attach 3;5
	Calculation of a rate rider to recover the incremental revenue from each applicable customer class	Attach 3;5
	An analysis demonstrating that the materiality threshold test has been met	Ex.2/T1/S1pp.9-11;18-20
	Project-Specific Materiality Test	Ex.2/T1/S1 pp.11;20
	An analysis demonstrating that the amounts will have a significant influence on the operation of the distributor	Ex.2/T1/S1 p.12; 20-21
Need	Justification that amounts being sought are directly related to the cause, which must be clearly outside of the base upon which current rates were derived	Ex.2/T1/S1pp.12-14;21-22
	Evidence that the incremental revenue requested will not be recovered through other means	Ex.2/T1/S1pp.12-14;21-22
	A description of the actions the distributor would take in the event that the OEB does not approve the application	Ex.1/T1/S4 p.8
	An updated DSP is required for any ICM request that is filed beyond the five-year horizon of the distributor's current DSP.	N/A
	A distributor must demonstrate that an urgent need for additional incremental capital funding is based on new information that has arisen since the utility's most recent rebasing application related to the management of risk associated with asset condition, reliability and quality of service and public safety	Ex.3/T1/S2
	A distributor must demonstrate that it has exhausted other available options to manage its costs within the envelope provided by the existing price cap or another applicable formula	Ex.3/T1/S1
	How the ICM investment addresses customer needs and preferences and delivers benefits to customers	Ex.3/T1/S3
Prudence	Justification that the amounts to be incurred will be prudent. This means that the distributor's decision to incur the amounts represents the most cost-effective option (but not necessarily the least initial cost) for ratepayers	Ex.3/T1/S4
	Details by project for the proposed capital spending plan for the expected in-service year	Attach 4;6
	A description of the proposed capital projects and expected in-service dates	Ex.3/T1/S4
	History of good utility practice in capital planning, capital program management and asset maintenance	Ex.3/T1/S1

In order to be eligible for incremental capital, an ICM claim must be incremental to a distributor's capital requirements within the context of its financial capacities underpinned by existing rates; and satisfy the eligibility criteria of materiality, need and prudence, as set out in the ICM Report. These criteria are discussed in detail, below.

Materiality

The ICM addresses the question of materiality in two steps. The first is by applying the ICM "materiality threshold formula", which serves to define the level of capital expenditures that a distributor should be able to manage within current rates. This test provides that any incremental capital amounts approved for recovery must fit within the total eligible incremental capital amount and must clearly have a significant influence on the operation of the distributor.

The OEB-defined materiality threshold is represented by the following formula:

$$\textit{Threshold Value}\ (\%) = 1 + [(\frac{RB}{d})\ x\ (g + PCI\ X\ (1 + g))]]\ x\ ((1 + g)\ x\ (1+ PCI)^{n-} + 10\%$$

RB = rate base from the distributor's last cost of service

d = depreciation from the distributor's last cost of service

g = growth calculated based on the percentage difference in distribution revenues between the most recent complete year and the distribution revenues from the most recent approved test year in a cost of service application

PCI = Price Cap Index (IPI-stretch factor) from the distributor's most recent Price Cap IR application as a placeholder for the initial application filing to be updated when new information becomes available

n = number of years since the last rebasing

The inflation measure (the Input Price Index or IPI) used to calculate the PCI in the materiality threshold formula is the OEB-approved inflation factor for the respective ICM year (i.e., 4.8% in 2024 for electricity distributors), and this inflation factor is applied to each historical year.

As the multi-year ICM materiality threshold formula factors in the cumulative impact of both growth and the price cap index over the years since the utility's last cost of service rebasing application, the retroactive application of the most recent inflation factor has a material impact on the resultant threshold value. This was unlikely to have been an issue when the ICM was introduced in the 3rd Generation IR, when inflation rate variability was minimal. As a result, the use of the most recent inflation factor value will not accurately represent the historical effect of inflation on depreciation.

This is demonstrated by comparing OEB-approved inflation factor values over the 2013 to 2024 period to a historical average (specifically a geometric mean) calculated over the same 2013 to 2024 period. The analysis shows that the OEB's annual inflation factor did not exhibit material differences relative to the geometric mean over the 2013 to 2021 period. However, from 2022 to 2024, the differences range from 1.4% to 2.6%.

Table 3 – Comparison of approved IPIs to a geometric mean

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
OEB Approved IPI	2.2%	1.7%	1.6%	2.1%	1.9%	1.2%	1.5%	2.00%	2.2%	3.3%	3.7%	4.8%

		2013-14	2013-15	2013-16	2013-17	2013-18	2013-19	2013-20	2013-21	2013-22	2013-23	2013-24
Geometric Mean		1.9%	1.8%	1.9%	1.9%	1.7%	1.7%	1.7%	1.8%	1.9%	2.0%	2.2%
IPI vs Geometric Mean		-0.2%	-0.2%	0.2%	0.0%	-0.5%	-0.2%	0.3%	0.4%	***1.4%***	***1.7%***	***2.6%***

Alectra Utilities proposes to use a RZ specific geometric mean to determine the inflation factor value for the materiality threshold calculation.[13] For the Enersource RZ, a geometric mean of 2.17% was calculated using inflation values over the 2014 to 2024 period (i.e., the IRM period for the Enersource RZ) and for the PowerStream RZ, a geometric mean of 2.4% was calculated using the inflation factor values over the 2018 to 2024 period. The RZ specific geometric mean calculations are filed as Attachment 7.

A second, project-specific, materiality test provides that minor expenditures, in comparison to the overall capital budget, should be considered ineligible for ICM treatment. Moreover, a certain degree of project expenditure over and above the OEB-defined threshold calculation is expected to be absorbed within the total capital budget.

In Alectra Utilities' 2023 ICM Decision, the OEB stated that "…the project-specific materiality criterion is not applicable to Alectra Utilities' funding request. The February 2022 ICM Update

[13] This approach was introduced in OEB staff's submission in Alectra's 2023 ICM application. OEB staff suggested that instead of using the current year's IPI for each historical year, a historical average such as a historical geometric mean of OEB-approved IPI values from each rate zone's respective last cost of service could be used (OEB staff submission, August 23, 2022, pp.4-6)

expands the circumstances when ICM funding can be available to include ongoing capital programs during an extended rebasing period where certain additional requirements are met. Alectra Utilities' ICM funding application is based on an ongoing cable program. The application is not for ICM funding of individual projects as anticipated when the ACM Report was issued in 2014."[14] Although the OEB did not approve Alectra's 2024 ICM request, in its assessment of Materiality, the OEB also found that "…the 2023 ICM request and the 2024 ACM request each have a significant influence on operations and on the reliability of distribution service in the PowerStream and Enersource RZs."[15]

Need

With regard to need, a distributor must satisfy the OEB that any incremental capital amount being requested is: (i) based on one or more discrete project(s) and should be directly related to the claimed driver, and (ii) clearly outside of the base upon which the distributor's rates were derived. Additionally, a distributor must also pass the "means test." Under the means test, if a distributor's regulated return, as calculated in its most recent calculation (Reporting and Record Keeping Requirements ("RRR") 2.1.5.6), exceeds 300 basis points above the deemed return on equity ("ROE") embedded in the distributor's rates, the funding for any incremental capital project will not be allowed.

In Alectra Utilities' 2023 ICM Decision, the OEB stated that "…the discrete project criterion is not applicable to Alectra Utilities' request." The OEB further clarified that "Alectra Utilities' ICM funding application is based on an ongoing cable program, comprised of individual discrete projects. The application is not for ICM funding of discrete projects as anticipated when the ACM Report was issued in 2014."[16] This finding continues to apply to the ICM projects proposed in this application, as they are a subset of the projects proposed in the 2023 ICM application.

[14] EB-2022-0013, Decision and Order, November 17, 2022, p.10.

[15] Ibid., p.11.

[16] Ibid., p.12.

In that Decision, the OEB also made two findings on whether the ICM investments exceed expected levels provided by base rates. First, the OEB found that since the first report on the condition of the cable assets was received in 2018 after the PowerStream and Enersource RZ's rates were last rebased, the cable program encompassed by the ICM request was not part of the capital expenditure plans when rates were last rebased; therefore, the current cable program exceeds expected levels provided by base rates.[17] Second, the OEB referenced the February 2022 ICM update and stated that "…the investment must be "beyond the normal level of capital expenditures expected to be funded by existing rates."[18] The OEB established the "normal level" of capital expenditures based on the annual expenditures for each RZ for the cable replacement and cable injection work in the six-year period prior to the ICM request.

Establishing the normal level of capital expenditures expected to be funded by existing rates for a capital program by reference to historical actual annual expenditures may be applicable in a scenario where rates are re-calibrated annually. However, under Performance Based Regulation ("PBR"), distribution rates are set based on a cost of service review. Subsequently, rates are adjusted based on changes to the input price index and the productivity and stretch factors set by the OEB. This is applicable for all Alectra Utilities' RZs which are under Price Cap IR for the purpose of setting electricity distribution rates. PBR decouples the price (the distribution rate) that a distributor charges for its service from its cost, and therefore, the regulated utility will be responsible for making its investments within the constraints of the price cap, and subject to service quality standards set by the OEB.[19]

Alectra Utilities prudently manages its capital investments within its approved rates funding envelope. Within that funding envelope, it continually balances expenditures based on identified business and system needs and the priorities of its customers.

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[17] EB-2022-0013, Decision and Order, November 17, 2022, p.13.

[18] Ibid., p.14.

[19] Report of the Board, Renewed Regulatory Framework for Electricity Distributors: A Performance Based Approach, pp. 10-11.

The February 2022 ICM Update provided that "…the capital project must satisfy a materiality threshold to demonstrate that the incremental capital amounts are beyond the normal level of capital expenditures expected to be funded by existing rates, including the effect of customer and load growth." [emphasis added]. In effect, the threshold is the measure that establishes the normal level of capital expenditures funded by rates. The OEB's ICM materiality threshold is a capital expenditure threshold which serves to demonstrate the level of capital expenditures that a distributor should be able to manage within its current rates; not on a program or project basis, but on a total basis centered on prudent decision making as contemplated under PBR. If the threshold test is met, a distributor will be eligible to identify projects for ICM treatment. This does not mean that all capital spending up to the maximum eligible incremental capital amount will be granted incremental funding, however, if the ICM request fits within the maximum eligible incremental capital, the amount is eligible for recovery (subject to the other ICM criteria of need and prudence), as it is in excess of what is funded by existing rates.

This approach is also consistent with the OEB's finding that the cable program encompassed by the ICM proposal was not part of the capital expenditure plans when rates were last rebased.[20] Therefore, Alectra Utilities' total capital budget, which exceeds the calculated threshold value, includes cable renewal investments that were not contemplated when rates were last rebased.

Prudence

A distributor needs to establish that the incremental capital amount it proposes to incur is prudent. To satisfy the "prudence test", a distributor must demonstrate that its decision to incur the incremental capital represents the most cost-effective option for its customers (though, not necessarily the least initial cost option).

In Alectra Utilities' 2023 ICM Decision, the OEB stated that "…the 2023 cable programs in the PowerStream RZ and Enersource RZ to be prudent. The cable projects selected for remediation represent prudent investment in capital for cable injection and cable replacement based upon the

[20] EB-2022-0013, Decision and Order, November 17, 2022, p.13.

current condition of the cable assets in both RZs. The cable programs should help to ensure the reliability and quality of service."[21]

PowerStream RZ

Materiality

Materiality Threshold Test

The materiality threshold has been calculated for the PowerStream RZ using the OEB-approved rate base and depreciation amounts from its 2017 Cost of Service Application (EB-2015-0003), a price cap index ("PCI") of 2.1% and a growth rate of 0.5%.

The PCI of 2.1% is based on the computed geometric mean of inflation over the 2018 to 2024 period of 2.4% less a productivity factor of 0% and a stretch factor of 0.3%.

The growth rate of 0.5% has been calculated in accordance with the ICM Report and is equal to the increase in revenue based on PowerStream's 2022 actual billing determinants divided by PowerStream's 2017 OEB approved billing determinants, using 2023 approved rates.

Table 4 below summarizes the calculation of the threshold capital expenditure amount using the OEB's formula approved in the ICM Report. The threshold value for 2024 is 173%, which results in a threshold capital expenditure value of $90,514,914 in 2024.

[21] EB-2022-0013, Decision and Order, November 17, 2022, p.16

Table 4 – Threshold Capital Expenditure Calculation – PowerStream RZ

Description	PRZ
Inflation	2.40%
Less: Productivity Factor	0.00%
Less: Stretch Factor	0.30%
Price Cap Index	2.10%
Growth Factor	0.50%
Rebasing Year	2017
# Years since rebasing	7
Price Cap Index	2.10%
Growth Factor	0.50%
Dead Band	10%
Rate Base	$1,082,805,162
Depreciation	$52,272,173
Threshold Value	
Price Cap IR Year 2024	**173%**
Threshold CAPEX	
Price Cap IR Year 2024	**$90,514,914**

Eligible Capital Amount

Alectra Utilities provides a summary of its historical and proposed capital investments by category in Table 5 below. Alectra Utilities has filed at Attachment 4, details by project for the proposed 2024 capital investment plan.

Table 5 – Capital Expenditures by Category PowerStream RZ ($MM)

Category	Actual 2018	Actual 2019	Actual 2020	Actual 2021	Actual 2022	Forecast 2023	Budget 2024
System Access	$ 42.0	$ 37.7	$ 28.8	$ 28.1	$ 17.5	$ 29.8	$ 26.1
System Service	$ 12.0	$ 9.8	$ 11.7	$ 9.1	$ 7.0	$ 8.8	$ 8.8
System Renewal	$ 38.1	$ 39.6	$ 48.0	$ 47.4	$ 48.3	$ 65.5	$ 69.3
General Plant	$ 8.4	$ 7.9	$ 11.2	$ 10.8	$ 13.0	$ 13.8	$ 13.4
Total	**$ 100.5**	**$ 95.0**	**$ 99.7**	**$ 95.4**	**$ 85.8**	**$ 117.9**	**$ 117.6**

Table 6 below compares the 2024 capital budget for the PowerStream RZ to the materiality threshold to calculate the maximum eligible incremental capital.

Table 6 – Maximum Eligible Incremental Capital – PowerStream RZ

Eligible Incremental Capital	2024
Capital Budget	117,556,163
Less: Materiality Threshold	90,514,914
Maximum Eligible Incremental Capital	**$27,041,249**

Table 7 below identifies the eligible capital investment for which Alectra Utilities is seeking approval in the PowerStream RZ. The business case summaries for each project included in this investment are filed under Exhibit 3, Tab 1, Schedule 4.

Table 7 – ICM Capital Expenditure – PowerStream RZ

Project Description	2024
Cable Injection	8,458,401
Cable Replacement	8,815,107
Total Incremental Capital	**$ 17,273,508**

The proposed ICM investments for 2024 are below the annual maximum eligible incremental capital amount.

Project-Specific Materiality Test

Alectra Utilities' overall capital budget for all rate zones is $285.3MM in 2024. The proposed 2024 ICM cable renewal investment in the PowerStream RZ of $17.3MM is significant relative to the overall capital budget. Alectra Utilities has assessed project-specific materiality in the context of the OEB's ICM Policy Update Letter. Alectra Utilities is eligible to request ICM funding for an annual capital program, subject to the requirements[22] identified in the Letter. The proposed investments will allow Alectra Utilities to renew cables in 11 neighbourhoods in 2024.

As identified above, in Alectra Utilities' 2023 ICM decision, the OEB found that the project-specific materiality criterion is not applicable as the February 2022 ICM update expands the circumstances when ICM funding can be available to include ongoing capital programs.

[22] These requirements have been outlined on pp.1-2 of Exhibit 2, Tab 1, Schedule 1.

Significant Influence

Alectra Utilities' total proposed ICM investment in the PowerStream RZ is $17.3MM in 2024, which is significant relative to Alectra Utilities' overall capital budget in 2024. The total proposed investment will avoid approximately 106 cable failure related outages in the PowerStream RZ, where each outage would impact 265 customers for approximately two hours per outage. Further, Alectra Utilities has forecast that the combined proposed ICM investment in both RZs will avoid future cable renewal costs of approximately $108MM, largely attributable to injecting cable now that would otherwise need to be replaced in the future as a result of missing the cable injection feasibility window.

Further, as identified at p. 11 of the 2023 ICM Decision, the OEB found that "the 2023 ICM request and the 2024 ACM request each have a significant influence on operations and on the reliability of distribution service in the PowerStream and Enersource RZs."[23]

Need

Means Test

Alectra Utilities' 2022 annual Reporting and Record Keeping Requirements ("RRRs") are filed for Alectra Utilities, and not individually, by rate zone. Alectra Utilities 2022 ROE was calculated to be 6.70%, 225 basis points below a calculated ROE for Alectra Utilities of 8.95%. Alectra Utilities calculated a consolidated deemed ROE percentage, using the weighted average of the OEB-approved deemed equity portion rate base amounts for each rate zone, from the most recent OEB-approved rebasing application for each of the predecessor companies. Therefore, Alectra Utilities meets the Means Test. Alectra Utilities ROE calculation for 2022, filed in RRR 2.1.5.6, is provided as Attachment 2.

[23] EB-2022-0013, Decision and Order, November 17, 2022, p.11

Discrete Project and Claimed Driver

The ICM Policy Update Letter impacts the standard requirement that ICM funding be for discrete projects. As a result of the ICM Policy Update Letter, additional flexibility is available to qualifying distributors to apply for incremental capital funding for annual capital programs during an extended rebasing deferral period. In Alectra Utilities' 2023 ICM Decision, the OEB stated that "…the discrete project criterion is not applicable to Alectra Utilities' request. Alectra Utilities' ICM funding application is based on an ongoing cable program, comprised of individual discrete projects. The application is not for ICM funding of discrete projects as anticipated when the ACM Report was issued in 2014."[24]

Notwithstanding the February ICM update, Alectra Utilities leveraged its Asset Analytics platform to identify the projects for ICM funding. 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 proposed investment in planned underground cable renewal in the PowerStream RZ will address the significant risk of failure associated with these assets in 11 neighbourhoods. The investment will address the compounding effect of a growing number of customer hours of interruption driven by XLPE cable failures and a rapidly growing backlog of in-service deteriorated and unreliable cable.

Unfunded Through Base Rates

Alectra Utilities is experiencing a significant increase in localized cable failures and plans to address these cables through a combination of two cable renewal strategies: cable injection and cable replacement. The degradation of underground cables is significantly impacting customers in communities in the PowerStream RZ. The PowerStream RZ accounts for 32% of Alectra Utilities' customer hours of interruption since 2017. As identified in Exhibit 3, Tab 1, Schedule 2, the pace at which cable failures have intensified in existing or new emerging neighbourhoods is greater than what was contemplated in the DSP. While Alectra Utilities has been investing in

[24] EB-2022-0013, Decision and Order, November 17, 2022, p.12.

these assets for multiple years, the ongoing deterioration of this equipment is outpacing the level of investment supported by Alectra Utilities' base rates.

In Alectra Utilities' 2023 ICM decision, the OEB stated that "[b]ase rates for the PowerStream RZ and the Enersource RZ were last rebased in 2017 and 2013 respectively. Alectra Utilities received its first report on the poor condition of its cable assets in September 2018. As a result, the cable program encompassed by the ICM/ACM proposal was not part of the capital expenditure plans when rates were last rebased. To this extent, the OEB finds that the current cable program exceeds expected levels provided by base rates."[25]

In Alectra Utilities' 2023 ICM Decision, the OEB also established a new test to assess whether the ICM request was outside of what was expected to be funded in base rates. Please refer to the section above on 'Need' at pp.6-8 for a discussion on the OEB's new test.

Prudence

In Alectra Utilities' 2023 ICM Decision, the OEB stated that "…the 2023 cable programs in the PowerStream RZ and Enersource RZ to be prudent. The cable projects selected for remediation represent prudent investment in capital for cable injection and cable replacement based upon the current condition of the cable assets in both RZs. The cable programs should help to ensure the reliability and quality of service."[26]

Consistent with its 2023 ICM application, Alectra Utilities has considered various options to address the growing reliability issues due to underground cable failures resulting from ground moisture and corrosion. In each neighbourhood, Alectra Utilities will implement the cable renewal strategy that delivers the best value for customers. To ensure the ICM investment is the most cost-effective option for customers, Alectra Utilities will leverage cable injection in neighbourhoods where it is feasible to do so (cables that are in very poor condition and too far deteriorated are not considered for injection). A key factor in planning these investments is that during the life of a

[25] EB-2022-0013, Decision and Order, November 17, 2022, p.13.

[26] Ibid., p.16

cable there is a limited period during which lower cost injection work can be executed and, if that window is missed, then cable replacement will be the only remaining option. Further details on the need and prudence of the investments are provided in Exhibit 3, Tab 1, Schedule 2.

Calculation of Revenue Requirement

The incremental revenue requirement associated with the ICM funding request is summarized in Table 8 below.

Table 8 – Incremental Revenue Requirement – PowerStream RZ

Incremental Revenue Requirement	2024
Return on Rate base - Total	$983,319
Amortization	$383,856
Incremental Grossed Up PILs	($143,540)
Total Incremental Revenue	**$1,223,635**

The Rate of Return has been calculated using the OEB's deemed debt/equity ratios and the cost of capital parameters determined by the OEB in its letter dated October 27, 2016 *"Cost of Capital Parameter Updates for 2017 Cost of Service and Custom Incentive Rate-setting Applications"*, consistent with those approved in PowerStream's 2017 Cost of Service application (EB-2015-0003).

A full year of depreciation has been included for recovery consistent with the ICM Report.

Similarly, PILs have been calculated using a full year of Capital Cost Allowance ("CCA") in accordance with the Supplemental Report on 3rd Generation Incentive Regulation. In that report the OEB determined that the half year rule should not apply so as not to build a deficiency for the subsequent years of the IRM plan term.[27]

As provided in the Chapter 3 filing requirements, section 3.3.2.5, "the materiality criteria for an ICM includes a requirement that any incremental capital amounts must clearly have a significant

[27] EB-2007-0673, Supplemental Report of the Board on 3rd Generation Incentive Regulation for Ontario's Electricity Distributors, September 17, 2008, p. 31

influence on the operation of the distributor. The OEB may take the accelerated CCA into consideration in assessing the impact of the proposed capital project(s) on the operations of the utility in determining if ICM funding is warranted."

The accelerated CCA is being phased out from 2024 to 2027 and will be fully phased out in 2028. Prior to 2024, accelerated CCA was calculated by applying the CCA rate at 1.5 times the additions in the year. In 2024, accelerated CCA will be calculated by applying the CCA rate at 1.0 times the additions in the year. As the half year rule does not apply in determining ICM revenue requirement, the calculation of CCA reflecting the inclusion of accelerated CCA, results in no change in the ICM revenue requirement. Therefore, no amounts are expected to be recorded in Account 1592, Sub-account CCA changes.

The detailed calculation of 2024 incremental revenue requirement is provided in the OEB's ICM Model filed as Attachment 3.

Rate Riders

Alectra Utilities is seeking OEB approval for the 2024 ICM rate riders, for the PowerStream RZ, identified in Table 9. The revenue requirement has been allocated to rate classes based on the current allocation of revenue using Tab 7. Revenue Proportions of the ICM Model filed as Attachment 3. The revenue requirement for the residential class will be recovered via a fixed rate rider as per the OEB's letter issued July 16, 2015 (EB-2012-0410). Rate riders for all other rate classes are based on the current fixed/variable revenue split identified in the ICM Model Sheets 7 and 11.

Table 9 – 2024 ICM Rate Riders – PowerStream RZ

Rate Class	Unit	Service Charge Rate Rider	Volumetric Rate Rider
Residential	kWh	$0.16	$0.0000
General Service Less Than 50 kW	kWh	$0.17	$0.0001
General Service 50 To 4,999 kW	kW	$0.83	$0.0248
Large Use	kW	$35.86	$0.0132
Unmetered Scattered Load	kWh	$0.05	$0.0001
Sentinel Lighting	kW	$0.02	$0.0583
Street Lighting	kW	$0.01	$0.0373

Bill Impacts - ICM Rate Riders

Table 10 below identifies the monthly bill impact by rate class as a result of the addition of the 2024 ICM funding rate riders.

Table 10 – ICM Monthly Bill Impacts – PowerStream RZ (before HST and OER)

Rate Class	Unit	kWh	kW	ICM Monthly Rate Rider	% Increase vs 2023 Total Bill
Residential	kWh	750		$0.16	0.13%
General Service Less Than 50 kW	kWh	2,000		$0.37	0.12%
General Service 50 To 4,999 kW	kW	80,000	250	$7.03	0.06%
Large Use	kW	2,800,000	7,350	$132.88	0.04%
Unmetered Scattered Load	kWh	150		$0.07	0.22%
Sentinel Lighting	kW	180	1	$0.08	0.19%
Street Lighting	kW	1,052,445	2,962	$382.71	0.19%

Enersource RZ

Materiality

Materiality Threshold Test

The materiality threshold has been calculated for the Enersource RZ using the OEB-approved rate base and depreciation amounts from its 2013 Cost of Service Application (EB-2012-0033), a price cap index ("PCI") of 1.87% and a growth rate of -0.28%.

The PCI of 1.87% is based on the computed geometric mean of inflation over the 2014 to 2024 period of 2.17% less a productivity factor of 0% and a stretch factor of 0.3%.

The growth rate of -0.28% has been calculated in accordance with the ICM Report and is equal to the increase in revenue based on Enersource's 2022 actual billing determinants divided by Enersource's 2013 OEB approved billing determinants, using 2023 approved rates.

Table 11 below summarizes the calculation of the threshold capital expenditure amount using the OEB's formula approved in the ICM Report. The threshold value for 2024 is 156%, which results in a threshold capital expenditure value of $39,599,322 in 2024.

Table 11 – Threshold Capital Expenditure Calculation – Enersource RZ

Description	ERZ
Inflation	2.17%
Less: Productivity Factor	0.00%
Less: Stretch Factor	0.30%
Price Cap Index	1.87%
Growth Factor	-0.28%
Rebasing Year	2013
# Years since rebasing	11
Price Cap Index	1.87%
Growth Factor	-0.28%
Dead Band	10%
Rate Base	$623,497,832
Depreciation	$25,461,389
Threshold Value	
Price Cap IR Year 2024	**156%**
Threshold CAPEX	
Price Cap IR Year 2024	**$39,599,322**

Eligible Capital Amount

Alectra Utilities provides a summary of its historical and proposed capital investments by category in Table 12 below. Alectra Utilities has filed at Attachment 6, details by project for the proposed 2024 capital investment plan.

Table 12 – Capital Expenditures by Category Enersource RZ ($MM)

Category	Actual 2018	Actual 2019	Actual 2020	Actual 2021	Actual 2022	Forecast 2023	Budget 2024
System Access	$ 9.1	$ 7.5	$ 8.0	$ 11.9	$ 5.5	$ 9.5	$ 10.0
System Service	$ 2.6	$ 1.4	$ 3.5	$ 7.2	$ 2.4	$ 1.6	$ 2.1
System Renewal	$ 41.6	$ 35.2	$ 32.6	$ 28.2	$ 23.9	$ 28.5	$ 34.3
General Plant	$ 6.1	$ 5.7	$ 8.2	$ 7.9	$ 9.5	$ 10.1	$ 9.8
Total	**$ 59.4**	**$ 49.8**	**$ 52.3**	**$ 55.2**	**$ 41.3**	**$ 49.7**	**$ 56.2**

Table 13 below compares the 2024 capital budget for the Enersource RZ to the materiality threshold to calculate the maximum eligible incremental capital.

Table 13 – Maximum Eligible Incremental Capital – Enersource RZ

Eligible Incremental Capital	ERZ
Capital Budget	56,233,618
Less: Materiality Threshold	39,599,322
Maximum Eligible Incremental Capital	**16,634,297**

Table 14 below identifies the eligible capital investment for which the Enersource RZ is seeking approval. The business case summaries for each project included in this investment are filed under Exhibit 3, Tab 1, Schedule 4.

Table 14 – ICM Capital Expenditure – Enersource RZ

Project Description	2024
Cable Injection	2,792,127
Cable Replacement	5,073,076
Total Incremental Capital	**$ 7,865,203**

The proposed ICM investments for 2024 are below the annual maximum eligible incremental capital amount.

Project-Specific Materiality Test

Alectra Utilities' overall capital budget for all rate zones is $285.3MM in 2024. The proposed 2024 ICM cable renewal investment in the Enersource RZ of $7.9MM, is significant relative to the overall capital budget. The proposed investments will allow Alectra Utilities to renew cables in 5 neighbourhoods in 2024. Please see Alectra Utilities' discussion on the applicability of the project-specific materiality test in the PowerStream RZ evidence at Exhibit 2, Tab 1, Schedule 1, p. 11.

Significant Influence

Alectra Utilities' total proposed ICM investment in the Enersource RZ is $7.9MM in 2024, which is significant relative to Alectra Utilities' overall capital budget in 2024. The total proposed investment will avoid approximately 49 cable failure related outages in the Enersource RZ, where each outage would impact 441 customers for approximately one hour per outage.

Further, as identified at p. 11 of the 2023 ICM Decision, the OEB found that "the 2023 ICM request and the 2024 ACM request each have a significant influence on operations and on the reliability of distribution service in the PowerStream and Enersource RZs."[28]

Need

Means Test

Alectra Utilities' 2022 annual Reporting and Record Keeping Requirements ("RRRs") are filed for Alectra Utilities, and not individually, by rate zone. Alectra Utilities 2022 ROE was calculated to be 6.70%, 225 basis points below a calculated ROE for Alectra Utilities of 8.95%. Alectra Utilities calculated a consolidated deemed ROE percentage, using the weighted average of the OEB-approved deemed equity portion rate base amounts for each rate zone, from the most recent OEB-approved rebasing application for each of the predecessor companies. Therefore, Alectra Utilities meets the Means Test. Alectra Utilities ROE calculation for 2022, filed in RRR 2.1.5.6, is provided as Attachment 2.

Discrete Project and Claimed Driver

The proposed investment in planned underground cable renewal in the Enersource RZ will address the significant risk of failure associated with these assets in 5 neighbourhoods. The investment will address the compounding effect of a growing number of customer hours of interruption driven by XLPE cable failures and a rapidly growing backlog of in-service deteriorated and unreliable cable. Please see Alectra Utilities' discussion on the discrete driver criterion in the PowerStream RZ evidence at Exhibit 2, Tab 1, Schedule 1, p.13.

Unfunded Through Base Rates

Alectra Utilities is experiencing a significant increase in localized cable failures and plans to address these cables through a combination of two cable renewal strategies: cable injection and cable replacement. The degradation of underground cables is significantly impacting customers

[28] EB-2022-0013, Decision and Order, November 17, 2022, p.11

in communities in the Enersource RZ. The Enersource RZ accounts for 33% of Alectra Utilities' customer hours of interruption since 2017. As identified in Exhibit 3, Tab 1, Schedule 2, the pace at which cable failures have intensified in existing or new emerging neighbourhoods is greater than what was contemplated in the DSP. While Alectra Utilities has been investing in these assets for multiple years, the ongoing deterioration of this equipment is outpacing the level of investment supported by Alectra Utilities' base rates.

Please see Alectra Utilities' discussion on funding through base rates in the PowerStream RZ evidence at Exhibit 2, Tab 1, Schedule 1, pp. 13-14.

Prudence

Please see Alectra Utilities' discussion on the prudence of the investments in the PowerStream RZ evidence at Exhibit 2, Tab 1, Schedule 1, pp. 14-15.

Calculation of Revenue Requirement

The incremental revenue requirement associated with the ICM funding request is summarized in Table 15 below.

Table 15 – Incremental Revenue Requirement – Enersource RZ

Incremental Revenue Requirement	2024
Return on Rate base - Total	$506,054
Amortization	$174,782
Incremental Grossed Up PILs	($63,676)
Total Incremental Revenue	**$617,161**

The Rate of Return has been calculated using the OEB's deemed debt/equity ratios and the cost of capital parameters determined by the OEB in its letter dated November 15, 2012 *"Cost of Capital Parameter Updates for 2013 Cost of Service Applications for Rates Effective January 1, 2013"*, consistent with those approved in Enersource's 2013 Cost of Service application (EB-2012-0033).

A full year of depreciation has been included for recovery consistent with the ICM Report.

Similarly, PILs have been calculated using a full year of Capital Cost Allowance ("CCA"). Please see Alectra Utilities' discussion on the impact of accelerated CCA on ICM revenue requirement in the PowerStream RZ evidence at Exhibit 2, Tab 1, Schedule 1, pp. 15-16.

The detailed calculation of 2024 incremental revenue requirement is provided in the OEB's ICM Model filed as Attachment 5.

Rate Riders

Alectra Utilities is seeking OEB approval for the 2024 ICM rate riders, for the Enersource RZ, identified in Table 16. The revenue requirement has been allocated to rate classes based on the current allocation of revenue using Tab 7. Revenue Proportions of the ICM Model filed as Attachment 5. The revenue requirement for the residential class will be recovered via a fixed rate rider as per the OEB's letter issued July 16, 2015 (EB-2012-0410). Rate riders for all other rate classes are based on the current fixed/variable revenue split identified in the ICM Model Sheets 7 and 11.

Table 16 – 2024 ICM Rate Riders – Enersource RZ

Rate Class	Unit	Service Charge Rate Rider	Volumetric Rate Rider
Residential	kWh	$0.12	$0.0000
General Service Less Than 50 kW	kWh	$0.21	$0.0001
General Service 50 To 499 kW	kW	$0.37	$0.0224
General Service 500 To 4,999 kW	kW	$8.48	$0.0115
Large Use	kW	$66.89	$0.0143
Unmetered Scattered Load	kWh	$0.04	$0.0001
Street Lighting	kW	$0.01	$0.0560

Bill Impacts - ICM Rate Riders

Table 17 below identifies the monthly bill impact by rate class as a result of the addition of the 2024 ICM funding rate riders.

Table 17 – ICM Monthly Bill Impacts – Enersource RZ (before HST and OER)

Rate Class	Unit	kWh	kW	ICM Monthly Rate Rider	% Increase vs 2023 Total Bill
Residential	kWh	750		$0.12	0.10%
General Service Less Than 50 kW	kWh	2,000		$0.41	0.13%
General Service 50 To 499 kW	kW	100,000	230	$5.52	0.04%
General Service 500 To 4,999 kW	kW	400,000	2,250	$34.36	0.05%
Large Use	kW	3,000,000	5,000	$138.39	0.04%
Unmetered Scattered Load	kWh	300		$0.07	0.13%
Street Lighting	kW	33	0.1	$0.02	0.29%

OVERVIEW OF CAPITAL INVESTMENTS FOR 2020-2024

This schedule summarizes how Alectra Utilities has managed its capital investments during the period covered by the DSP that was filed in the company's 2020 EDR application (EB-2019-0018). This evidence provides context for the ICM funding requested in this application, and demonstrates how Alectra Utilities has worked to effectively manage significant competing priorities within the funding envelope provided by the Price Cap formula.

Alectra Utilities' 2020-2024 DSP

Alectra Utilities' approach to capital investments over the 2020-2024 period was developed based on its 2020 DSP. Alectra Utilities manages its capital investments within its rates funding envelope, continually balancing expenditures based on identified business and system needs, and the priorities and preferences of its customers. Alectra Utilities cannot fund all of the investments in the DSP within the funding available under the Price Cap formula. This results in the deferral of some prudent investments in underground system renewal. This section describes, at a high level, how Alectra Utilities has implemented its capital plan within these constraints.

The 2020 DSP was the first consolidated capital plan for Alectra Utilities, developed to address the needs of the system as a whole while also considering the priorities and preferences of Alectra Utilities' customers. The investments outlined in the 2020 DSP were identified and developed based on a data-driven asset management framework through which Alectra Utilities prioritized projects based on the value they provide to the entire distribution system.

Subsequent Adjustments to the Capital Plan

Alectra Utilities reviews its capital plan on an annual basis, in order to address the evolving needs and priorities of the distribution system and Alectra Utilities' customers. Since preparing the DSP, Alectra Utilities' capital plans have been adjusted to account for the impact of supply chain challenges on the cost of materials and services, as well as the effect of inflation. As discussed in Alectra Utilities' 2023 ICM application, global supply chain challenges continue to drive upward pressure on the availability and cost of materials, services and labour. Alectra Utilities has partly mitigated this unprecedented, extended and evolving global challenge through strategic supply chain management practices and effectively executing the capital plan. The majority of the

materials and equipment that Alectra Utilities purchases are comprised of raw materials such as metals (steel, aluminum, copper), resins (polyethylene for cables and insulators, epoxy, silicone) and lumber (wood poles) which continue to exhibit significant increases in commodity prices and longer lead times.[29]

As part of the 2023 ICM application, Alectra Utilities retained Guidehouse Canada Ltd. ("Guidehouse") to undertake an independent review of the utility's process and analytical methods used to develop its capital investment plan. The Guidehouse report was filed as Attachment 12 in the 2023 ICM application (EB-2022-0013). Guidehouse's assurance review assessed the planning practices, including the optimization and prioritization of the capital expenditure plans against industry best practices and the rationale and justification for adjustments to the plan driving additional funding requirements. Guidehouse's independent review found that "Alectra's revised five-year investment plan is appropriate and justified based on the level of rigor applied in its capital planning process and rationale supporting each of the associated business cases in the DSP."[30] Furthermore, Guidehouse identified that "[t]he methods Alectra applies to identify required investment for System Renewal is based on a thorough and consistently applied condition assessment methodology and analytics that balances cost versus risk."[31]

As part of the 2023 ICM application, Alectra Utilities provided a comparison of actual, forecast and budget expenditures relative to the DSP over the 2020 to 2024 period. In this application, Alectra Utilities provides an update to this analysis, and presents actual capital expenditures for 2020 to 2022, a forecast for 2023, and budget for 2024.

As set out in Table 18 below, relative to the DSP, Alectra Utilities' capital investments are $129.0MM lower over the 2020 to 2024 period, primarily due to a reduced pace of planned capital work, specifically in System Renewal and System Service. This re-balancing of expenditures was necessary to align the capital investments with the funding available under the Price Cap formula.

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[29] EB-2022-0013, Exhibit 3, Tab 1, Schedule 1, pp. 9-10.

[30] EB-2022-0013, Exhibit 4, Tab 1, Schedule 1, Attachment 12, p.2.

[31] Ibid., p.17.

While Alectra Utilities has continued to invest in infrastructure renewal, the growing backlog of failing and deteriorated assets is outpacing the level of investment. Alectra Utilities must urgently increase investment to address worsening reliability due to deteriorated underground direct-buried cable and related equipment.

Table 18 below summarizes Alectra Utilities' capital expenditures relative to the DSP. The 2024 Budget includes the proposed ICM investments of $25.1MM.

Table 18 – Comparison of DSP to Actuals/Forecast Capital Expenditures ($MM)

Capital Expenditures	Actual 2020	Actual 2021	Actual 2022	Forecast 2023	Budget 2024	Total
DSP	$282.9	$280.2	$288.3	$295.8	$309.3	$1,456.5
Actual/Forecast	$256.1	$261.9	$241.6	$282.6	$285.3	$1,327.5
Variance	**($26.8)**	**($18.3)**	**($46.7)**	**($13.2)**	**($24.0)**	**($129.0)**

Table 19 summarizes the net reductions by DSP capital investment category.

Table 19 – Variance by Investment Category ($MM)

Investment Category	Actual 2020	Actual 2021	Actual 2022	Forecast 2023	Budget 2024	Total
System Access	($3.5)	$0.5	($15.9)	$5.9	($3.6)	($16.6)
System Renewal	($3.5)	($5.5)	($19.9)	($4.8)	($14.4)	($48.1)
System Service	($11.2)	($8.5)	($11.6)	($22.0)	($18.1)	($71.4)
General Plant	($8.6)	($4.8)	$0.7	$7.7	$12.1	$7.1
Total Variance	**($26.8)**	**($18.3)**	**($46.7)**	**($13.2)**	**($24.0)**	**($129.0)**

Table 20 summarizes the changes by program over the 2020 to 2024 period, relative to the DSP.

Table 20 – Variance by Capital Grouping ($MM)

Summary of Variances	2020-2024 Variance
Underground Asset Renewal	($91.4)
Lines Capacity	($71.7)
Information Technology	$24.2
Other	$9.9
Total	**($129.0)**

OEB Category Variance Analysis

This section summarizes major variances in actual and forecast capital expenditures relative to the 2020 DSP, at the OEB capital spending category level, as set out in Table 19 above.

System Access

System Access investments include mandatory capital expenditures required to meet customer service obligations to provide customers with access to electricity service, and as a result, Alectra Utilities has effectively maintained the level of investment for this category to the level set in the DSP. The reduction in expenditures in 2022 of $15.9MM was primarily due to lower customer connections (ICI and subdivisions) of $7.3MM and lower road authority spend of $12.4MM for a total of $19.7MM. This was offset by higher metering spend of $3.8MM primarily due to material costs and the volume of equipment renewal. Investments in this category include: network metering; customer connections; road authority and transit projects; and transmitter related upgrades. Alectra Utilities has managed System Access investments based on the best available information from external parties such as municipal and regional plans, developers and other customers initiating distribution work to facilitate connections and appropriate metering of service. Over the five-year period, System Access investments are $16.7MM lower than the level set in the DSP.

System Renewal

System renewal investments include sustainment and asset replacement programs and projects required to maintain acceptable levels of existing asset performance. The projects include the replacement of aging equipment and/or refurbishment of distribution assets. Investments in this

category include: overhead asset renewal; reactive renewal; rear lot conversions; substation renewal; transformer renewal and underground renewal. 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 $91.4MM.

In the 2020 DSP, Alectra Utilities identified that its customers have experienced declining reliability both in terms of frequency and duration of outages which necessitated an increase in the pace of investment in underground asset renewal during the 2020-2024 period. Accordingly, the largest category of capital expenditures planned in the DSP was for the renewal of deteriorated assets; specifically, 53% of the total five-year expenditure in the DSP was driven by System Renewal investments.

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. These reductions to System Renewal investments are not the most cost-effective approach to addressing the deteriorating assets in the utility's distribution system. In addition, this approach poses significant risk to the reliability of service for affected customers.

As detailed in Exhibit 3, Tab 1, Schedule 2**,** proactive investment to address deteriorated direct-buried underground distribution cable remains urgently needed to prudently address reliability risks in specific neighbourhoods. The failure of direct-buried underground cable is the most significant contributor to the worsening reliability trend. Delaying these investments further will result in greater risk of extended outages for affected customers, alongside increasingly reactive, significantly less cost-effective capital expenditures. Many communities in Alectra Utilities' service area, specifically Mississauga, Vaughan, Richmond Hill, Aurora and Markham, experienced exponential growth and development between the 1960s and 1990s. This exponential growth occurred at a time when the electrical industry introduced cross-linked polyethylene (XLPE) underground cables. Consistent with installation practices of the time, utilities installed these cables using a direct buried methodology, resulting in exposure to soil conditions such as moisture, resulting in corrosion and erosion of insulating cable properties over time. Alectra Utilities has 4,766 km of direct-buried XLPE cable in service that has deteriorated, is failing and is no longer reliable. This substantial amount of deteriorated direct-buried cable represents 99% of all in-service poor and very poor cable in Alectra Utilities' service territory.

Alectra Utilities must urgently invest to reverse the trend of worsening reliability, especially in localized hotspots where the cable is failing at an increasing rate. While Alectra Utilities has been investing in these assets for multiple years, the ongoing deterioration of this equipment is outpacing the level of investment supported by Alectra Utilities' base rates. This results in an increasing volume of underground assets being replaced reactively through reactive capital or emerging underground renewal. The current level of planned underground cable renewal investment is insufficient to maintain the reliability of the distribution system, especially in the growing number of neighbourhoods supplied by deteriorated and unreliable cable. The pace at which cable failures have intensified in existing or new emerging neighbourhoods is greater than what was contemplated in the DSP.

This investment cannot wait until Alectra Utilities rebases. If the company does not increase the pace of planned renewal, it forecasts that one out of every four neighbourhoods in its service territory will be served by deteriorated and unreliable cables by 2025. To address this urgent need, Alectra Utilities proposes an incremental capital investment of $25.1MM in 2024 to address failing cable in the most pressing neighbourhoods in Alectra Utilities’ service area.

System Service

System Service investments are modifications to the distribution system to ensure the distribution system continues to meet operational objectives while addressing anticipated future service capacity and reliability. Investments in System Service include: (i) modernization of protection and control systems to ensure the safe and reliable operation of the system; (ii) system station investments necessary to maintain the safe and efficient delivery of electrical service to customers; and (iii) investments in system automation and remote operating capabilities to permit expedient restoration of service in times of unforeseen outages. Drivers for System Service requirements include requirements to continue to provide safe, reliable, and quality electrical supply to customers as well as expansion or intensification of system capacity into high growth areas. The reduction in this category, over the five-year period, is primarily driven by a decrease in investments in Lines Capacity of $71.7MM.

Investment in Lines Capacity minimizes the impact of additional load growth on service levels for existing customers. Lines Capacity projects are primarily driven by: (i) the rapid expansion of

urban development in historical rural greenfield regions, (ii) the intensification and redevelopment of multiple downtown areas where existing supply is insufficient to meet the increased demand, and (iii) the need to address specific locations where customers currently have inadequate backup capacity due to configuration of existing supply lines. The amount of investment in Lines Capacity each year is paced at a bare minimum level to only match the timing of known and committed development, considering available capacity, and expected load growth, net of conservation and demand side management persistence. As a result, any further reductions in Lines Capacity work would result in Alectra Utilities operating feeders beyond loading limits. In order to mitigate capacity shortfall risks, Alectra Utilities has identified investments that will avoid some capacity additions and utilize existing resources more effectively.

General Plant

General plant investments are the connective tissue that enables the utility to operate effectively and efficiently and to deliver the capital and operating initiatives that benefit many of Alectra Utilities customers. They include investments in tools, vehicles, building and information systems technology equipment that are required to support the operation and maintenance of the distribution system and respond to the evolving needs of Alectra Utilities' customers.

The primary driver for the increase in General Plant investments is an increase in IT investments which are of critical importance, and include the following:

Customer Experience - As customer expectations evolve and innovative technologies are introduced, it is critical for utilities to adapt and provide the relevant tools and information required to make energy transactions and choices easy and simple. Implementation of the Customer Experience applications and processes, grounded by a new Customer Portal and Mobile App, will enable the much-needed digital transformation to allow for a "one-window" unified and personal solution for all customer interactions. It will: provide customers with expanded self-service options (including functionality for customers to choose their electricity price plan) which will deliver measurable operational savings; increase adoption of electronic billing by 20%+ over the next five years through a streamlined registration process that includes the ability to default electronic billing for new customers; deliver improved and proactive power outage notifications on the customers' preferred communication channel to underpin the dependency on power outage

information exchange with the continued customer transition to remote work environments; enable self-serve online payment arrangements; and bring forward new insights and analytics over time to inform better energy decisions. The new Customer Portal and Mobile App brings forward Green Button functionality, enabling residential and business customers, or their authorized third-party, to download demand, consumption and bill data. With the anticipated increase in electrification, the new platform will deliver the tools customers will require to make informed decisions and manage their electricity costs.

Business Process Optimization - The primary driver is additional system functionality to accommodate security standards as processes are optimized on integrated systems. System upgrade costs are to address the need for improved system security and to prevent any application vulnerability.

Operational technology ("OT") - OT enables the monitoring, control and operation of the distribution networks and includes investments in Alectra Utilities' Outage Management System ("OMS), Supervisory Control and Data Acquisition ("SCADA"), and Geographical Information System ("GIS") systems. Field SCADA-enabled assets must be supported by operational software and hardware, including the backbone servers associated with the OMS and SCADA systems.

Enhancements to Utility investment portfolio planning system (Copperleaf) – Further enhancements to Copperleaf to integrate project management, data analytics, grid modernization and work program delivery systems to share information in real-time to plan, monitor and report on work completion. Additional system modules including the Enterprise Asset Management, combined with the Asset Analytics Platform, enables management of asset Lifecyle processes to maximize asset utilization, risk minimization and pacing of renewal of assets investments.

IT Client Computing, Server and Network - Investment is required to replace aging, out of warranty and end-of-life end user computing devices. This includes IT Hardware used to manage field crews and respond to outages, which are critical to operational outcomes and reliability. Further, upgrades to network infrastructure are needed to ensure sufficient network bandwidth and network security.

Grid Modernization – Investments will be made in data modelling, data analytics and business intelligence. By implementing data analytics initiatives, Alectra Utilities will be able to better

evaluate existing capacity and asset utilization, the efficiencies of its cyclical vegetation management and its impact reliability performance.

Workforce Management ("WFM") System - The WFM solution will digitize job scheduling, resource crew allocations, and work crew dispatch replacing workflow processes that are primarily manual, labour-intensive, and paper based.

Security - Investments in OT Threat Detection and Enterprise System Access were necessary to protect employee and customer information as well as to align with the requirements of the Ontario Cyber Security Framework.

Alectra Utilities' investment portfolio optimization process is an iterative process that makes use of the capital investment portfolio optimization capability of Copperleaf together with reviews by the Capital Investment Steering Committee and feedback from customer engagement. Each potential capital investment is based on a business case, which is evaluated using the Copperleaf Value Framework. Potential capital investments fall within each of the investment categories – System Renewal, System Service, System Access and General Plant, and investments are necessary in each area for effective operation of the distribution system.

UNDERGROUND CABLE RENEWAL INVESTMENTS AND NEED

In developing the DSP, Alectra Utilities examined the leading causes of controllable outages. Defective equipment, or equipment failure, and foreign interference (i.e., animal contacts, vehicle accidents, contractor dig-ins etc.) account for 58% of all customer outages based on a 5-year average. Specifically, the DSP identified failures of underground direct-buried cable and cable accessories as the leading contributor to declining reliability. Since preparing the DSP, the pace at which cable failures have intensified in existing or new emerging neighbourhoods is greater than what was contemplated in the DSP. To address this urgent need, Alectra Utilities has identified incremental capital investments in the PowerStream and Enersource RZs to either replace or, where feasible, to rehabilitate using silicone injection to extend the life of the cable in these RZs.

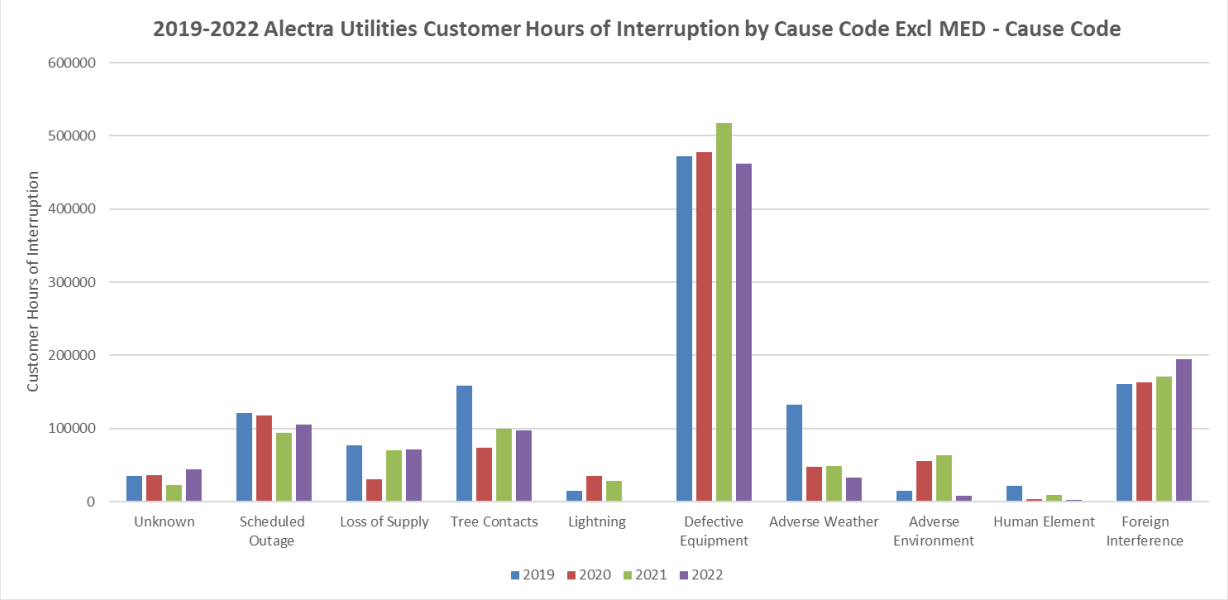
The first generation of underground cable technology was installed in the early 1960s, coincident with the start of large-scale municipal growth and expansion. These assets are first generation cable technology, also known as Cross Linked Polyethylene Cable ("XLPE"), most of which are beyond their useful life and in very poor condition. This first-generation cable was buried directly in the ground which has led to early degradation. Over time, the exposure and corrosion break down the cable's insulating properties and causes cable failures and service interruptions. Once the cable starts deteriorating, Alectra Utilities has limited time to implement an innovative cable injection process to replenish the insulating properties of the cable and extend the service life. If the cable is deemed to have deteriorated beyond the point that rehabilitation through injection is feasible, Alectra Utilities must urgently replace the cable before failures cascade into more considerable faults and increasing numbers of customers become impacted by service outages and interruptions.

This section provides an update of the most recent reliability trends emerging from the growing backlog of direct-buried XLPE cable and a detailed breakdown of the most pressing areas of the system where underground cable health has deteriorated, started failing, and is no longer reliable. Further, this section provides an overview of the options available to Alectra Utilities to remedy and reverse this worsening trend of failing cables and a summary of the most recent investments that Alectra Utilities has made in cable renewal.

Reliability Performance

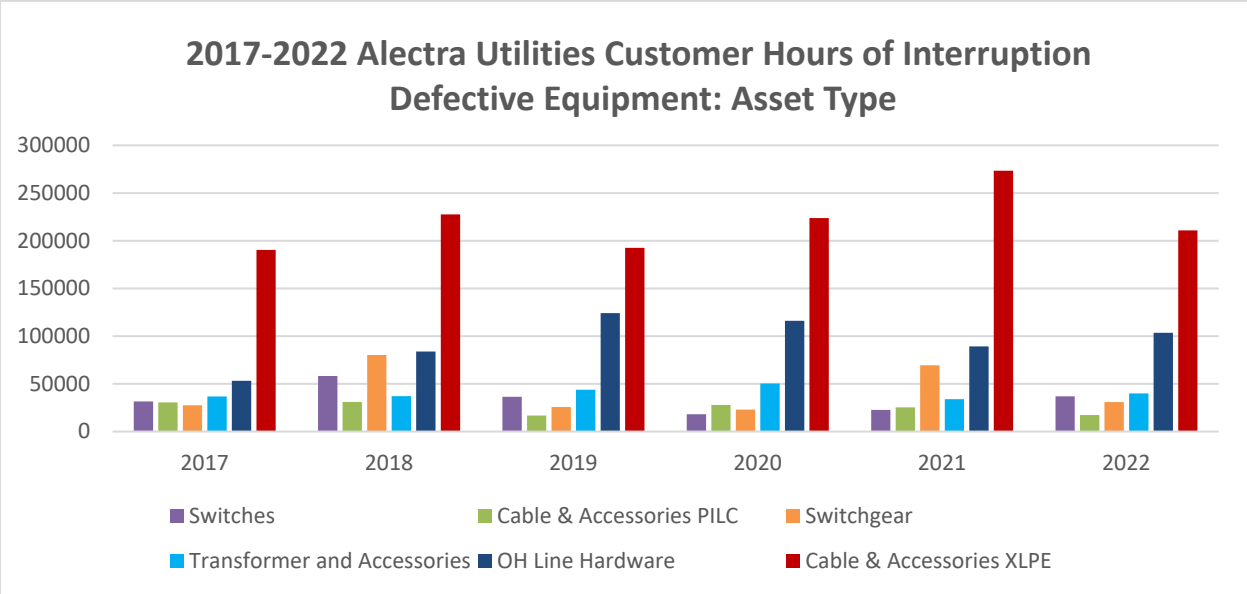
Defective Equipment continues to be the leading cause of outages impacting customer reliability within Alectra Utilities service territory. From 2019 to 2022, defective equipment has contributed 44% of all CHI, approximately three times the amount of the next most significant cause of customer hours of interruption - foreign interference. Figure 3 illustrates the significant impact of defective equipment as a contributor to outages when compared to all the other cause codes.

Figure 3*:* 2019-2022 Customer Hours of Interruption (Excl. MED) by Cause Code



The defective equipment sub-causes shown in Figure 4, show that the failure of direct-buried XLPE cable and accessories continues to be the most significant asset type impacting customer reliability.

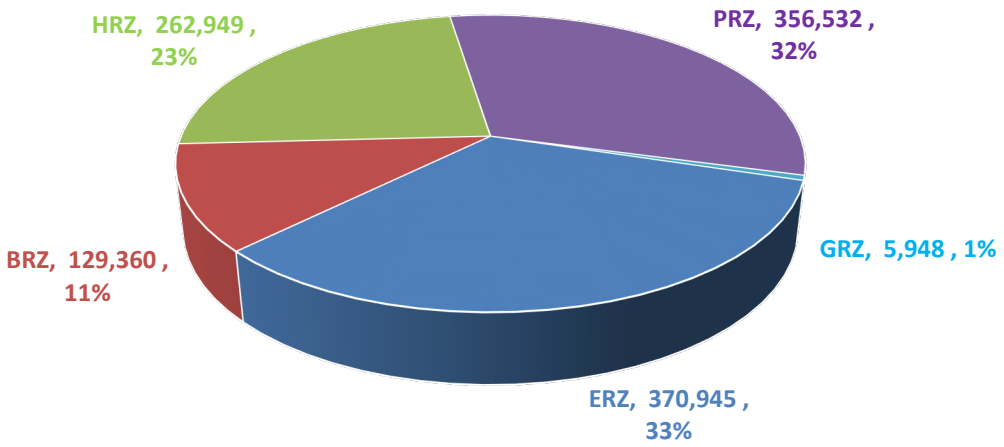
Figure 4: 2017-2022 Customer Hours of Interruption - Defective Equipment by Asset Type



Due to the COVID pandemic, 2020 and 2021 capital investments in System Access were temporarily reduced and two ten-year Connection and Cost Recovery Agreements ("CCRA") true-up payments were deferred. As a result, Alectra Utilities was able to temporarily avoid greater reductions to prudent investments in System Renewal that would otherwise have been needed in 2020 and 2021 to align with the funding supported by base rates. Increased funding to support a higher rate of system renewal, specifically underground cable renewal, contributed to improvements in underground cable reliability as Alectra Utilities was able to increase the pace of renewal required to match the increasing rate of cable deterioration. Incremental investment in underground cable renewal is further required in 2024 and onward to address failing cable, especially in neighbourhoods where the cable condition is deteriorated.

The majority of customer hours of interruption due to the failed direct-buried XLPE cable and accessories occurred in the Enersource and PowerStream RZs. Of the 1.1 million customer hours of interruption due to XLPE cable failures experienced since 2018, the Enersource and PowerStream RZs account for approximately 722,000 customer hours of interruption, representing 65% of all the XLPE cable outages experienced in Alectra Utilities' service territory.

Figure 5: 2018-2022 Total Customer Hours of Interruption Due to XLPE Cable & Accessories Failure



Alectra Utilities has targeted the worst areas with deteriorated cable, which are located in the PowerStream and Enersource RZs. This approach is consistent with the methodology outlined in Alectra Utilities' 2020-2024 DSP to improve reliability for identified areas that are experiencing below average reliability performance.[32]

Alectra Utilities' service area currently contains an extensive population of direct-buried first-generation XLPE cable. Of the 22,866 km of in-service XLPE underground cable, Alectra Utilities maintains and operates 7,810 km of direct-buried XLPE cable. Cable manufacturers introduced first-generation XLPE cables in the late 1960s. First-generation XLPE cables were used extensively by Alectra Utilities' legacy utilities during extensive growth in the communities of Mississauga, Vaughan, Richmond Hill, Aurora and Markham. These first-generation XLPE cables have inherent problems due to the nature of the manufacturing processes, which led to impurities developing into electrical trees over time in the insulating medium. These impurities are responsible for the increase in cable failures that Alectra Utilities has been experiencing with the cables from this period. In the late 1980s, cable manufacturers introduced a second generation XLPE with enhanced polyethylene properties designed to mitigate and slow down cable insulation

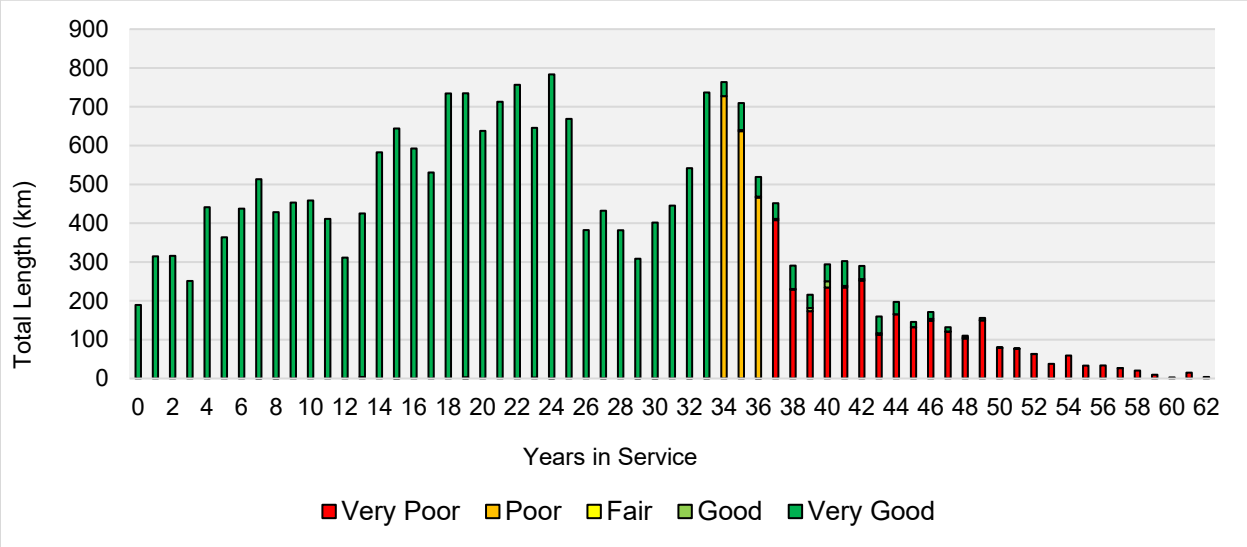
[32] EB-2019-0018, Exhibit 4, Tab 1, Schedule 1, Section 5.2.3, p.109.

degradation, specifically addressing the issues of water and electrical trees that caused the first generation XLPE cable to fail. The second-generation cable is known as Tree-Retardant XLPE (TR-XLPE) cable. Cable manufacturers continued to develop underground cable technology and introduced a third-generation cable technology in the mid-1990s based on strand-filled (also termed strand block) conductors. The third-generation cable is known as Strand Filled Tree-Retardant XLPE (SF TR-XLPE) cable. The third generation of the cable includes additional insulation manufactured between conductor strands, further protecting the cable from deterioration.

Underground XLPE Cable Health Deterioration

From 2018 to 2022, the backlog of deteriorated underground cable has increased from 3,173 km (14% of the population) to 4,766 km (21% of the population). Despite Alectra Utilities' effort to keep the pace of renewal with the rate of cable deterioration, Alectra Utilities now manages an additional 1,593 km of deteriorated underground cable. Without additional investment in underground renewal, Alectra Utilities projects that deteriorated underground cables will service one in four neighbourhoods in the service area by 2025.

Figure 6: Distribution of Underground XLPE Cable Health Condition as of 2022



As illustrated in Figure 6, the population of assets in need of renewal is not static. Alectra Utilities has observed that setting the renewal rate based on historical spend levels does not appropriately pace and address emerging needs, especially in system renewal of underground cable. Many of the communities that experienced significant development and growth from the 1960s until the 1990s are experiencing an increasing number of failures due to direct-buried XLPE cables. In Alectra Utilities' service areas, these municipalities include Mississauga, Vaughan, Richmond Hill, Aurora and Markham.

Figures 7 through 9 illustrate the significant deterioration rate of underground cable in Mississauga, Vaughan and Markham.

Figure 7: Deterioration of Underground XLPE Cable from 2018 to 2022 in Mississauga (ERZ)

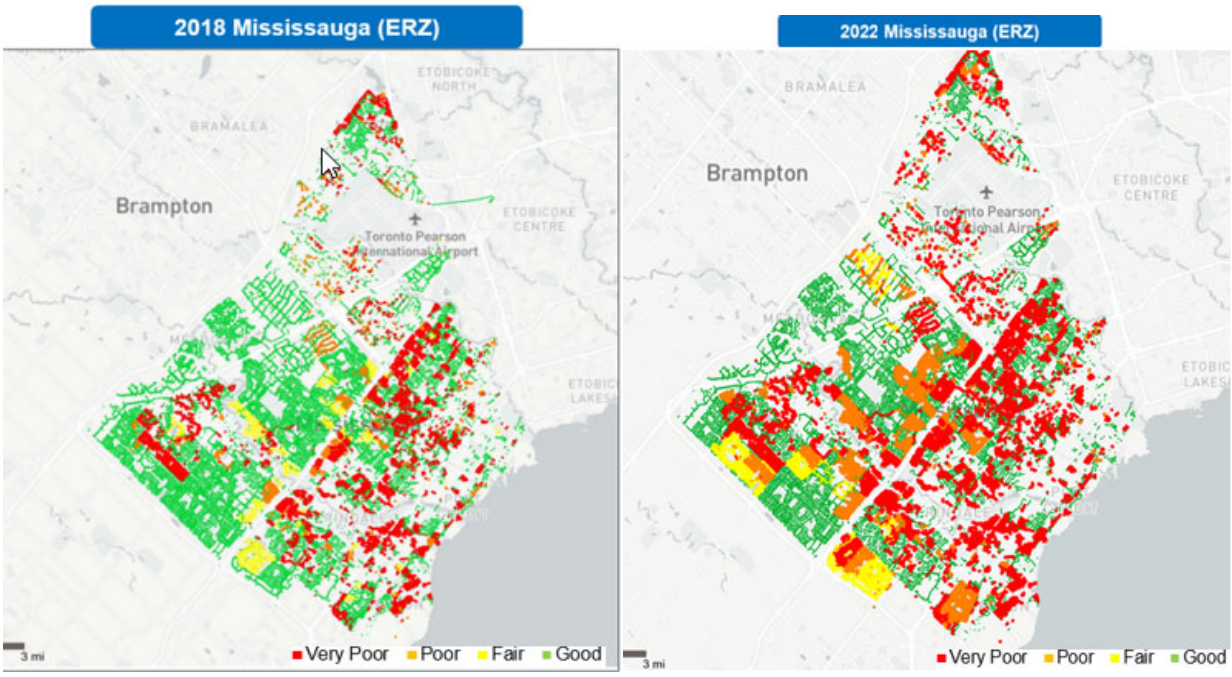


Figure 8: Deterioration of Underground XLPE Cable from 2018 to 2022 in Vaughan (PRZ)

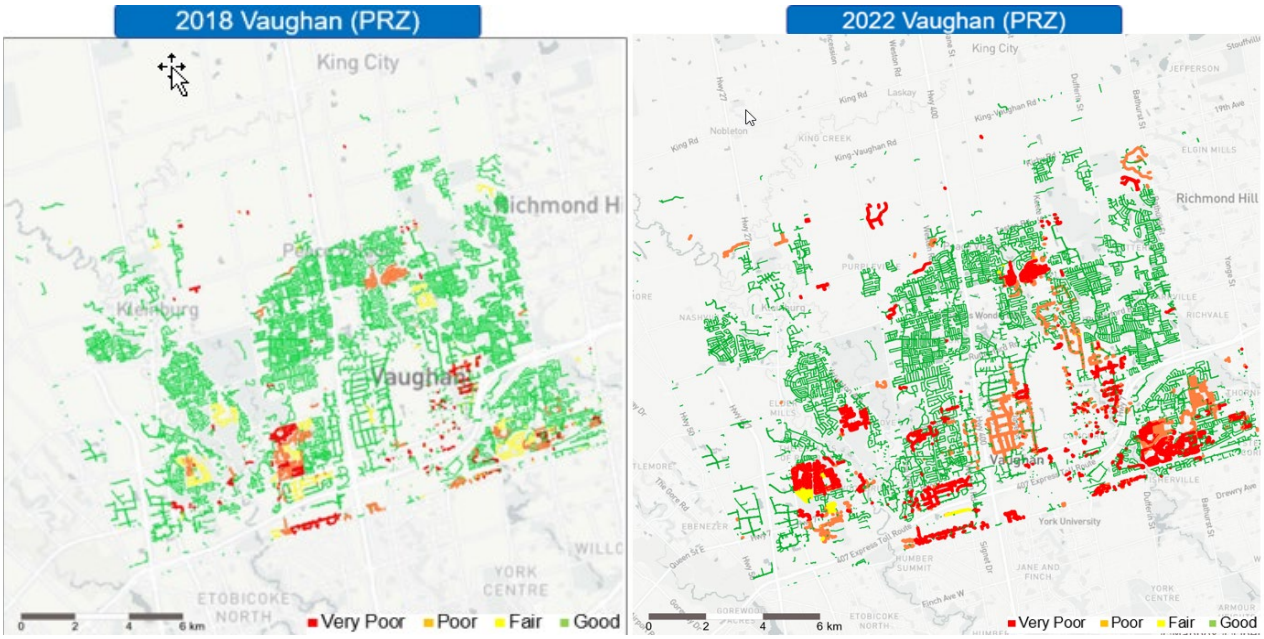
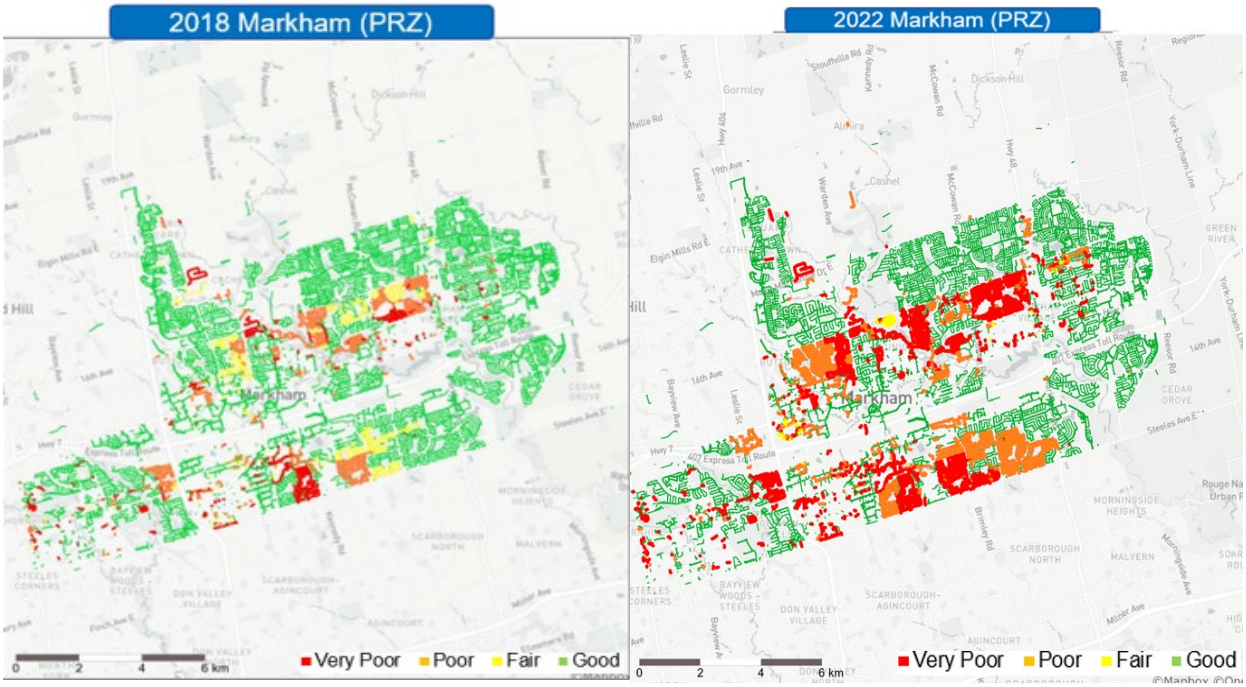


Figure 9: Deterioration of Underground XLPE Cable from 2018 to 2022 in Markham (PRZ)



XLPE Cable Renewal Options

The method of addressing XLPE cable failures is limited by the cable insulation method. Decades ago, utilities buried cable directly in the ground. Over time, the construction standard shifted to installing cable in protective conduits. When cable-in-duct fails, the entire cable can typically be removed and replaced with brand-new cable with relative ease. In contrast, direct-buried cables can only be repaired by excavating the cable and splicing in a replacement segment. This approach is fundamentally reactive and introduces further complications since the installed splice may become a future failure point. Further, it does not address the underlying issue since the deteriorated, direct-buried cable remains installed and is increasingly likely to fail again.

Figure 10: Excavated direct-buried XLPE Cable

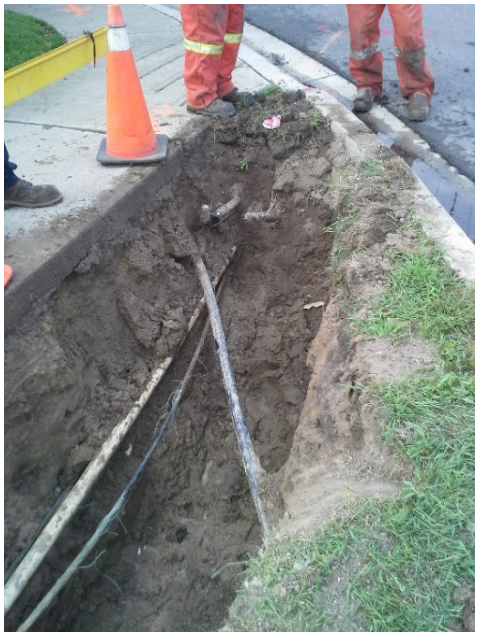


Figure 11: Excavated direct-buried XLPE under a sidewalk

Alectra Utilities has developed two renewal strategies for deteriorated direct-buried cable renewal: cable injection and cable replacement. Alectra Utilities will use the renewal strategy for each project that delivers the best value for customers.

Cable injection is a lower-cost solution that can extend the life of the XLPE cables by injecting a fluid into the core of the buried XLPE cable. The fluid combines with the existing insulation,

increases the insulation's strength, and slows down the rate of further degradation. This approach economically allows the life of the cable to be extended, provided that the cable is eligible to receive this treatment. Extending the life of the cable through injection avoids the need to excavate and replace the entire cable, which is more costly and disruptive to customers and neighbourhoods. Furthermore, cable injection is environmentally friendly in that rehabilitating existing cable avoids emissions required to manufacture, transport, and install new cable. Since 2018, Alectra Utilities has avoided over 5,012 tons of CO2 from the environment by renewing underground cables using cable injection. Alectra Utilities based its projection from an environmental case study assessment conducted by a third-party, which determined that 13 tons of CO2 emissions is avoided per meter of injected cable.[33]

Figure 12: Application of cable injection fluid

Where possible, Alectra Utilities will prioritize cable injection over replacement since it is less expensive. However, not all cables are candidates for cable injection. Cables in very poor condition or at their end-of-life cannot be rejuvenated through injection; they are too far deteriorated and tend to fail even if they are rejuvenated. Alectra Utilities also considers other factors that impact the cost-efficiency of cable injection compared to full replacement, including: the type of cable (strand filled or solid core cables are not eligible for injection); the number of splices within the cable segment; the location of the cable (e.g., under the sidewalk, under a roadway, under a driveway); and actual field conditions.

[33] EB-2022-0013, Response to Distributed Resource Coalition Interrogatory DRC-4, August 2, 2022.

As the population of deteriorated cable increases, Alectra Utilities loses the opportunity to extend the life of cable through cable injection. A large population of Alectra Utilities' cables are quickly approaching their end-of-life or are in very poor condition. If Alectra Utilities does not increase investments to address these assets, the only option will be the outright replacement of cables, resulting in significant impacts on reliability and ultimately higher costs for customers.

In these instances, Alectra Utilities will replace the direct-buried cable with the new generation XLPE cable, which will deliver superior reliability over their lifetime relative to older standards of cable. The new cable will also be installed in conduit, which is a superior installation method compared to direct-buried cable.

Figure 13: Direction Bore Machine installing new duct for cable replacement

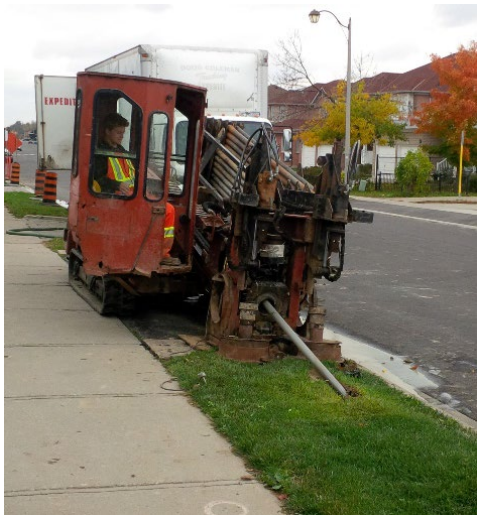


Figure 14: Installation of new cable in duct

The conduit protects the cable from mechanical and corrosive damage and will make future replacement much simpler and more cost-effective. During a planned cable replacement project, Alectra Utilities reviews the layout of the distribution system to optimize the configuration and layout. For many areas, Alectra Utilities can reconfigure the layout to minimize the replacement cost.

Historical Investment in Underground Cable Renewal

Alectra Utilities appropriately identified asset renewal needs, specifically the urgent need for cable renewal, through ongoing asset management processes and identified these needs through capital investment plans in the DSP. Asset management and asset lifecycle optimization of direct-buried XLPE cables are well understood and intrinsic to the operation of the distribution system. Since 2018, Alectra Utilities has attempted to allocate as much available funds into underground system renewal without compromising other urgent and critical investments.

Since 2018, Alectra Utilities has invested $289.6MM in cable renewal, including addressing an increasing volume of emerging hotspots of cable failures through investments in Emerging Underground Projects.

Table 21 – UG Cable Renewal Investments ($MM)

Investment	Actual 2018	Actual 2019	Actual 2020	Actual 2021	Actual 2022	Forecast 2023	Total
Cable Renewal – Replacement	$37.2	$31.2	$35.4	$25.3	$20.1	$36.1	$185.3
Cable Renewal – Injection	$3.6	$4.9	$11.5	$13.7	$12.8	$19.1	$65.6
Emerging Underground Projects	$2.3	$5.9	$8.0	$10.1	$6.1	$6.3	$38.7
Total	**$43.1**	**$42.0**	**$54.9**	**$49.1**	**$39.0**	**$61.5**	**$289.6**

Alectra Utilities prioritized investment in underground cable renewal to the extent that reductions or deferrals in other necessary capital investments did not: expose customers, the public and employees to increased safety risks; introduce more significant business or service interruptions; and result in compliance issues for Alectra Utilities to meet requirements set by regulations, laws and license obligations.

Other pressing and evolving system needs offset available funding for cable renewal, including the increasing demand from customer-initiated system distribution expansion and increased reactive renewal resulting from a growing backlog of deteriorating assets. Furthermore, the temporary deferral of investments in other areas does not provide a sustainable solution to the persistent and growing need to urgently address the root cause of underground cable failures: direct-buried XLPE cable.

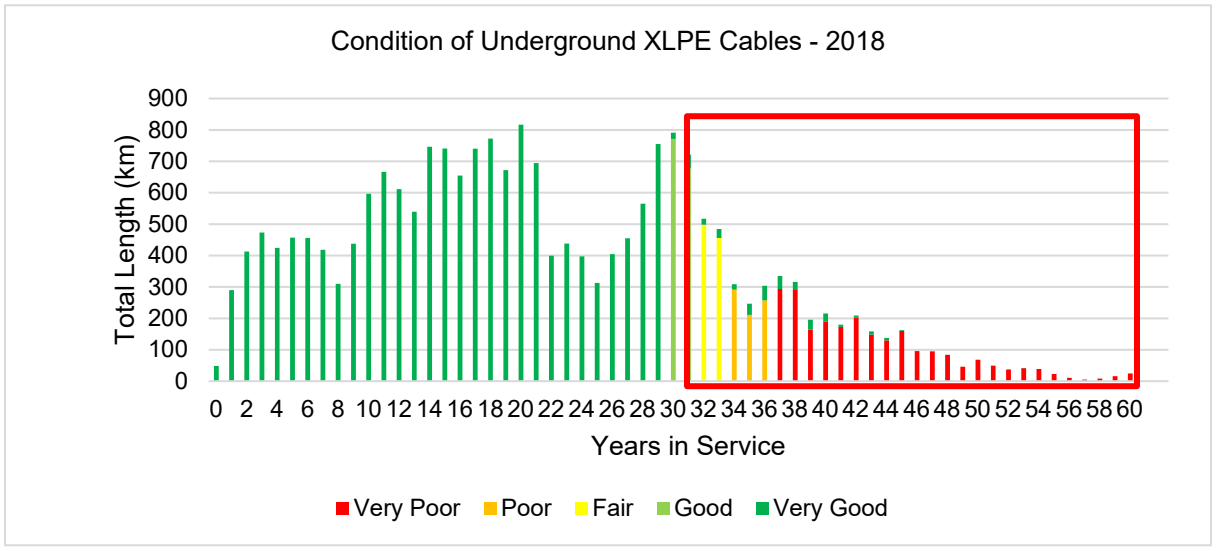
Most Recent Trends & Observations in Underground Cable Performance

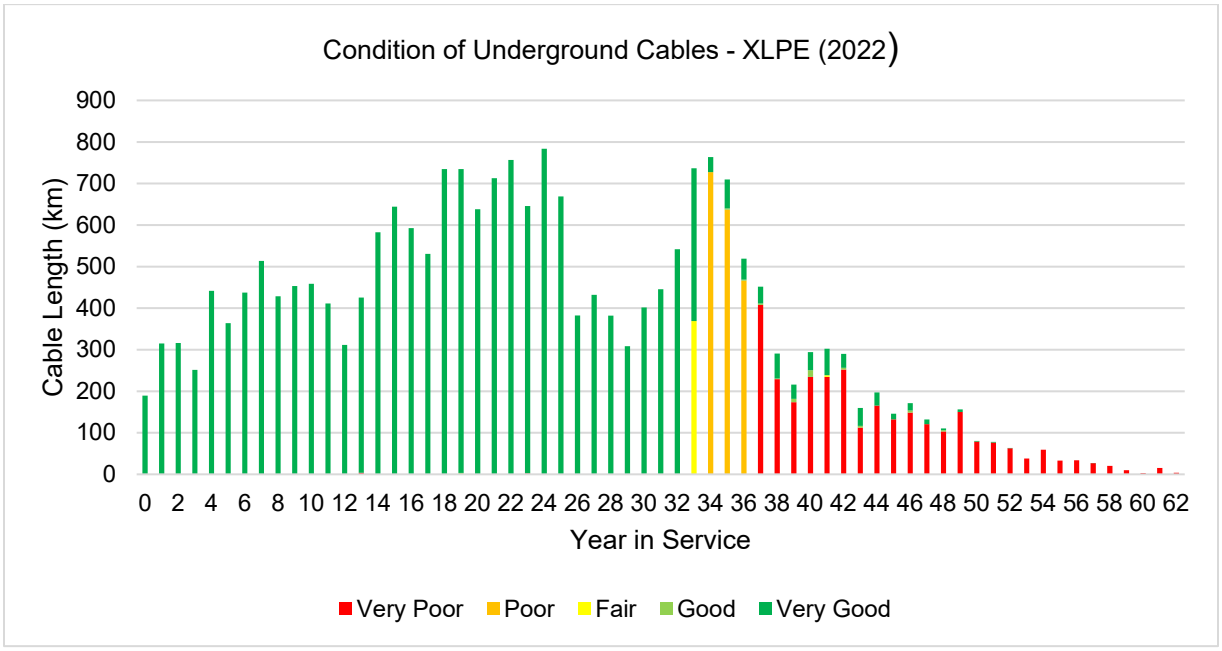
In 2020, Alectra Utilities implemented an Asset Analytics Platform to evolve the existing condition-based asset management practice towards predictive analytics, reliability-driven maintenance, and machine learning. Alectra Utilities immediately began to populate the platform with large data sets required to extensively examine the triggering factors of outages caused by tree contacts and underground cable failures.

The Asset Analytics Platform provided Alectra Utilities with the functionality to compute asset condition assessments, overlay reliability data sets with maps to identify emerging hotspots and combine large data sets to establish cross-sectional relationships. Enhanced analytics has enabled Alectra Utilities to incorporate the most recent reliability events against up-to-date asset condition information. This allows the utility to identify localized emerging issues in order to quickly remedy the situation before it cascades into a larger scale problem. Since implementation, Alectra Utilities has been able to direct crews to address emerging cable failures before substantial cable replacement is required. Unfortunately, due to the significant backlog of direct-buried XLPE cable that is deteriorated and failing, Alectra Utilities cannot fund all the necessary renewals to address all the neighbourhoods identified through analytics and continues to experience increases in customer hours of interruption due to XLPE cable failures.

As required by the OEB Filing Requirements for Electricity Distributors submitting DSPs, Alectra Utilities developed a range of quantitative metrics to monitor the quality of its capital expenditure plans and the efficiency with which plans are implemented. To address the DSP objective to prudently invest in and maintain assets to provide sustainable value through the optimal allocation of resources in response to risks, compliance requirements and performance targets, Alectra Utilities established an asset condition metric to limit the population of underground cable that is in poor or very poor condition to 14% of the cable population. This level represents the health of the cable population at the start of the DSP period.

Figure 15: Condition of Underground XLPE Cables - 2018 vs 2022





Despite the efforts of Alectra Utilities to increase cable renewal investment to match the pace of cable deterioration, additional funding and needs in other areas were required to meet compliance obligations and mitigate safety risks such as overhead system failures from occurring.

As a result, the amount of deteriorated and failing underground cable has increased from 3,173 km to 4,766 km, representing an increase from 14% to 21% of the population of underground

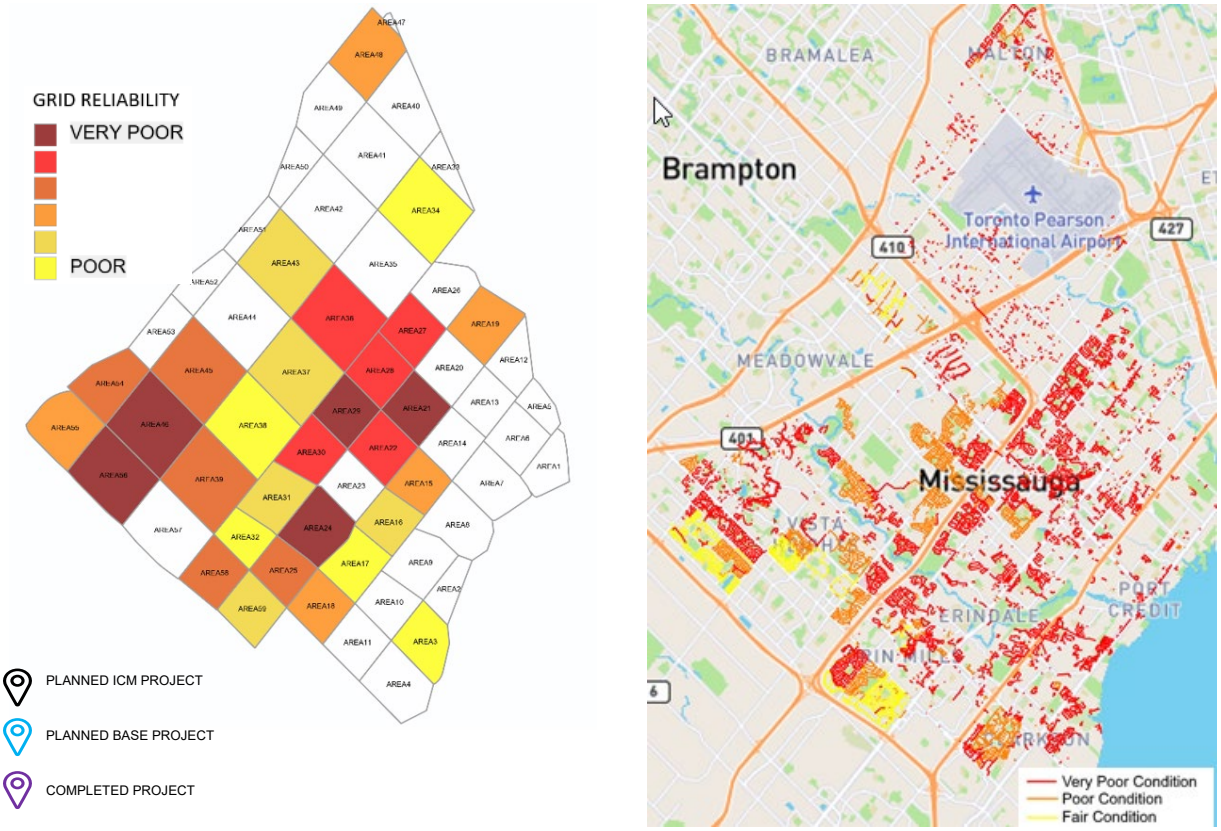
cable that is deteriorating and failing. Alectra Utilities is experiencing the first significant wave of XLPE cables nearing the end of typical life.

In addition to the DSP Performance measurement for continuous improvement set to limit the backlog of deteriorated underground cable population to 14%, Alectra Utilities was also required to set system operation performance measures. As provided in Section 2.3.2 of the DSP Filing Requirements, Alectra Utilities set a quantitative measure to maintain the number of customer hours of interruption due to defective equipment to no more than 455,651 hours per year, based on a five-year historical average. Despite Alectra Utilities' efforts to maintain reliability Alectra Utilities has failed to meet the DSP target for each year. The failure of direct-buried XLPE cable is the most significant driver of the increasing trend in outages due to defective equipment.

Alectra Utilities correlated failing direct-buried XLPE cable with cable asset condition for the Enersource and PowerStream RZs, by overlaying maps of recent XLPE cable failures.

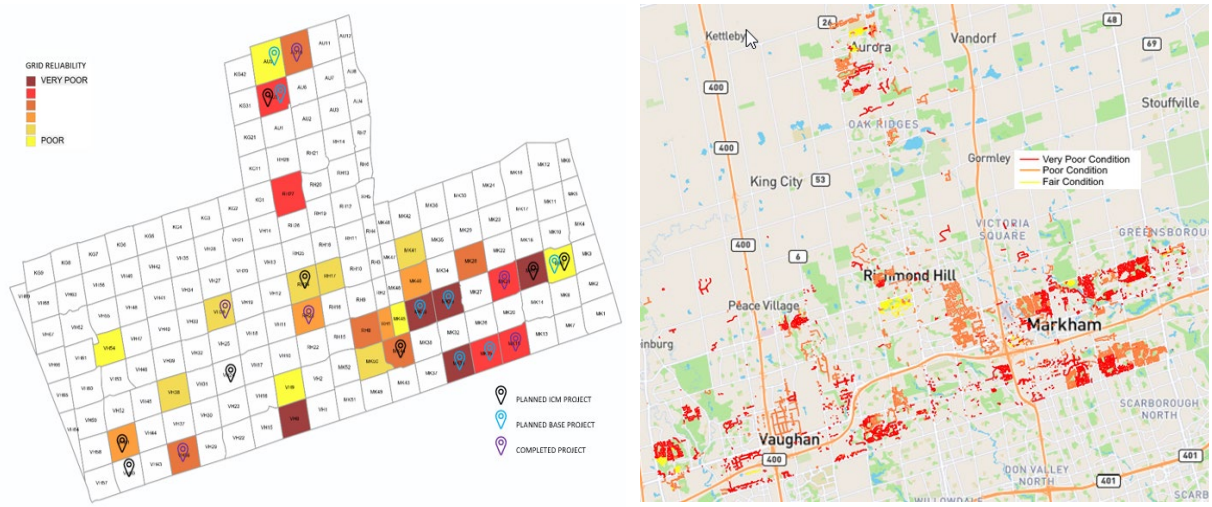
Alectra Utilities combined reliability statistics by grid against the 2020 ACA as part of an enhanced overlay methodology. Reliability heat maps illustrate the most recent (2016–2021) outages due to cable failures, including the location of recently (2016-2021) completed projects, planned projects in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

Figure 16: Maps of XLPE Cable Failures and Condition of XLPE Cables for Mississauga[34]



[34] Includes projects underway in 2023

Figure 17: Maps of XLPE Cable Failures and Condition of XLPE Cables for PRZ[35]



With the Asset Analytics Platform, Alectra Utilities can correlate the most recent areas of very poor reliability with very poor condition of cables to identify localized hotspots. Once Alectra Utilities' engineers identify emerging areas and hotspots for cable failures, a full engineering assessment of the site is completed, which includes:

- A complete reliability evaluation of all the outages the customers in the area have experienced over the last several years;
- Evaluation of all the assets in the area, including transformers and switchgear;
- Location of the cable, including available space considering other utilities in the corridor;
- Assessment of the phasing, fusing, plans and feeder configuration;
- Feasibility of applying cable injection to extend the life of the existing cable; and
- Other site-specific requirements (e.g., rear lot placement of cables and assets, environmental considerations such as conservation lands, driveways, roads, etc.).

[35] Includes projects underway in 2023

The engineering assessment of the site also determines the proposed timeline to address the hotspot before the issue cascades into more extensive area outages disrupting a more significant number of customers and increasing the cost to remedy the problem.

CUSTOMER ENGAGEMENT

In this application Alectra Utilities relies on the results of its customer engagement survey filed in its 2023 ICM Application (EB-2022-0013). In its Decision on the 2023 ICM application, the OEB found that "…Alectra Utilities is adequately addressing customer needs and preferences, given the customer engagement survey feedback filed with the application."[36]

Alectra Utilities engaged Innovative Research Group ("Innovative") to undertake a customer engagement process in early 2022 seeking customer input on two topics: a broad engagement on customer needs and outcome priorities for future system investments (the "Needs and Outcomes Engagement"), and a focused engagement on potential near-term investments to renew underground cable in the PowerStream and Enersource rate zones ("RZs") (the "ICM Engagement").

The purpose of the ICM Engagement was to assess customers' preferences between specific investment options and outcomes to address the challenges posed by deteriorating underground cable. Innovative's findings, along with a detailed review of the methods and materials used to conduct their research, were set out in Appendix 1.0 (ICM Report) of the Customer Engagement Report, which filed in the 2023 ICM application as Attachment 11.

The ICM Engagement provided detailed information on the different potential approaches to addressing deteriorated underground cable in the distribution system. Customers were presented with the trade-offs between bill impacts, reliability outcomes, and volume of cable injected or replaced under four different scenarios, including a "status quo" approach that would maintain the level of investment that would be funded within base rates. For each option, where applicable, customers were presented with the proposed incremental capital amount over the 2023 and 2024 period; the monthly and cumulative bill impact over the 2-year period; and the expected outcomes/benefits of the proposed investment.

The results of the ICM Engagement showed that customers want Alectra Utilities to invest more in renewing deteriorated underground cable. As summarized on pages 7-10 of the ICM Report,

[36] EB-2022-0013, Decision and Order, November 17, 2022, p.18.

customers in both RZs and in all rate classes indicated that they are prepared to fund an increased level of investment in both cable injection and cable replacement during 2023 and 2024.

SUMMARY OF PROPOSED INCREMENTAL PROJECTS

Alectra Utilities must accelerate its investment in cable renewal in order to address the compounding effect of a growing number of customer hours of interruption driven by XLPE cable failures and a rapidly growing backlog of in-service deteriorated and unreliable cable. Since 2018, communities in the Enersource and PowerStream RZs account for 65% of all customer hours of interruption caused by failing XLPE cable. Alectra Utilities has taken steps to advance analytics on cable failures to identify the worst neighbourhoods, however, the ongoing deterioration of this equipment is outpacing the level of investment supported by Alectra Utilities' base rates.

Cable injection is a cost-effective, comprehensive response to the growing impact of XLPE cable failures. Renewal through injection extends the life of the existing cable at one-sixth the cost of replacement and provides environmental benefits by reusing the existing cable. Alectra Utilities must urgently increase the pace of cable renewal to leverage the benefits of cable injection before the direct-buried XLPE cable deteriorates beyond the point that injection is feasible. Secondly, Alectra Utilities must urgently increase the pace of planned cable replacement in hotspot areas where cable failures are occurring and at risk of imminent failure that will cascade into more significant outages and higher emergency replacement costs. Alectra Utilities has identified that the implementation of incremental cable renewal solutions in 16 neighbourhoods in 2024 will result in mitigating approximately 51,074 customer hours of interruption and avoid approximately $108MM in future capital renewal costs, by completing these cable investments now, rather than replacing cable later.

This section summarizes the incremental underground cable renewal investments that Alectra Utilities proposes to implement through ICM funding requested in this Application. These investments are driven by worsening reliability and deteriorating asset conditions in specific localized neighbourhoods throughout the Enersource and PowerStream RZs. As summarized below, investment is needed urgently to address an increasing trend in customer hours of interruption due to failing direct-buried XLPE cable. Alectra Utilities has evolved and refined the approach to identify hotspots that, without expedient action, will imminently cascade into much more significant issues causing a growing scale of disruption to larger numbers of customers and higher costs to address reactively.

Impact and Response to Underground Cable Failure

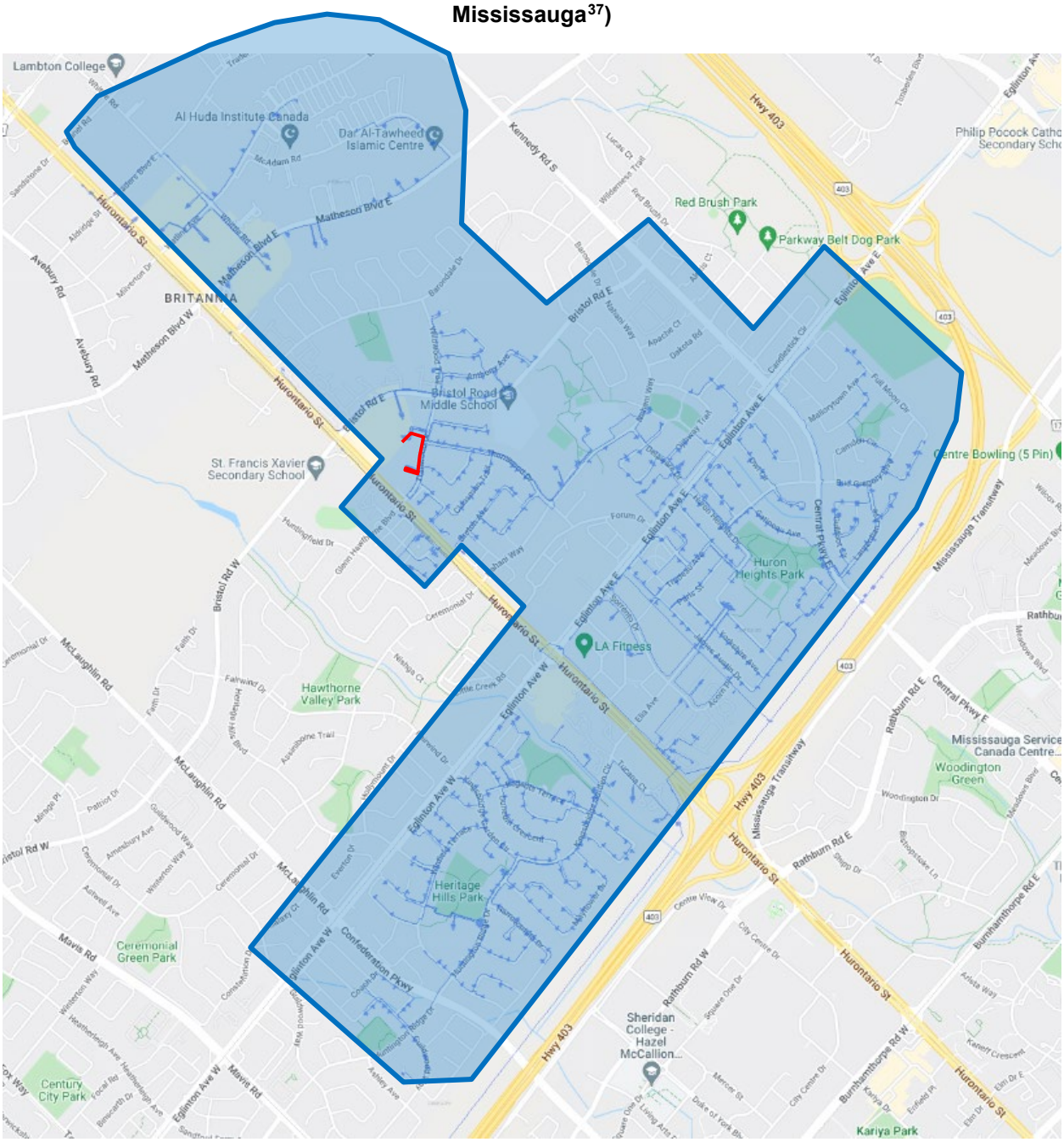
Alectra Utilities responds to and remediates an average of 449 cable failures events each year. This section outlines the steps Alectra Utilities takes to resolve a cable failure and provides an assessment of the impact to a customer. Alectra Utilities addresses underground cable failures in two phases. In the first phase of response, Alectra Utilities investigates and isolates the cable fault. Once Alectra Utilities identifies that the outage was caused by a cable fault, the failed cable segment is isolated and customers are temporarily switched to an altenative supply point. In the second phase of response, Alectra Utilities locates the faulted portion of the cable and excavates the cable for repair. If cable repair is not possible, the cable will be replaced. After Alectra Utilities repairs or replaces the cable, the customers are restored back to normal supply configuration.

The first phase of response is typically completed by Alectra Utilities in approximatley 1-2 hours, but the duration of the outage can vary significantly based on a wide range of factors. Some of the most common factors that may impact the duration of the outage include: the time of outage event (outage events outside of business hours require crews to be called in from home); location of the outage (impacts travel time, traffic issues); complexity of the distribution system layout (multiple cables or utilities within the same corridor, number of assets); number of switching or isolation points available; availablility and number of fault indicator devices installed; weather conditions; and access to assets for inspection and operation.

Alectra Utilities is typically alerted to an outage event through a breaker operation. Alternatively, Alectra Utilities may also receive calls from customers identifying that service has been interrupted. Alectra Utilities' control room initiates the first phase process with the implementation of a trouble ticket and dispatches a crew to the site. If the event occurs outside of normal business hours, additional time is required for employees to be called in from home and dispatched to the site. Once the crew arrives in the vicinity of the outage, investigation of the outage event is completed through a triage process of assessments. Alectra Utilities' crews must identify the root cause of the outage from a wide range of potential issues including foreign interference (e.g. vehicle accidents, contractor dig-in, animal contact), adverse environmental conditions or potentially defective equipment (transformer, switchgear, overhead or underground equipment failure). Alectra Utilities' crews systematically progress through the investigation process until a root cause is identified. If the root cause was a cable or cable accessory failure, the crew identifies

the faulted segment of cable between two switchable devices and informs the control room to initiate the switching orders for crews to begin switching customers onto an alternative supply. In the event that alternative supply is not available, Alectra Utilities must take immediate steps to repair or replace the faulted cable under an emergency procedure and the customers will remain without service until the cable is fully repaired or replaced. A typical cable failure initially impacts all the customers in the greater vicinity of the outage connected to the same main feeder through a momentary outage. Alectra Utilities typically serves a mix of 2,000 to 3,000 residential and general service customers on each feeder. A momentary outage is typically under a minute in duration but requires residents and businesses to reset systems and operations.

Figure 18: Map of 5,087 Customers Affected by Typical Cable Fault (April 9, 2021 in Mississauga[37])



Alectra Utilities' distribution system includes protection and control schemes which utilize fuses to mitigate the scale of the damage of the fault. Fuse operation is designed to operate by breaking the circuit from the supply to minimize the amount of current that flows into the fault. High fault

currents stresses all the distribution equipment on the system which further deteriorates and damages the performance levels of the system. Once the protection scheme breaks the circuit in the vicinity of the fault, all the customers connected downstream of the fuse experience a sustained outage which continues until the crews and control room can establish an alternative supply path. A typical cable failure sustained outage impacts 300 to 500 customers, depending on the density and layout of the distribution system in the area.

Figure 19: Excavated direct-buried cables near pad-mounted transformer base

Once Alectra Utilities establishes an alternative supply path for the customers due to the cable failure, Alectra Utilities transitions to the second phase of the response: repair and restoration. Since the cables are installed underground, Alectra Utilities must attain locates from all the other utilities and telecommunication companies before any digging of cables. Attaining locates typically takes three to four weeks, depending on the volume of requests pending for each utility/telecommunication company. Alectra Utilities must attain locates from each utility and telecommunications company with infrastructure in the area before starting any repair or replacement work. Locates are required to mitigate the saftey risk of damage to other infrastructure while excavating the damaged cable. Once locates are attained, Alectra Utilities applies cable testing technology to approximate the exact location of the cable fault before excavating the portion of the cable suspected of failing. Once Alectra Utilities is able to locate and excavate the cable, repairs to the cable are completed.

Figure 20: Excavating direct-buried XLPE cables in a residential rear-lot

Figure 21: Excavating and repairing direct-buried XLPE cable

With each cable failure, a surge of fault current passes through all the equipment towards the fault location. This fault current further degrades the insulation and reliability of the equipment. The cable becomes more prone to further failure until it is no longer salvageable for service, resulting in recurring outages for customers in areas served by these cables. Alectra Utilities continues to repair the cable to provide the time necessary to allocate funding and plan for renewal. Once repairs are completed, the cable is tested to ensure that all the faults have been identified and repaired. If the cable fails the test, further segements of the cable are excavated, repaired and retested. If the cable is deteriorted beyond repair and unable to pass the commissioning tests, it will be replaced. Under the replacement scenario, Alectra Utilities must complete an emergency replacement at higher costs and disruption to customers to avoid a situation where customers are without power. Once the cable is replaced and tested, Alectra Utilities restores the customers back onto the permanent supply configuration.

Proposed Incremental Projects

Alectra Utilities has identified 16 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 2022. The assessment conducted in 2021-2022 was reviewed during the 2022-2023 period. Based on the engineering assessment there was no change to the priority projects identified in this application. Although additional priority projects were identified as part of this review, those projects will be completed in later years. Alectra Utilities plans to complete 7 projects funded through base rates and is requesting ICM funding for an additional 5 projects in 2024 in the Enersource RZ. Alectra Utilities plans to complete 10 projects funded through base rates, and is requesting ICM funding for an additional 11 projects in 2024 in the PowerStream RZ.

The proposed ICM projects consist of 8 cable injection projects and 8 projects for cable replacement. The cable replacement projects selected address the worst areas throughout Alectra Utilities' entire service area in terms of failing direct-buried XLPE cable. With the completion of the proposed cable injection projects, Alectra Utilities will achieve two objectives: i) prevent further cable failure outages; and ii) reduce the need for higher future costs to replace the cable. With the completion of the proposed cable replacement projects, Alectra Utilities will replace the existing deteriorated and failing cable in 8 neighbourhoods with new cable installed in protective conduit that will provide reliable service for the next 55 years. New cable will eliminate the increasing impact of outages from failing cable and reduce the need for reactive and emergency replacement which is more costly and disruptive to the customers in the area.

In total, the incremental cable renewal projects are expected to avoid approximately 155 outages over the next five years. Specifically, Alectra Utilities forecasts that these projects will avoid approximately 49 cable failure related outages in the Enersource RZ, where each outage would impact approximately 441 customers for one hour. In the PowerStream RZ, Alectra Utilities forecasts that the proposed ICM projects will avoid approximately 106 cable failure related outages, where each outage would impact approximately 265 customers for two hours per

outage. In total, the combined investment will avoid approximately 51,074 customer hours of interruption, equivalent to 25% of Alectra Utilities' yearly customer hours of interruption for XLPE cables. Additionally, Alectra Utilities has forecast that performing this work now will avoid a future cable renewal cost of approximately $108MM, largely attributable to injecting cable now that would otherwise need to be replaced in future as a result of missing the cable injection feasibility window.

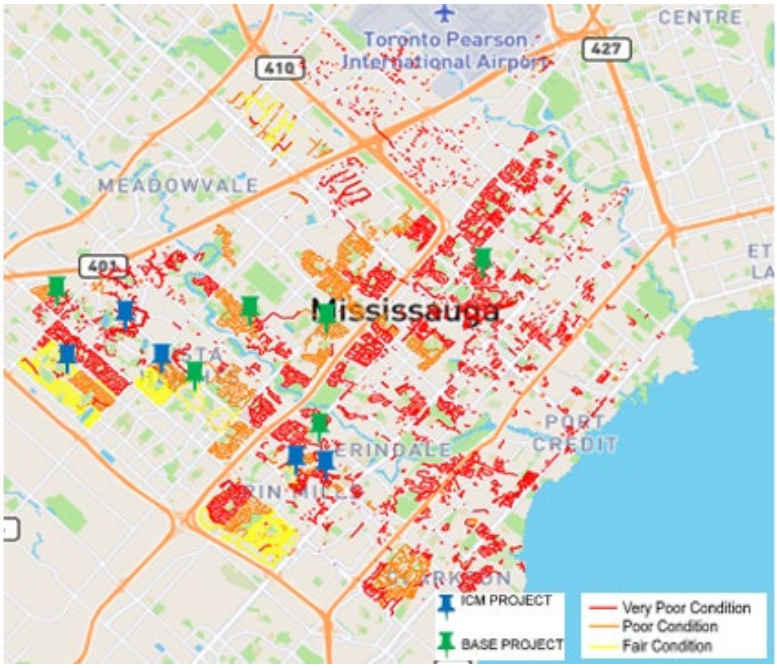
Table 22 – ICM Projects PRZ and ERZ ($MM)

Project #	Project Name	2024
151329	Cable Replacement – Raymerville Drive Area in Markham (M21)	$1.6
151361	Cable Injection – Cairns Drive of Markham (M21)	$1.7
151367	Cable Injection – McNaughton Road Area of Vaughan (V26)	$1.7
151403	Cable Replacement - Montevideo & Battleford Area in Mississauga (Area 46)	$1.6
151407	Cable Replacement – Glen Erin & Burnhamthorpe of Mississauga (Area 25)	$2.4
151431	Cable Injection – Glen Erin Dr & Bell Harbour Dr in Mississauga (Area 39)	$1.3
151435	Cable Injection – Derry Road & Ninth Line (Area 56)	$1.5
151456	Cable Injection – Sovereign Court Area in Vaughan (V50)	$1.3
151459	Cable Injection – Creditstone Road Area in Vaughan (V24)	$2.2
151517	Cable Injection - 8th Line & Highway 11 Area in Bradford (BR5)	$1.0
151903	Cable Replacement – South Millway Area in Mississauga (Area 25)	$1.1
151913	Cable Replacement – Cochrane Drive & Scolberg in Markham (M44)	$2.1
151935	Cable Replacement - Larkin Ave Area of Markham (M15)	$1.9
152373	Cable Replacement - St. Joan of Arc Area of Vaughan (V26)	$1.9
152375	Cable Replacement – Hammond Drive Area in Aurora (A09)	$1.4
152387	Cable Injection – Bainbridge Ave (V51)	$0.6
	Total Proposed ICM Investment	**$25.1**

Without incremental capital funding to implement these 16 urgent and necessary projects, Alectra Utilities would only be able to complete the 17 projects funded by base rates.

In the Enersource RZ, base rates support 7 cable renewal projects in 2024. With incremental funding, Alectra Utilities will be able to complete an additional 5 projects, for a total of 12 projects.

Figure 22: 2024 ERZ Cable Renewal Projects - Base and Incremental



In the PowerStream RZ, base rates support 10 cable renewal projects in 2024. With incremental funding, Alectra Utilities will be able to complete an additional 11 projects, for a total of 21 projects.

Figure 23: 2024 PRZ (Vaughan) Cable Renewal Projects - Base and Incremental

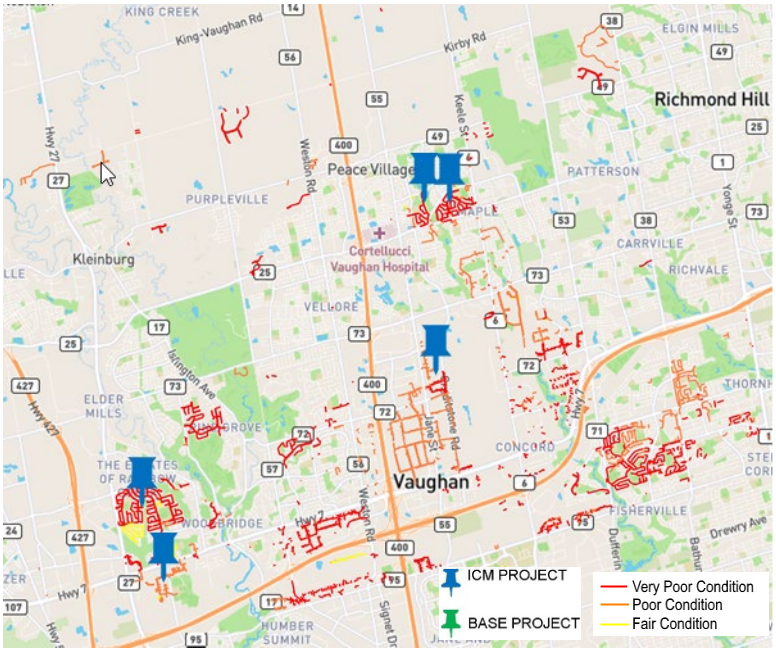
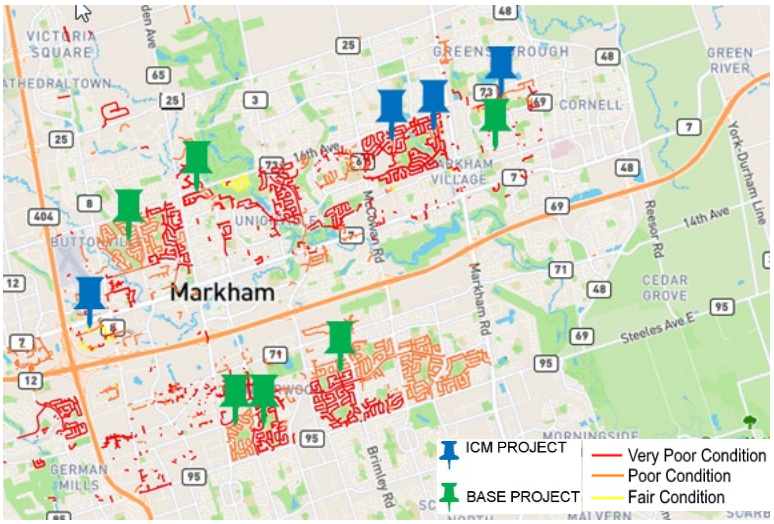


Figure 24: 2023 & 2024 PRZ (Markham) Cable Renewal Projects - Base and Incremental



The following section highlights each proposed ICM project by operational area and then by cable renewal method with replacement projects listed first and injection second. All the projects are targeting first generation direct buried XLPE cable. The project summaries include: the project specific reliability along with the types of customers impacted; the cost; and maps highlighting the

scope of the work and the condition/reliability of the affected assets. Alectra Utilities has also provided an estimate of avoided outages should the investment proceed as planned. The estimate is based on engineering judgement using asset condition, reliability, historical comparators, clustering of the failures, number of failures and probability of failure. The number of customers impacted, and the duration of each outage is based on an average of the historical five years. The estimate of avoided outages is capped to five years from completion of the investment, and assumes no benefit in the year of execution, to provide a conservative estimate. Although the business case summaries identify the customers directly within the project scope, customers both upstream and downstream of the project area will also benefit from these assets being renewed. This is identified in the project summaries where the number of customers within the project scope differs from the total number of customers impacted by the outage, both historically and in the estimate of future reliability.

Cable Replacement Projects in the Enersource RZ

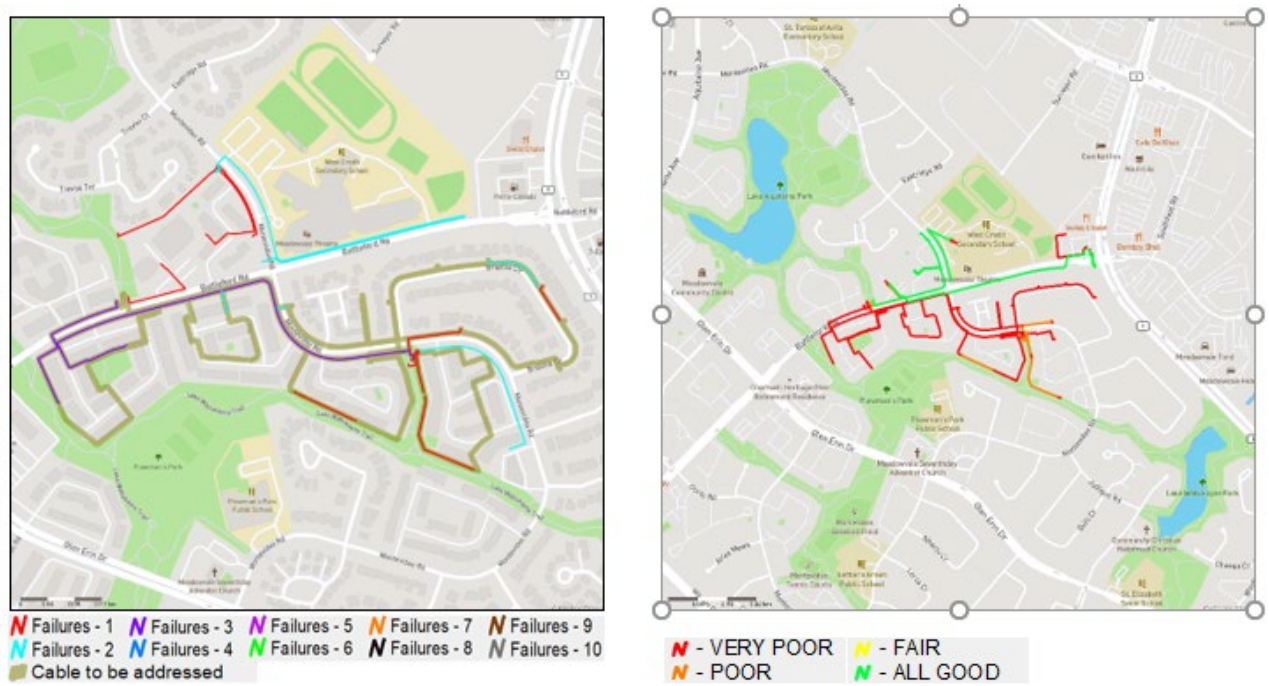
Table 23 –2024 Incremental Cable Replacement Projects – ERZ

Project #	Project Name	2024
151403	Cable Replacement - Montevideo & Battleford Area in Mississauga (Area 46)	$1.6
151407	Cable Replacement – Glen Erin & Burnhamthorpe of Mississauga (Area 25)	$2.4
151903	Cable Replacement – South Millway Area in Mississauga (Area 25)	$1.1
	Total Proposed ICM Investment	**$5.1**

Project 151403: Cable Replacement: Montevideo & Battleford Area in Mississauga (ERZ)

This project will replace 2.5 km cable in the Montevideo & Battleford area in Mississauga with an investment of $1.6MM in 2024.

Figure 25 – Cable Failures and Condition Maps - Montevideo & Battleford Area



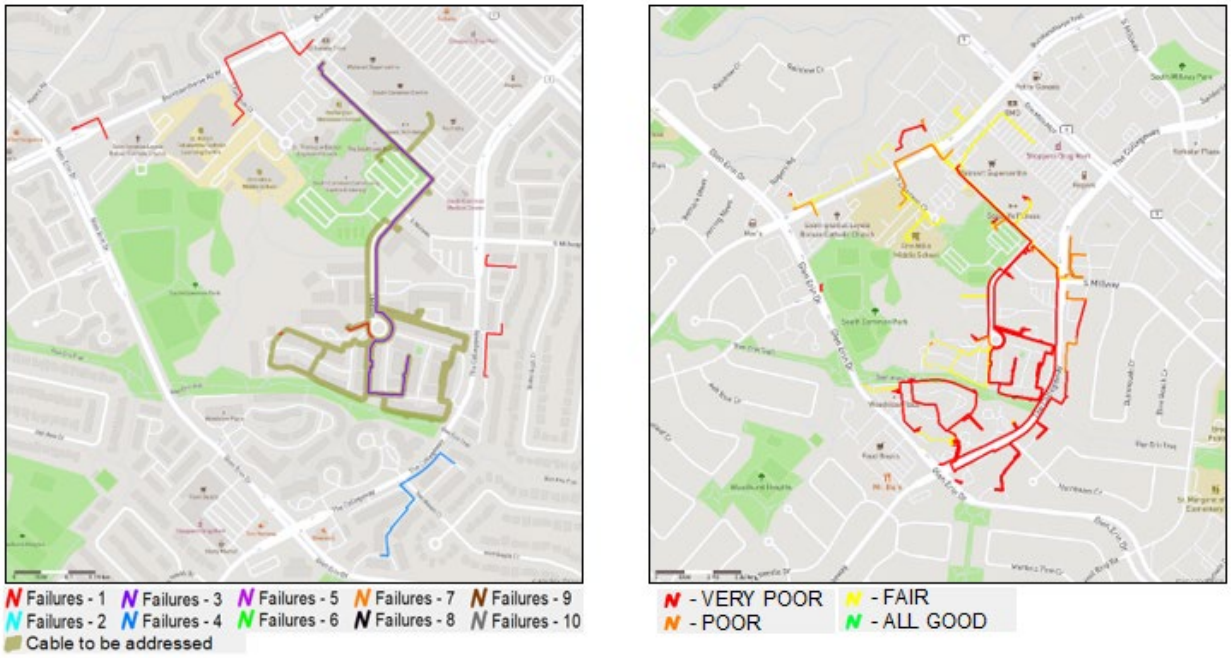
This investment is required to replace 2.5 km of direct-buried XLPE cables with Tree Retardant-XLPE cables installed in conduit in the Central South (Mississauga) area within Montevideo & Battleford (Area 46). This area has 418 residential customers that were impacted 19 times for approximately 50 minutes from 2016 to 2021 due to cable failure. In 2022, customers in this area experienced 6 cable failures. In the 2022 ACA, these cables were determined to be beyond the end of useful life of 40 years and in very poor condition. Completion of this project is expected to avoid 3 failures per year as of 2025, with each outage impacting 1,254 customers for 50 minutes for a total of 1,052 customer hours of interruption.

Project 151407: Cable & Transformer Replacement – Glen Erin & Burnhamthorpe Area in Mississauga

The customers in this area near Glen Erin and Burnhamthorpe are comprised of 13 commercial and 62 residential customers. These customers were impacted by cable failures two times during the 2016 to 2021 period. In 2022, customers in this area experienced 5 cable failures. The average duration of each outage was 3 hours and 22 minutes.

The main feeder in this area supplying the 13 commercial customers experienced a third cable failure in 2019. If not remediated within the next 2 years, these customers will experience more frequent outages due to the already damaged and weakened main feeder cables.

Figure 26– Cable Failures and Condition Maps - Glen Erin & Burnhamthorpe Area



The distribution cables and transformers supplying the residential area are located in rear lots which impacts restoration time in cases of cable failure or transformer failure. Two of the cables in the residential area have failed at least once in the past. With each cable failure, the cumulative impact of the damage on the cable substantially increases the probability of the next failure. This project will move the distribution cables and transformers to the front location which makes future cable remediation and transformer replacement easier to implement. The replacement of cables in this project will also increase the reliability to Pediatric Associates, the South Common Community Centre and the South Common Centre Shopping Mall which contains a Walmart, Shoppers Drug Mart, a food court, and several other retail stores.

In the 2022 ACA, these cables were determined to be beyond typical useful life and in very poor condition. Alectra Utilities will replace 6.5 km of cable in 2024 with an investment of $2.4MM.

Completion of this project is expected to avoid 3 failures per year as of 2025, increasing to 5 outages per year as of 2029, impacting these 75 customers for a total 1,769 customer hours of interruption per year.

Project 151903: Cable Replacement – South Millway Area in Mississauga (Area 25)

This project will replace 1.5 km cable in the South Millway area in Mississauga with an investment of $1.1MM in 2024.

Figure 27 – Cable Failures and Condition Maps - South Millway Area

This investment is required to replace 1.5 km of direct-buried XLPE cables with Tree-Retardant XLPE cables installed in conduit in the Central South (Mississauga) near South Millway (Area 25). This neighbourhood in Mississauga has experienced a total of 12 cable failures since 2016 (4 of which occurred in 2022), with multiple segments having now experienced multiple fault events. The cable failures impacted an average of 475 customers for 176 minutes per each failure event, more than once a year. The impact this project has on the customers in the area, also extends to a church and a strip mall in this area, thereby, impacting the larger community. In the 2022 ACA, these cables were determined to be beyond end of useful life of 40 years and in very poor

condition. Completion of this project is expected to avoid 2 failures per year as of 2025, increasing to 4 avoided outages per year by 2029, impacting 1,900 customers for a total of 5,578 customer hours of interruption.

Cable Injection Projects in the Enersource RZ

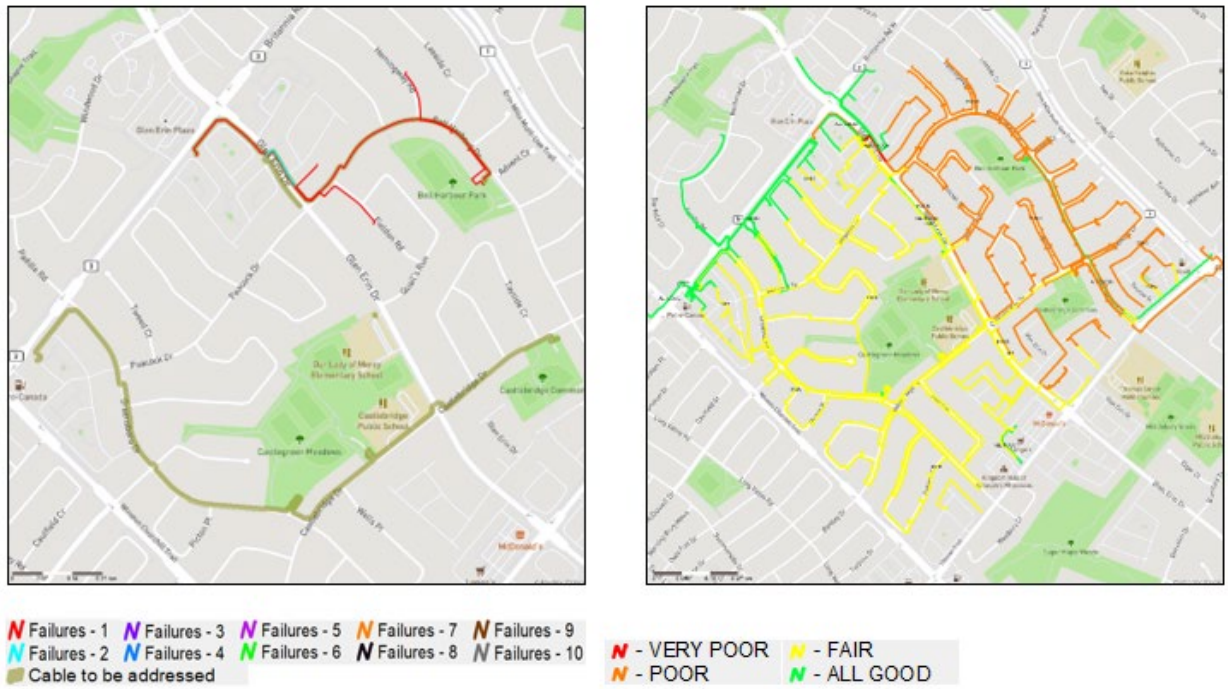
Table 24 –2024 Incremental Cable Injection Projects ERZ

Project #	Project Name	2024
151431	Cable Injection – Glen Erin Dr & Bell Harbour Dr in Mississauga (Area 39)	$1.3
151435	Cable Injection – Derry Road & Ninth Line (Area 56)	$1.5
	Total Proposed ICM Investment	**$2.8**

Project 151431: Cable Injection - Glen Erin Drive & Bell Harbour Drive in Mississauga (Area 39)

This project will inject cables in the Glen Erin and Bell Harbour Drive area (Area 39), with an investment of $1.3MM in 2024.

Figure 28 – Cable Failures and Condition Maps - Glen Erin Drive & Bell Harbour Drive



The feeder cable system in this area connects a series of pad-mounted switchgears that supply customers including the Erin Mills Shopping Mall and over 20 other commercial customers.

Alectra Utilities has experienced cable failures in this area and must perform cable injections within the next two years, for this to be a viable option. As there is a limited time opportunity when cable injection can be executed, deferring this investment would result in cable replacement as the only available option for Alectra Utilities.

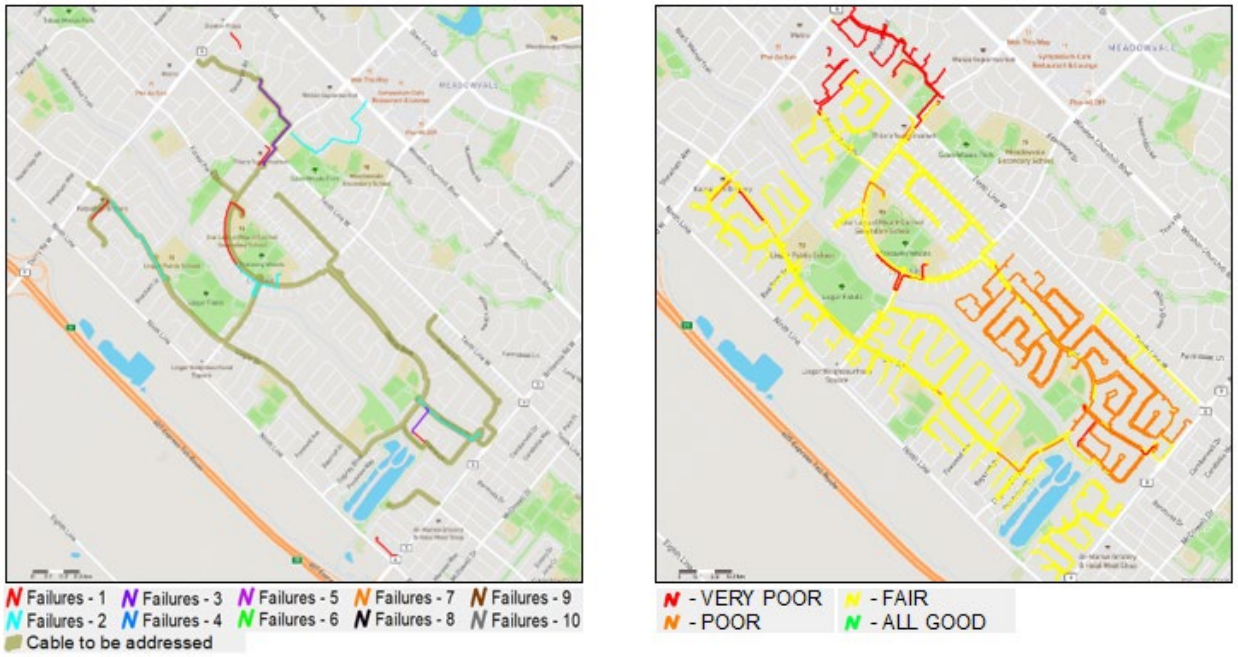
This area has experienced 1 failure from 2019 to 2021 impacting 1,907 customers for 162 minutes. In 2022 ACA, these cables were determined to be in fair condition and candidates for cable injection. This investment will inject 9,057 m of direct-buried XLPE cables. Completion of this project is expected to avoid 1 failure per year as of 2024 impacting 1,907 customers for 162 minutes, increasing to 3 failures per year in 2028.

Project 151435: Cable Injection – Derry Road & Ninth Line in Mississauga (Area 56)

The neighbourhoods around the Derry-Ninth Line-10th Line-Britannia area have experienced 7 outages over the last 6 years. The reliability in this area has worsened, and customers have

experienced 5 outages in the last 3 years. Each feeder cable failure in this area impacted 1,520 customers including 8 public schools for 68 minutes. This investment will inject 20 km of direct-buried XLPE cables. Alectra Utilities plans to inject 10 km of cable in 2024, for an investment of $1.5MM.

Figure 29 – Cable Failures and Condition Maps - Derry Road & Ninth Line



Completion of this project is expected to avoid 1 failure per year as of 2024, increasing to 6 avoided failures per year as of 2029, which in total would impact 9,120 customers for a total of 10,311 hours of customer interruption.

Cable Replacement Projects in the PowerStream RZ

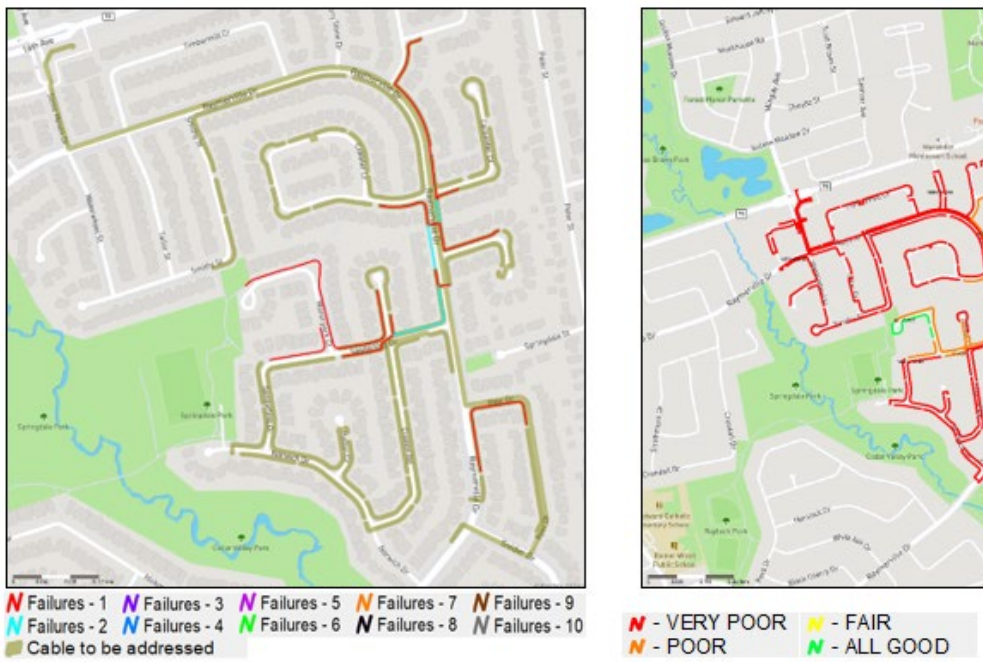
Table 25 – 2024 Incremental Cable Replacement Projects PRZ

Project #	Project Name	2024
151329	Cable Replacement – Raymerville Drive Area in Markham (M21)	$1.6
151913	Cable Replacement – Cochrane Drive & Scolberg in Markham (M44)	$2.1
151935	Cable Replacement - Larkin Ave Area of Markham (M15)	$1.9
152373	Cable Replacement - St. Joan of Arc Area of Vaughan (V26)	$1.9
152375	Cable Replacement – Hammond Drive Area in Aurora (A09)	$1.4
	Total Proposed ICM Investment	**$8.8**

Project 151329: Cable Replacement – Raymerville Drive Area in Markham (M21)

This project will replace 5.1 km cable in the Raymerville Drive area in Markham over the 2023 to 2024 period. The project is divided into two phases for coordination of work and to minimize disruption to the neighbourhood. Based on the scope of the project and configuration of the distribution system in this area, executing the project in two stages will result in the least amount of disruption to customers. The OEB approved the project for the 2023 spend in the 2023 ICM application. The investment for the 2024 scope of work is $1.6MM.

Figure 30 – Cable Failures and Condition Maps - Raymerville Drive Area

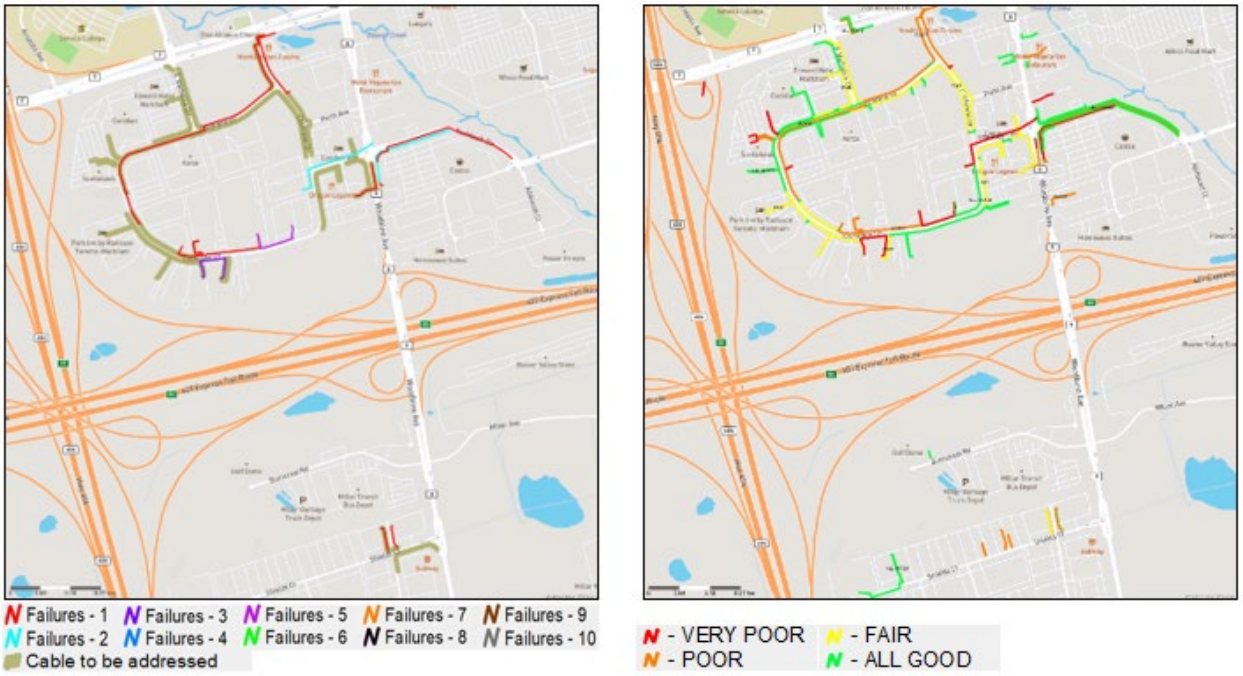


Raymerville is a main street in the Markville East area of Markham housing hundreds of residential customers. Since 2010, customers in this and nearby areas have experienced 17 outages. In the last 5 years, the cables in this area have seen 5 failures, with some segments having now experienced multiple failures. There continues to be an increasing number of cable faults, causing a clustering of failures in this area, leaving the same customers without power during each cable failure. Due to the deterioration of the cable, Alectra Utilities has determined that customers will experience more frequent outages in the future, starting with 2 outages per year in 2024, up to 5 outages per year in 2027. Cable in the area is on average 39 years old and considered in very poor condition.

Project 151913: Cable Replacement – Cochrane Drive & Scolberg in Markham

This multi-year project will replace 6.6 km direct-buried XLPE cable in the Cochrane Drive & Scolberg area in Markham over the 2023 to 2024 period.

Figure 31 – Cable Failures and Condition Maps - Cochrane Drive & Scolberg

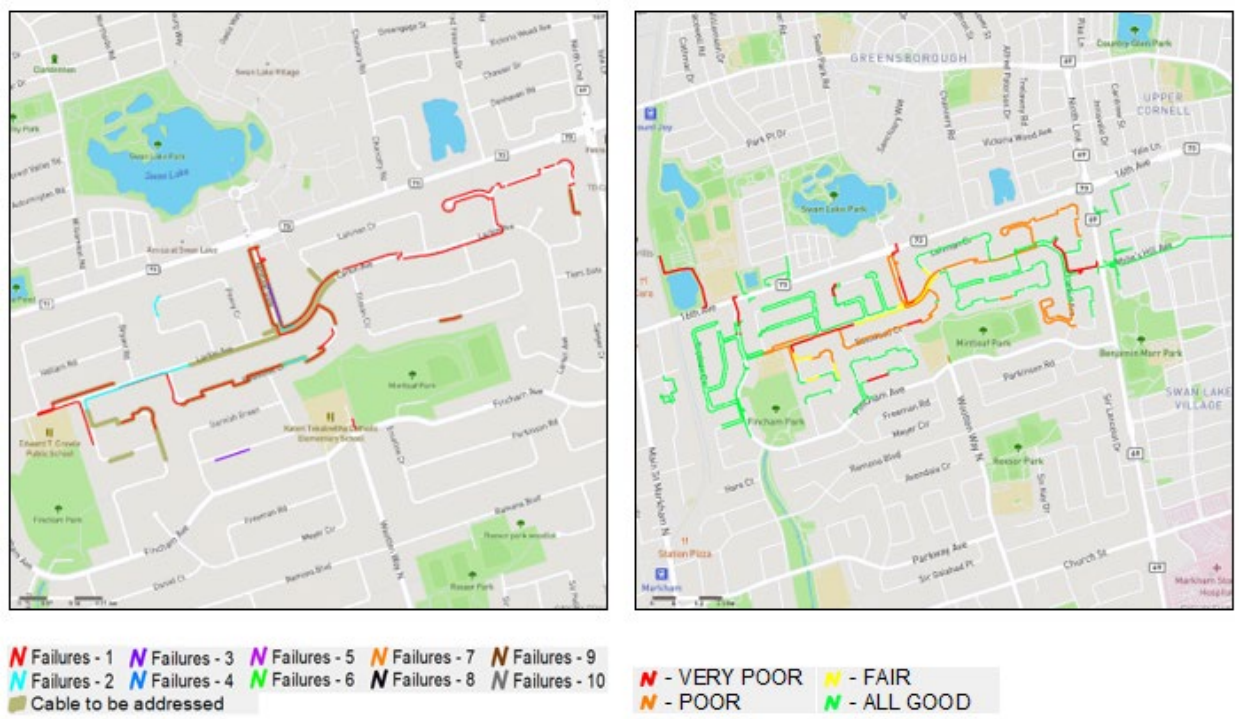


This investment will replace 6.6 km (3.3 km in each of 2023 and 2024) of direct-buried XLPE cables with Tree-Retardant XLPE cables installed in conduit in the East (Markham) M44 grid – Cochrane Drive (North) - Scolberg (South) area. The OEB approved the project for the 2023 spend in the 2023 ICM application. The investment for the 2024 scope of work is $2.1MM. In 2019, this commercial loop located in Markham just north of Highway 407 off Woodbine, required an emergency replacement on the southern portion and 4 failures occurred in the same year within short succession. This project was completed and for almost a year there were no cable issues. Unfortunately, in 2020 the north half of the loop suffered 3 cable failures. Based on the engineering analysis, this area will continue to experience additional failures, disrupting the businesses in this area. Cables in this area are on average 37 years old and are in fair or very poor condition. Customers in this project scope area in 2016-2018 experienced 1 outage. Between 2019-2021 this increased to 7 outages. The condition of the cables at this location are at end of life. In 2022, customers in this area experienced 2 additional failures. Customers will experience more frequent outages, starting with 1 failure per year in 2024, and increasing to 3 failures per year by 2029.

Project 151935: Cable Replacement - Larkin Avenue Area of Markham (M15)

An investment of $1.9MM in 2024 is required to replace 3.2 km of direct-buried XLPE cables with Tree-Retardant XLPE cables installed in conduit in the Larkin Avenue Area of Markham.

Figure 32 – Cable Failures and Condition Maps - Larkin Avenue Area



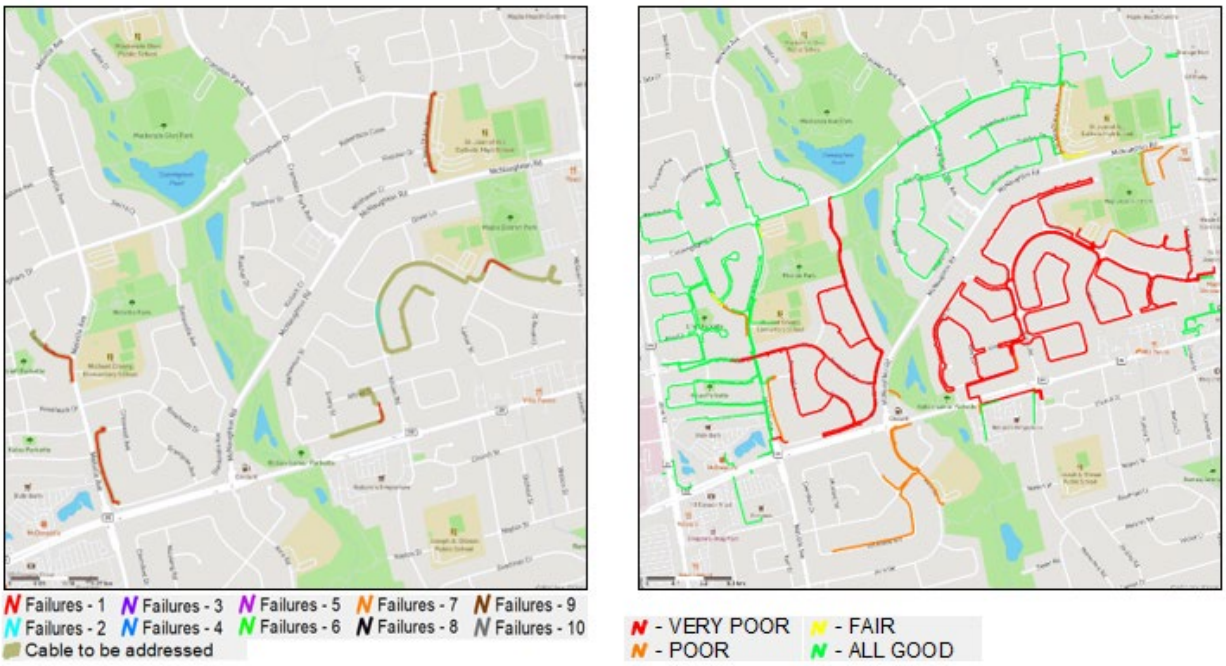
The Larkin Avenue and Fincham Avenue form a ring in a subdivision between 9th Line and Markham Road, just south of 16th Avenue. Cables in the area are an average age of 40 years old and considered to be in poor and very poor condition.

Since 2016, the project scope area has had 7 outages. More specifically customers in the project area experienced 3 outages between 2016 and 2018, and 4 outages between 2019 and 2021. In 2022, customers in this area experienced 2 cable failures. Since the cables at this location are nearing end of life, it is estimated that failures will escalate starting with 3 failures per year in 2025, up to 5 failures per year by 2027.It is expected that completion of this project will avoid 5 failures per year as of 2027 and 2,353 customer hours of interruption.

Project 152373: Cable Replacement: St. Joan of Arc Area of Vaughan (V26)

An investment of $1.9MM in 2024 is necessary to replace 3 km of direct-buried XLPE cables with Tree-Retardant XLPE cables installed in conduit in the St. Joan of Arc Area of Vaughan.

Figure 33 – Cable Failures and Condition Maps - St. Joan of Arc Area

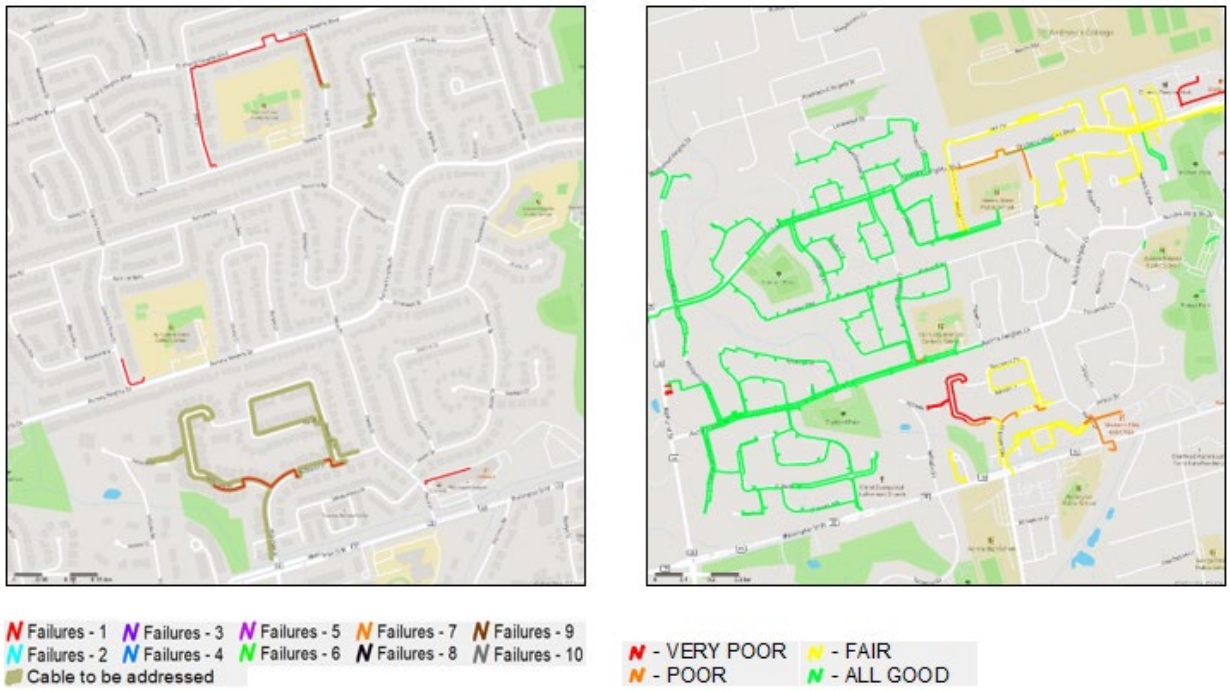


West of Keele and north of Major Mackenzie Drive West, the subdivision of Maple (part of Vaughan) and some of the surrounding areas have experienced 8 outages since 2016. The average age of the cable in this area is 38 years. Since the cables at this location are nearing end of life, it is estimated that failures will escalate starting with 1 failure per year in 2025, up to 3 failures per year by 2027. Completion of this project is expected to avoid 3 failures per year as of 2027.

Project 152375: Cable Replacement – Hammond Drive Area in Aurora (A09)

This investment of $1.4MM in 2024 is required to replace 2.2 km of direct-buried XLPE cables with Tree-Retardant XLPE cables installed in conduit in the Hammond Drive Area in Aurora.

Figure 34 – Cable Failures and Condition Maps - Hammond Drive Area



The average age of cables in this area is 32 years. In the 2022 ACA, these cables were identified to be in poor condition. Since 2016, this community in Aurora, off Wellington Street West, and close to the York Region District School Board and Fleury Park area suffered 4 outages. The first occurred in 2016, followed by an outage in 2018, 2019, and 2020. Each outage occurred on a different cable within the same localized area. Since the cables at this location are at end of life, it is estimated that failures will escalate starting with 1 failure per year in 2027, and up to 2 failures per year by 2030.

Cable Injection Projects in the PowerStream RZ

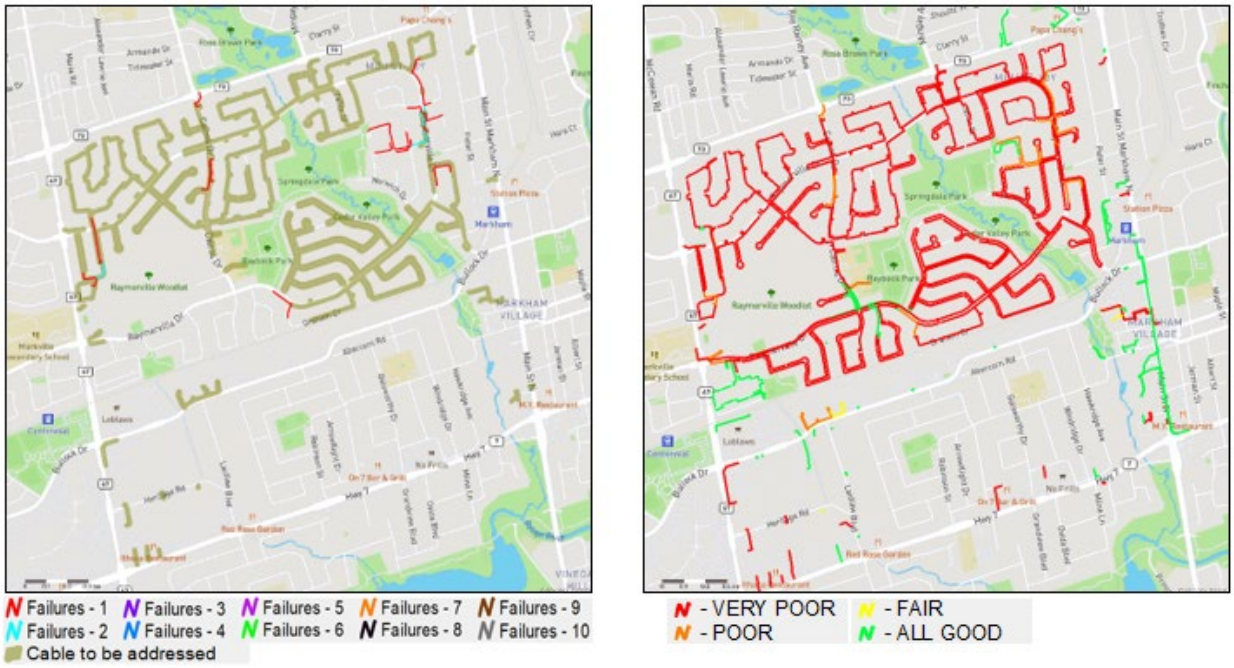
Table 26 –2024 Incremental Cable Injection Projects PRZ

Project #	Project Name	2024
151361	Cable Injection – Cairns Drive of Markham (M21)	$1.7
151367	Cable Injection – McNaughton Road Area of Vaughan (V26)	$1.7
151456	Cable Injection – Sovereign Court Area in Vaughan (V50)	$1.3
151459	Cable Injection – Creditstone Road Area in Vaughan (V24)	$2.2
151517	Cable Injection - 8th Line & Highway 11 Area in Bradford (BR5)	$1.0
152387	Cable Injection – Rainbridge Ave (V51)	$0.6
	Total Proposed ICM Investment	**$8.5**

Project 151361: Cable Injection – Cairns Drive of Markham (M21)

This investment will inject 37.7 km of direct-buried XLPE cables; 18.3 km in 2023 and 19.4 km in 2024, in the Cairns Drive area of Markham (Grid M21). The OEB approved the project for the 2023 spend in the 2023 ICM application. The investment in 2024 is $1.7MM.

Figure 35 – Cable Failures and Condition Maps - Cairns Drive

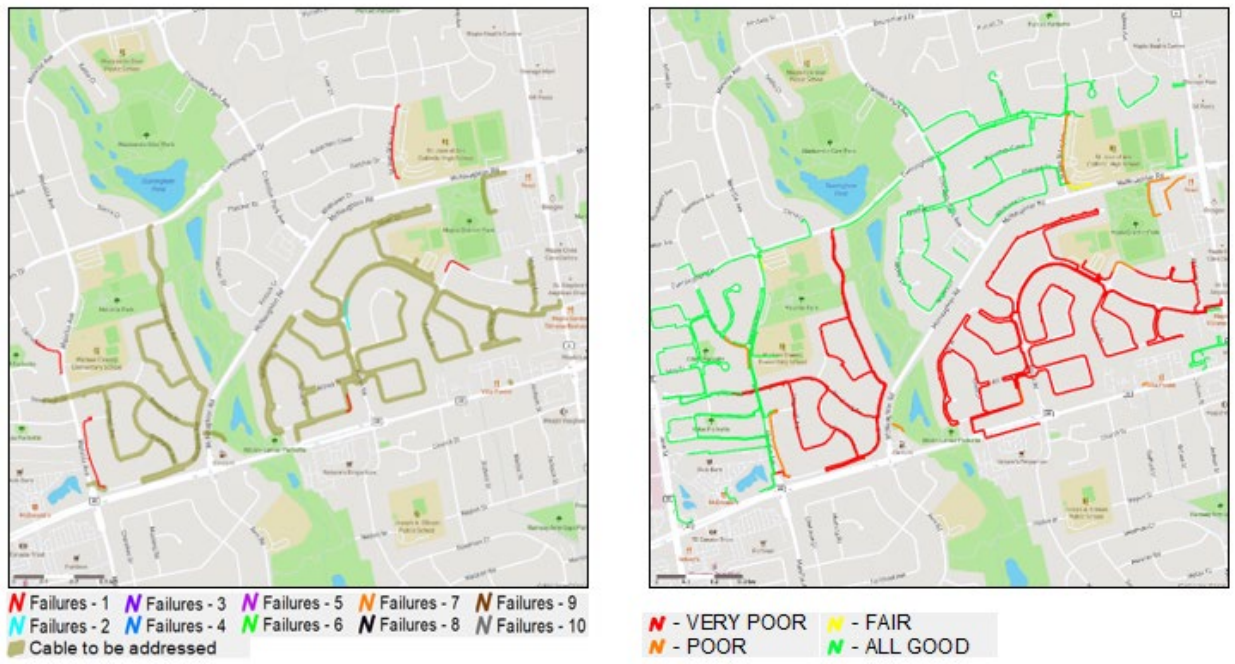


This grid has approximately 4,000 Alectra Utilities customers, who have been experiencing declining reliability recently due to cable failures. Since 2010, the project scope area has had 7 outages. Customers in the project scope area experienced 2 outages between 2016 and 2018 and 3 outages between 2019 and 2021. There continues to be an increasing number of cable faults, causing a clustering of failures in this area. Due to the age of the cable, Alectra Utilities predicts that customers in this area will experience more frequent outages in the future, starting with 2 outages per year in 2024. Five outages per year are predicted, commencing in 2027 with a possible yearly 1,717 hours of customer interruption. During the 2022 ACA process, these cables were determined to be beyond typical useful life of 30 years and in poor or very poor condition.

Project 151367: Cable Injection – McNaughton Road Area of Vaughan (V26)

An investment of $1.7MM in 2024 is required to inject 17.1 km of direct-buried XLPE cables in the McNaughton Road Area of Vaughan.

Figure 36 – Cable Failures and Condition Maps - McNaughton Road Area

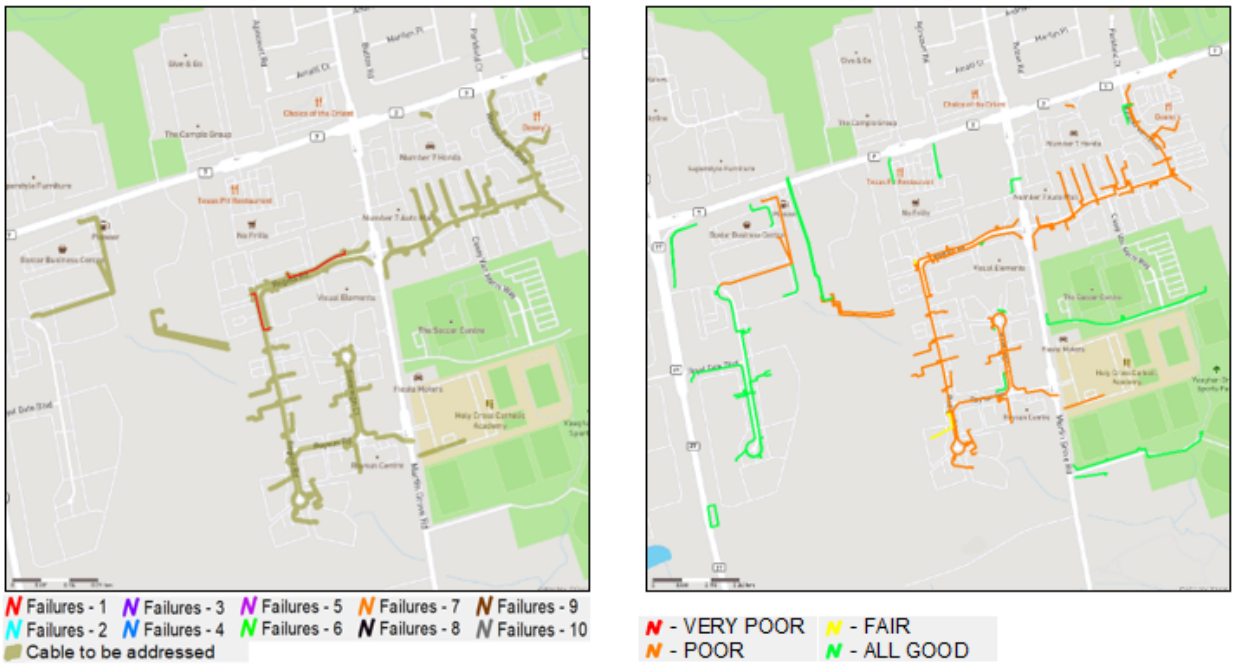


Subdivisions in Vaughan near McNaughton Road have been affected by cable failures in recent years. Alectra Utilities plans to address the issue through both cable replacement and cable injection projects. This project area has experienced 8 cable & cable accessories failures since 2016 with 298 customers affected on average. During the 2022 ACA process, these cables were determined to be in fair condition, hence candidates for injection. It is estimated that failures will escalate starting with 1 failure per year in 2025, up to 2 failures per year by 2027.

Project 151456: Cable Injection Project – Sovereign Court Area in Vaughan (V50)

An investment of $1.3MM is urgently required in order to inject 14,950 m of direct-buried XLPE cables in 2024 in the Sovereign Court Area of Vaughan.

Figure 37 – Cable Failures and Condition Maps - Sovereign Court Area

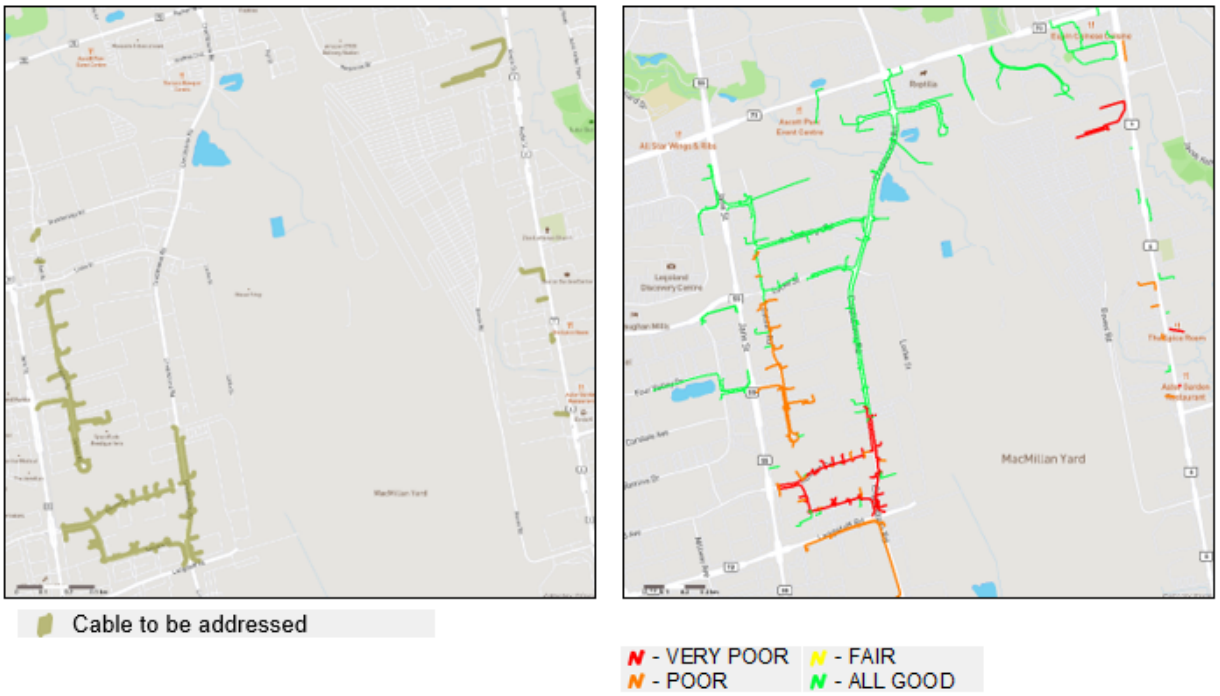


The area is a mix of residential, commercial customers and a school. This investment will inject 14,950 m of direct-buried XLPE cables in 2024 in the Sovereign Court Area of Vaughan. Customers in the project scope area experienced 2 outages between 2018 and 2021. Cable average age is 34 years old. Due to the age of the cable, customers will experience more frequent outages, starting with 1 outage per year in 2025, up to 2 outages per year by 2027. It is expected that completion of this project will avoid 3 failures per year as of 2029 and a total of 3,892 hours of customer interruption per year. During the 2022 ACA process, these cables were determined to be beyond typical useful life of 30 years and in poor condition.

Project 151459: Cable Injection – Creditstone Road Area of Vaughan (V24)

An investment of $2.2MM in 2024 is required to inject 20.2 km of direct-buried XLPE cables in the Creditstone Road Area of Vaughan.

Figure 38 – Cable Failures and Condition Maps - Creditstone Road Area

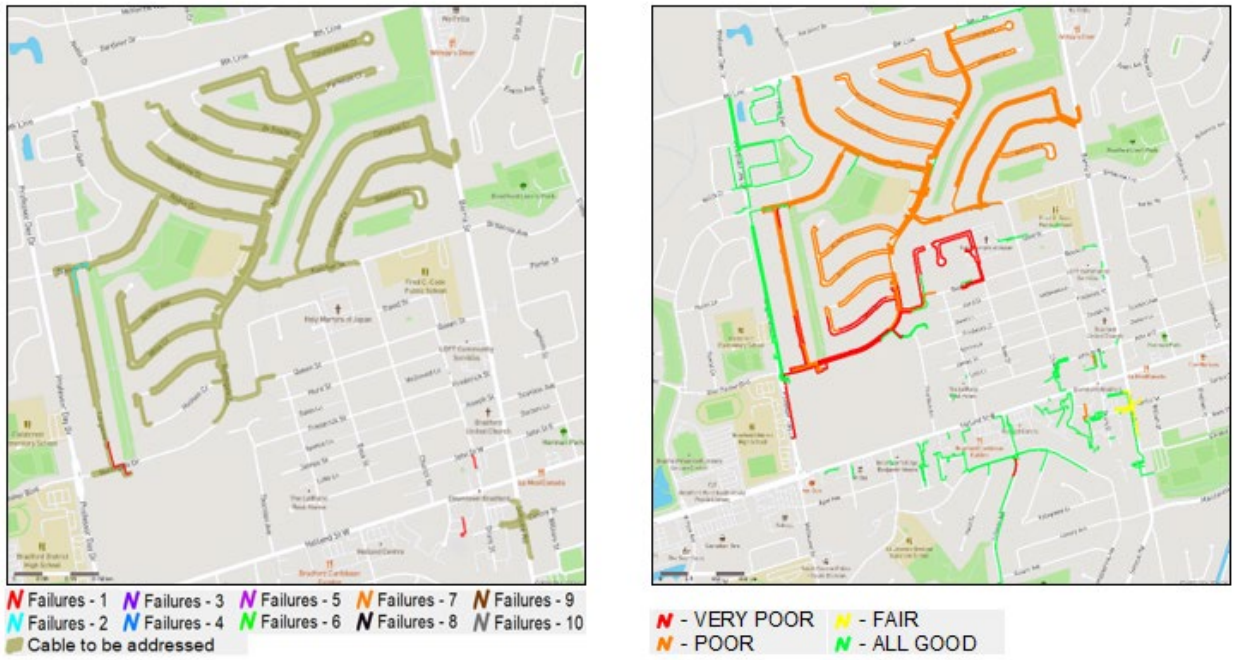


During the 2022 ACA process, the cables in this area were determined to be in fair and poor condition. Cable average age is 35 years old and just feasible for injection. It is estimated that failures will happen starting with 1 failure per year in 2025, escalating up to 2 failures per year by 2027. Alectra Utilities expects that completion of this project will avoid 3 failures per year as of 2029 and which would result in a potential yearly 3,892 customer hours of interruption.

Project 151517: Cable Injection: 8th Line & Highway 11 Area in Bradford

An investment of $1.0MM in 2024 is required to inject 14 km of direct-buried XLPE cables in the 8th Line & Highway 11 Area in Bradford.

Figure 39 – Cable Failures and Condition Maps - 8th Line & Highway 11 Area

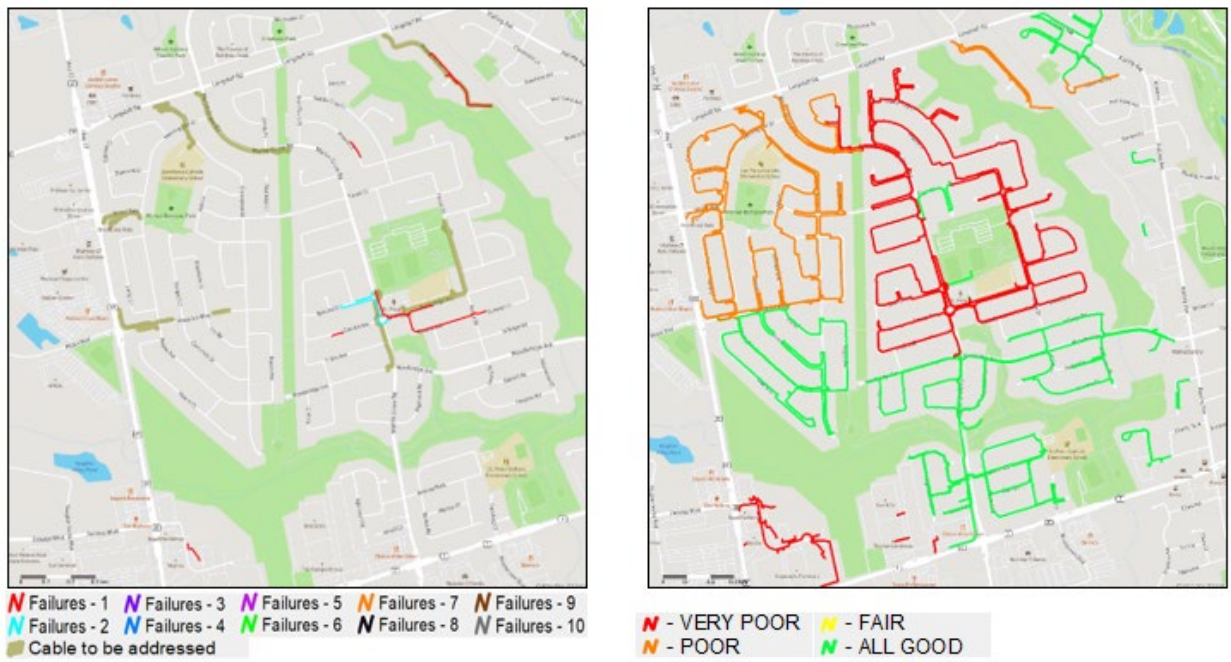


In the community of Bradford, cable injection is being planned to mitigate further cable failures that have been experienced by the more than 1,400 customers in this particular neighbourhood. Since 2018 the project scope area has had 2 outages. This area is expected to experience 1 cable/splice failure per year by 2026 and up to 2 failures per year by 2028. During the 2022 ACA process, these cables were determined to be in fair condition, hence candidates for cable injection.

Project 152387: Cable Injection Project – Bainbridge Avenue

This investment of $0.6MM in 2024 is required inject direct-buried XLPE cables in the Bainbridge Avenue area of Vaughan.

Figure 40 – Cable Failures and Condition Maps – Bainbridge Avenue



This neighbourhood in Vaughan has been impacted by numerous cable failures in recent years. This area includes over 2,600 customers, both residential and commercial. Since 2016, the project area had 8 outages. Customers in the project area experienced 4 outages between 2016 and 2018 and an additional 4 outages between 2019 and 2021. The average age of the cable is 36 years old. Due to the age of the cable, customers will experience more frequent outages in the future, starting with 1 outage per year in 2025, up to 3 outages per year in 2029. During the 2022 ACA process, these cables were determined to be beyond typical useful life of and in fair condition. It is expected that completion of this project will avoid 3 failures per year as of 2029 and 5,039 hours of customer interruption per year.

Attachment 1
ICM Checklist

2024 ICM Checklist

Alectra Utilities Corporation

EB-2023-0004

Date: July 21, 2023

Filing Requirement Section/Page Reference	ICM Requirements	Evidence Reference, Notes
3.3.2.1 ICM Filing Requirements		
	The following should be provided when filing for incremental capital:	
5	Capital Module applicable to ACM and ICM, for an incremental or pre-approved Advanced Capital Module (ICM/ACM) cost recovery and associated rate rider(s)	Attachments 3, 5
28	An analysis demonstrating that the materiality threshold test has been met and that the amounts will have a significant influence on the operation of the distributor	Ex. 2/T1/S1 pp.9-11; 18-20
28	Justification that the amounts to be incurred will be prudent - amounts represents the most cost-effective option (but not necessarily the least initial cost) for ratepayers	Ex. 3/T1/S4
28	Justification that amounts being sought are directly related to the cause, which must be clearly outside of the base upon which current rates were derived	Ex. 2/T1/S1 pp.12-14; 21-22
28	Evidence that the incremental revenue requested will not be recovered through other means (e.g., it is not, in full or in part, included in base rates or being funded by the expansion of service to include new customers and other load growth)	Ex. 2/T1/S1 pp.12-14; 21-22
28	Details by project for the proposed capital spending plan for the expected in-service year	Attachments 4, 6
28	Description of the proposed capital projects and expected in-service dates	Ex. 3/T1/S4
28	Calculation of the revenue requirement (i.e. the cost of capital, depreciation, and PILs) associated with each proposed incremental capital project	Attachments 3, 5
28	Description of the actions the distributor would take in the event that the OEB does not approve the application	Ex. 1/T1/S4 p.8
28	Calculation of a rate rider to recover the incremental revenue from each applicable customer class. The distributor must identify and provide a rationale for its proposed rider design, whether variable, fixed or a combination of fixed and variable riders. As discussed at section 3.2.3, any new rate rider for the residential class must be applied on a fixed basis	Attachments 3, 5
3.3.2.3 ICM Filing Requirements		
29	Calulate the maximum allowable capital amount.	Ex. 2/T1/S1 p.11; 20

Attachment 2
2022 ROE Calculation Alectra Utilities

ROE Summary

Instructions

A distributor shall report, in the form and manner determined by the OEB, the Regulated Return on Equity (ROE) earned in the reporting year.

The reported ROE is to be calculated on the same basis as was used in the distributor's last Cost of Service (CoS).

The sign of the input cells are to be aligned with the sign of the accounts reported in RRR 2.1.7. Generally, revenue/gain items are to be entered as negative numbers and expense/loss items are to be entered as positive numbers.
Please read the RRR Filing Guide for the detailed guidance on the inputs of the form and appendices.
Click here for tips and examples (from RRR Filing Guide)

Information from the distributor's last CoS Decision and Order and the successfully submitted RRR 2.1.7 trial balance have been pre-populated in this form.
Please review each input for accuracy and contact Industry Relations Enquiry if you have any questions

CoS Decision and Order Info			**Data Source**
The CoS Decision and Order EB number for the ROE	- xx	EB-2017-0024	CoS Decision and Order (last CoS establishing the current reporting year's base rates)
Accounting standard used in CoS Decision and Order	- yy	Modified International Financial Reporting Standards (MIFRS)	CoS Decision and Order

Regulated Net Income			**Data Source**
Regulated net income (loss), as per RRR 2.1.7	- a	113,112,806.93	RRR 2.1.7 - USoA 3046 * (-1)
Adjustment items:			
Non-rate regulated items and other adjustments (Appendix 1)	- b	-958,093.29	Appendix 1 cell (aq)
Unrealized (gains)/losses on interest rate swaps (Not applicable if recorded in Other Comprehensive Income)	- c	0.00	Please provide USoAs
Actuarial (gains)/losses on OPEB and/or Pensions not approved by the OEB	- d	0.00	
Non-recoverable donations (Appendix 2)	- e	0.00	Appendix 2 cell (be)
Net interest/carrying charges from DVAs (Appendix 3)	- f	-2,628,306.18	Appendix 3 cell (cc)
Interest adjustment for deemed debt (Appendix 4)	- g	-15,813,098.32	Appendix 4 cell (dg)
Adjusted regulated net income before tax adjustments	- h=a+b+c+d+e+f+g	93,713,309.14	
Add back:			
Future/deferred taxes expense	- i	1,483,169.25	RRR 2.1.7 - USoA 6115
Current income tax expense (Does not include future income tax)	- j	8,911,118.17	RRR 2.1.7 - USoA 6110
Deduct:			
Current income tax expense for regulated ROE purposes (Appendix 6)	- k	10,928,681.37	Appendix 6 cell (fq)
Adjusted regulated net income	- l=h+i+j-k	93,178,915.19	

Deemed Equity			**Data Source**
Rate base:	- m	2,899,921,820.32	RRR 2.1.7 - Sum of USoA 4705-4751 inclusive
Cost of power	- n1	282,997,050.42	RRR 2.1.7 - Sum of USoA 4505-4640, 4805-5695, 6105, 6205, 6210, and 6225, then subtract ROE Summary cell (d) and subtract ROE Summary cell (e)
Operating expenses before any applicable adjustments			Please provide USoAs
Other Adjustments:	- n2	0.00	
Adjusted operating expenses	- n=n1-n2	282,997,050.42	
Total Cost of Power and Operating Expenses	- o=m+n	3,182,918,870.74	
Working capital allowance % as approved in the last CoS Decision and Order	- % p	10.50	CoS Decision and Order
Total working capital allowance ($)	- q=o*p	334,206,481.43	
PP&E			
Opening balance - regulated PP&E (NBV) (Appendix 5)	- r	3,103,769,307.60	Appendix 5 cell (ec)
Adjusted closing balance - regulated PP&E (NBV) (Appendix 5)	- s	3,178,239,760.05	Appendix 5 cell (el)
Average regulated PP&E	- t=(r+s)/2	3,141,004,533.82	
Total rate base	- u=q+t	3,475,211,015.25	
Regulated deemed short-term debt % and $	- % v 4.00	- v1=v*u 139,008,440.61	Cell (v) from CoS Decision and Order
Regulated deemed long-term debt % and $	- % w 56.00	- w1=w*u 1,946,118,168.54	Cell (w) from CoS Decision and Order
Regulated deemed equity % and $	- % x 40.00	- x1=x*u 1,390,084,406.10	Cell (x) from CoS Decision and order

Regulated Rate of Return on Deemed Equity (ROE)			**Data Source**
Achieved ROE %	- % y=l/x1	6.70	
Deemed ROE % from the distributor's last CoS Decision and Order	- % z	8.95	CoS Decision and Order
Difference - maximum deadband 3%	- % z1=y-z	-2.25	
ROE status for the year (Over-earning/Under-earning/Within 300 basis points deadband)	- z2 Within		If the distributor is in an over-earning position as indicated in cell (z2), please complete Appendices 7 & 8. If the distributor is in an under-earning position as indicated in cell (z2), please complete Appendices 9 & 10.

Attachment 3
2024 ICM Model PRZ

Ontario Energy Board

Capital Module
Applicable to ACM and ICM

Note: Depending on the selections made below, certain worksheets in this workbook will be hidden.

Version 1.0

Utility Name	Alectra Utilities Corporation-PowerStream Rate Zone
Assigned EB Number	EB-2023-0004
Name of Contact and Title	Natalie Yeates, Director, Regulatory Affairs and Reporting
Phone Number	905-798-2872
Email Address	natalie.yeates@alectrautilities.com

Is this Capital Module being filed in a CoS or Price-Cap IR Application?	**Price-Cap IR**	**Rate Year**	**2024**
Indicate the Price-Cap IR Year (1, 2, 3, 4, etc) in which Alectra Utilities Corporation-PowerStream Rate Zone is applying:	**7**	**Next OEB Scheduled Rebasing Year**	**2027**

Alectra Utilities Corporation-PowerStream Rate Zone is applying for:	**ICM Approval**
Last Rebasing Year:	**2017**
The most recent complete year for which actual billing and load data exists	**2022**
Current IPI	**2.40%**
Strech Factor Assigned to Middle Cohort*	**III**
Stretch Factor Value	**0.30%**
Price Cap Index	**2.10%**

Based on the inputs above, the growth factor utilized in the Materiality Threshold Calculation will be determined by:

Revenues Based on 2022 Actual Distribution Demand

Revenues Based on 2017 Board-Approved Distribution Demand

Notes

Pale green cells represent input cells.

Pale blue cells represent drop-down lists. The applicant should select the appropriate item from the drop-down list.

White cells contain fixed values, automatically generated values or formulae.

While this model has been provided in Excel format and is required to be filed with the applications, the onus remains on the applicant to ensure the accuracy of the data and the results.

As per ACM/ICM policy, the middle cohort stretch factor is applied to all ACM/ICM applications.

OEB policies regarding rate-setting and rebasing following distributor consolidations could allow a distributor to not rebase rates for up to ten years. A distributor could also apply for and receive OEB approval to defer rebasing. If a distributor is under Price Cap IR for more than four years after rebasing and applies for an ICM, this spreadsheet will need to be adapted to accommodate those circumstances. The distributor should contact OEB staff to discuss the circumstances so that a customized model can be provided.

Ontario Energy Board

Capital Module
Applicable to ACM and ICM

Alectra Utilities Corporation-PowerStream Rate Zone

Select the appropriate rate classes as they appear on your most recent Board-Approved Tariff of Rates and Charges, excluding the MicroFit Class.

How many classes are on your most recent Board-Approved Tariff of Rates and Charges? **7**

Select Your Rate Classes from the **Blue Cells** below. Please ensure that a rate class is assigned to **each shaded cell.**

	Rate Class Classification
1	RESIDENTIAL
2	GENERAL SERVICE LESS THAN 50 kW
3	GENERAL SERVICE 50 TO 4,999 KW
4	LARGE USE
5	UNMETERED SCATTERED LOAD
6	SENTINEL LIGHTING
7	STREET LIGHTING

Ontario Energy Board

Capital Module
Applicable to ACM and ICM

Alectra Utilities Corporation-PowerStream Rate Zone

Input the billing determinants associated with Alectra Utilities Corporation-PowerStream Rate Zone's Revenues Based on 2022 Actual Distribution Demand.
Input the current approved distribution rates. Sheets 4 & 5 calculate the NUMERATOR portion of the growth factor calculation.

		2022 Actual Distribution Demand			Current Approved Distribution Rates		
Rate Class	**Units**	**Billed Customers or Connections**	**Billed kWh**	**Billed kW (if applicable)**	**Monthly Service Charge**	**Distribution Volumetric Rate kWh**	**Distribution Volumetric Rate kW**
RESIDENTIAL	$/kWh	346,125	2,933,738,041		30.85		
GENERAL SERVICE LESS THAN 50 kW	$/kWh	33,939	1,011,691,122		32.40	0.0207	
GENERAL SERVICE 50 TO 4,999 KW	$/kW	4,829	4,695,412,730	12,325,693	158.88		4.7375
LARGE USE	$/kW	2	121,322,389	191,317	6845.04		2.5268
UNMETERED SCATTERED LOAD	$/kWh	3,220	14,434,010		9.69	0.0219	
SENTINEL LIGHTING	$/kW	146	246,335	664	4.72		11.1227
STREET LIGHTING	$/kW	96,465	39,116,765	110,692	1.33		7.1250

Ontario Energy Board

Capital Module
Applicable to ACM and ICM

Alectra Utilities Corporation-PowerStream Rate Zone

Calculation of pro forma 2017 Revenues. No input required.

	2022 Actual Distribution Demand			Current Approved Distribution Rates										
Rate Class	Billed Customers or Connections	Billed kWh	Billed kW (if applicable)	Monthly Service Charge	Distribution Volumetric Rate kWh	Distribution Volumetric Rate kW	Service Charge Revenue	Distribution Volumetric Rate Revenue kWh	Distribution Volumetric Rate Revenue kW	Revenues from Rates	Service Charge % Revenue	Distribution Volumetric Rate % Revenue kWh	Distribution Volumetric Rate % Revenue kW	Total % Revenue
	A	B	C	D	E	F	G	H	I	J	K = G / J	L = H / J	M = I / J	N
RESIDENTIAL	346,125	2,933,738,041		30.85	0.0000	0.0000	128,135,475	0	0	128,135,475	100.0%	0.0%	0.0%	54.9%
GENERAL SERVICE LESS THAN 50 kW	33,939	1,011,691,122		32.40	0.0207	0.0000	13,195,483	20,942,006	0	34,137,489	38.7%	61.3%	0.0%	14.6%
GENERAL SERVICE 50 TO 4,999 KW	4,829	4,695,412,730	12,325,693	158.88	0.0000	4.7375	9,206,778	0	58,392,971	67,599,749	13.6%	0.0%	86.4%	28.9%
LARGE USE	2	121,322,389	191,317	6,845.04	0.0000	2.5268	164,281	0	483,420	647,701	25.4%	0.0%	74.6%	0.3%
UNMETERED SCATTERED LOAD	3,220	14,434,010		9.69	0.0219	0.0000	374,422	316,105	0	690,526	54.2%	45.8%	0.0%	0.3%
SENTINEL LIGHTING	146	246,335	664	4.72	0.0000	11.1227	8,269	0	7,385	15,655	52.8%	0.0%	47.2%	0.0%
STREET LIGHTING	96,465	39,116,765	110,692	1.33	0.0000	7.1250	1,539,581	0	788,681	2,328,262	66.1%	0.0%	33.9%	1.0%
Total	**484,726**	**8,815,961,392**	**12,628,366**				**152,624,290**	**21,258,111**	**59,672,456**	**233,554,857**				**100.0%**

Ontario Energy Board

Capital Module
Applicable to ACM and ICM

Alectra Utilities Corporation-PowerStream Rate Zone

Applicants Rate Base

Last COS Rebasing: 2017

Average Net Fixed Assets

Gross Fixed Assets - Re-based Opening	$	1,183,508,940	A			
Add: CWIP Re-based Opening	$	57,486,862	B			
Re-based Capital Additions	$	114,494,289	C			
Re-based Capital Disposals	-$	2,734,108	D			
Re-based Capital Retirements			E			
Deduct: CWIP Re-based Closing	-$	39,959,632	F			
Gross Fixed Assets - Re-based Closing	$	1,312,796,351	G			
Average Gross Fixed Assets				$	1,248,152,646	H = (A + G) / 2
Accumulated Depreciation - Re-based Opening	$	229,378,962	I			
Re-based Depreciation Expense	$	52,272,173	J			
Re-based Disposals	-$	717,703	K			
Re-based Retirements	$	-	L			
Accumulated Depreciation - Re-based Closing	$	280,933,432	M			
Average Accumulated Depreciation				$	255,156,197	N = (I + M) / 2
Average Net Fixed Assets				**$**	**992,996,449**	O = H - N

Working Capital Allowance

Working Capital Allowance Base	$	1,197,449,515	P			
Working Capital Allowance Rate		7.5%	Q			
Working Capital Allowance				**$**	**89,808,714**	R = P * Q
Rate Base				**$**	**1,082,805,162**	S = O + R

Return on Rate Base

Deemed ShortTerm Debt %		4.00%	T	$	43,312,206	W = S * T
Deemed Long Term Debt %		56.00%	U	$	606,370,891	X = S * U
Deemed Equity %		40.00%	V	$	433,122,065	Y = S * V
Short Term Interest		1.76%	Z	$	762,295	AC = W * Z
Long Term Interest		3.88%	AA	$	23,542,372	AD = X * AA
Return on Equity		8.78%	AB	$	38,028,117	AE = Y * AB
Return on Rate Base				**$**	**62,332,784**	AF = AC + AD + AE

Distribution Expenses

OM&A Expenses	$	96,167,243	AG			
Amortization	$	50,974,104	AH			
Ontario Capital Tax			AI			
Grossed Up Taxes/PILs	$	2,745,639	AJ			
Low Voltage			AK			
Transformer Allowance			AL			
			AM			
			AN			
			AO			
				$	**149,886,987**	AP = SUM (AG : AO)

Revenue Offsets

Specific Service Charges	-$	3,474,784	AQ			
Late Payment Charges	-$	2,076,532	AR			
Other Distribution Income	-$	2,025,296	AS			
Other Income and Deductions	-$	5,141,699	AT	**-$**	**12,718,312**	AU = SUM (AQ : AT)
Revenue Requirement from Distribution Rates				**$**	**199,501,459**	AV = AF + AP + AU

Rate Classes Revenue

Rate Classes Revenue - Total (Sheet 4)				$	233,554,857	AW

Ontario Energy Board

Capital Module
Applicable to ACM and ICM

Alectra Utilities Corporation-PowerStream Rate Zone

Input the billing determinants associated with Alectra Utilities Corporation-PowerStream Rate Zone's Revenues Based on 2017 Board-Approved Distribution Demand. This sheet calculates the DENOMINATOR portion of the growth factor calculation.
Pro forma Revenue Calculation.

	2017 Board-Approved Distribution Demand			Current Approved Distribution Rates										
Rate Class	Billed Customers or Connections	Billed kWh	Billed kW	Monthly Service Charge	Distribution Volumetric Rate kWh	Distribution Volumetric Rate kW	Service Charge Revenue	Distribution Volumetric Rate Revenue kWh	Distribution Volumetric Rate Revenue kW	Total Revenue By Rate Class	Service Charge % Revenue	Distribution Volumetric Rate % Revenue kWh	Distribution Volumetric Rate % Revenue kW	Total % Revenue
	A	B	C	D	E	F	G	H	I	J	K = G / J_{total}	L = H / J_{total}	M = I / J_{total}	N
RESIDENTIAL	331,465	2,689,802,037		30.85	0.0000	0.0000	122,708,343	0	0	122,708,343	53.9%	0.0%	0.0%	53.9%
GENERAL SERVICE LESS THAN 50 kW	32,776	1,031,991,524		32.40	0.0207	0.0000	12,743,309	21,362,225	0	34,105,533	5.6%	9.4%	0.0%	15.0%
GENERAL SERVICE 50 TO 4,999 KW	5,081	4,566,530,904	12,192,632	158.88	0.0000	4.7375	9,687,231	0	57,762,592	67,449,823	4.3%	0.0%	25.4%	29.6%
LARGE USE	2	75,964,677	149,679	6,845.04	0.0000	2.5268	164,281	0	378,209	542,490	0.1%	0.0%	0.2%	0.2%
UNMETERED SCATTERED LOAD	3,044	14,542,413		9.69	0.0219	0.0000	353,956	318,479	0	672,435	0.2%	0.1%	0.0%	0.3%
SENTINEL LIGHTING	207	377,900	975	4.72	0.0000	11.1227	11,724	0	10,842	22,567	0.0%	0.0%	0.0%	0.0%
STREET LIGHTING	89,730	45,603,291	127,503	1.33	0.0000	7.1250	1,432,091	0	908,458	2,340,549	0.6%	0.0%	0.4%	1.0%
Total	**462,305**	**8,424,812,745**	**12,470,788**				**147,100,936**	**21,680,703**	**59,060,101**	**227,841,740**				**100.0%**

Ontario Energy Board

Capital Module
Applicable to ACM and ICM

Alectra Utilities Corporation-PowerStream Rate Zone

Current Revenue from Rates

This sheet is used to determine the applicant's most current allocation of revenues (after the most recent revenue to cost ratio adjustment, if applicable) to appropriately allocate the incremental revenue requirement to the classes.

	Current OEB-Approved Base Rates			2022 Actual Distribution Demand										
Rate Class	Monthly Service Charge	Distribution Volumetric Rate kWh	Distribution Volumetric Rate kW	Re-based Billed Customers or Connections	Re-based Billed kWh	Re-based Billed kW	Current Base Service Charge Revenue	Current Base Distribution Volumetric Rate kWh Revenue	Current Base Distribution Volumetric Rate kW Revenue	Total Current Base Revenue	Service Charge % Total Revenue	Distribution Volumetric Rate % Total Revenue	Distribution Volumetric Rate % Total Revenue	Total % Revenue
	A	B	C	D	E	F	G	H	I	J	L = G / J_{total}	M = H / J_{total}	N = I / J_{total}	O
RESIDENTIAL	30.85	0	0	346,125	2,933,738,041	0	128,135,475	0	0	128,135,475	54.86%	0.00%	0.00%	54.9%
GENERAL SERVICE LESS THAN 50 kW	32.40	0.0207	0	33,939	1,011,691,122	0	13,195,483	20,942,006	0	34,137,489	5.65%	8.97%	0.00%	14.6%
GENERAL SERVICE 50 TO 4,999 KW	158.88	0	4.7375	4,829	4,695,412,730	12,325,693	9,206,778	0	58,392,971	67,599,749	3.94%	0.00%	25.00%	28.9%
LARGE USE	6845.04	0	2.5268	2	121,322,389	191,317	164,281	0	483,420	647,701	0.07%	0.00%	0.21%	0.3%
UNMETERED SCATTERED LOAD	9.69	0.0219	0	3,220	14,434,010	0	374,422	316,105	0	690,526	0.16%	0.14%	0.00%	0.3%
SENTINEL LIGHTING	4.72	0	11.1227	146	246,335	664	8,269	0	7,385	15,655	0.00%	0.00%	0.00%	0.0%
STREET LIGHTING	1.33	0	7.125	96,465	39,116,765	110,692	1,539,581	0	788,681	2,328,262	0.66%	0.00%	0.34%	1.0%
Total							**152,624,290**	**21,258,111**	**59,672,456**	**233,554,857**				**100.0%**

Ontario Energy Board

Capital Module
Applicable to ACM and ICM

Alectra Utilities Corporation-PowerStream Rate Zone

No Input Required.

Final Materiality Threshold Calculation

$$\textbf{\textit{Threshold Value}}\ (\%) = \mathbf{1} + \left[\left(\frac{\boldsymbol{RB}}{\boldsymbol{d}}\right) \times (\boldsymbol{g} + \boldsymbol{PCI} \times (\mathbf{1} + \boldsymbol{g}))\right] \times \left((\mathbf{1} + \boldsymbol{g}) \times (\mathbf{1} + \boldsymbol{PCI})\right)^{\boldsymbol{n}-\mathbf{1}} + \mathbf{10}\%$$

Cost of Service Rebasing Year		**2017**	
Price Cap IR Year in which Application is made		**7**	n
Price Cap Index		**2.10%**	PCI
Growth Factor Calculation			
Revenues Based on 2022 Actual Distribution Demand		**$233,554,857**	
Revenues Based on 2017 Board-Approved Distribution Demand		**$227,841,740**	
Growth Factor		**0.50%**	$g\ (Note\ 1)$
Dead Band		**10%**	
Average Net Fixed Assets			
Gross Fixed Assets Opening	$	1,183,508,940	
Add: CWIP Opening	$	57,486,862	
Capital Additions	$	114,494,289	
Capital Disposals	-$	2,734,108	
Capital Retirements	$	-	
Deduct: CWIP Closing	-$	39,959,632	
Gross Fixed Assets - Closing	$	1,312,796,351	
Average Gross Fixed Assets	$	1,248,152,646	
Accumulated Depreciation - Opening	$	229,378,962	
Depreciation Expense	$	52,272,173	
Disposals	-$	717,703	
Retirements	$	-	
Accumulated Depreciation - Closing	$	280,933,432	
Average Accumulated Depreciation	$	255,156,197	
Average Net Fixed Assets	$	992,996,449	
Working Capital Allowance			
Working Capital Allowance Base	$	1,197,449,515	
Working Capital Allowance Rate		8%	
Working Capital Allowance	$	89,808,714	
Rate Base	**$**	**1,082,805,162**	RB
Depreciation	**$**	**52,272,173**	d

Threshold Value (varies by Price Cap IR Year subsequent to CoS rebasing)

Price Cap IR Year 2018	**164%**
Price Cap IR Year 2019	**166%**
Price Cap IR Year 2020	**167%**
Price Cap IR Year 2021	**168%**
Price Cap IR Year 2022	**170%**
Price Cap IR Year 2023	**172%**
Price Cap IR Year 2024	**173%**
Price Cap IR Year 2025	**175%**
Price Cap IR Year 2026	**177%**
Price Cap IR Year 2027	**178%**

Threshold CAPEX $\quad Threshold\ Value\ \times d$

Price Cap IR Year 2018	**$ 85,782,588**
Price Cap IR Year 2019	**$ 86,521,354**
Price Cap IR Year 2020	**$ 87,279,416**
Price Cap IR Year 2021	**$ 88,057,280**
Price Cap IR Year 2022	**$ 88,855,461**
Price Cap IR Year 2023	**$ 89,674,491**
Price Cap IR Year 2024	**$ 90,514,914**
Price Cap IR Year 2025	**$ 91,377,290**
Price Cap IR Year 2026	**$ 92,262,191**
Price Cap IR Year 2027	**$ 93,170,206**

Note 1: The growth factor g is annualized, depending on the number of years between the numerator and denominator for the calculation. Typically, for ACM review in a cost of service and in the fourth year of Price Cap IR, the ratio is divided by 2 to annualize it. No division is normally required for the first three years under Price Cap IR.

Ontario Energy Board

Capital Module
Applicable to ACM and ICM

Alectra Utilities Corporation-PowerStream Rate Zone

Identify ALL Proposed ACM and ICM projects and related CAPEX costs in the relevant years

	Cost of Service	*Price Cap IR*	*Price Cap IR*	*Price Cap IR*	*Price Cap IR*
	Test Year 2017	Year 1 2018	Year 2 2019	Year 3 2020	Year 4 2021
CAPEX[1]					$ 53,980,407
Materiality Threshold		$ 85,782,588	$ 86,521,354	$ 87,279,416	$ 88,057,280
Maximum Eligible Incremental Capital (Forecasted Capex less Threshold)		$ -	$ -	$ -	$ -

		Test Year	Year 1			Year 2			Year 3			Year 4		
		2017	2018			2019			2020			2021		
Project Descriptions:	Type		Proposed ACM/ICM	Amortization Expense	CCA	Proposed ACM/ICM	Amortization Expense	CCA	Proposed ACM/ICM	Amortization Expense	CCA	Proposed ACM/ICM	Amortization Expense	CCA
Total Cost of ACM/ICM Projects			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Maximum Allowed Incremental Capital			$ -			$ -			$ -			$ -		

	Price Cap IR (Deferred Rebasing) (if necessary)	*Price Cap IR (Deferred Rebasing) (if necessary)*	*Price Cap IR (Deferred Rebasing) (if necessary)*
	Year 5 2022	Year 6 2023	Year 7 2024
Distribution System Plan CAPEX			$ 117,556,163
Materiality Threshold	$ 88,855,461	$ 89,674,491	$ 90,514,914
Maximum Eligible Incremental Capital (Forecasted Capex less Threshold)	$ -	$ -	$ 27,041,249

		Year 5			Year 6			Year 7		
		2022			2023			2024		
Project Descriptions:	Type	Proposed ACM/ICM	Amortization Expense	CCA	Proposed ACM/ICM	Amortization Expense	CCA	Proposed ACM/ICM	Amortization Expense	CCA
Cable Injection and Cable Replacement								$ 17,273,508	$ 383,856	$ 1,381,881
Total Cost of ACM/ICM Projects		$ -	$ -	$ -	$ -	$ -	$ -	$ 17,273,508	$ 383,856	$ 1,381,881
Maximum Allowed Incremental Capital		$ -			$ -			$ 17,273,508		

1. For the Cost of Service Test Year, CAPEX refers to the CAPEX approved in the DSP. For subsequent Price CAP IR years, the CAPEX to be entered is the actual CAPEX. For the current Price Cap IR year, the CAPEX to be entered is the proposed CAPEX including any ICM/updated ACM project CAPEX for the year.

Ontario Energy Board

Capital Module
Applicable to ACM and ICM

Alectra Utilities Corporation-PowerStream Rate Zone

Incremental Capital Adjustment **Rate Year:** **2024**

Current Revenue Requirement

Current Revenue Requirement - Total	$ 199,501,459	**A**

Eligible Incremental Capital for ACM/ICM Recovery

	Total Claim	Eligible for ACM/ICM (Full Year Prorated Amount) *(from Sheet 10b)*	
Amount of Capital Projects Claimed	$ 17,273,508	$ 17,273,508	**B**
Depreciation Expense	$ 383,856	$ 383,856	**C**
CCA	$ 1,381,881	$ 1,381,881	**V**

ACM/ICM Incremental Revenue Requirement Based on Eligible Amount in Rate Year

Return on Rate Base

Incremental Capital			$ 17,273,508	**B**
Depreciation Expense (prorated to Eligible Incremental Capital)			$ 383,856	**C**
Incremental Capital to be included in Rate Base (average NBV in year)			$ 17,081,580	**D = B - C/2**
	% of capital structure			
Deemed Short-Term Debt	4.0%	**E**	$ 683,263	**G = D * E**
Deemed Long-Term Debt	56.0%	**F**	$ 9,565,685	**H = D * F**
	Rate (%)			
Short-Term Interest	1.76%	**I**	$ 12,025	**K = G * I**
Long-Term Interest	3.88%	**J**	$ 371,388	**L = H * J**
Return on Rate Base - Interest			$ 383,413	**M = K + L**
	% of capital structure			
Deemed Equity %	40.00%	**N**	$ 6,832,632	**P = D * N**
	Rate (%)			
Return on Rate Base -Equity	8.78%	**O**	$ 599,905	**Q = P * O**
Return on Rate Base - Total			$ 983,319	**R = M + Q**

Amortization Expense

Amortization Expense - Incremental		**C**	$ 383,856	**S**

Grossed up Taxes/PILs

Regulatory Taxable Income		**O**	$ 599,905	**T**
Add Back Amortization Expense (Prorated to Eligible Incremental Capital)		**S**	$ 383,856	**U**
Deduct CCA (Prorated to Eligible Incremental Capital)			$ 1,381,881	**V**
Incremental Taxable Income			-$ 398,120	**W = T + U - V**
Current Tax Rate	26.5%	**X**		
Taxes/PILs Before Gross Up			-$ 105,502	**Y = W * X**
Grossed-Up Taxes/PILs			-$ 143,540	**Z = Y / (1 - X)**

Incremental Revenue Requirement

Return on Rate Base - Total		**Q**	$ 983,319	**AA**
Amortization Expense - Total		**S**	$ 383,856	**AB**
Grossed-Up Taxes/PILs		**Z**	-$ 143,540	**AC**
Incremental Revenue Requirement			$ 1,223,635	**AD = AA + AB + AC**

Ontario Energy Board

Capital Module
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Alectra Utilities Corporation-PowerStream Rate Zone

Calculation of incremental rate rider. Choose one of the 3 options: | **Fixed and Variable Rate Riders**

Rate Class	Service Charge % Revenue	Distribution Volumetric Rate % Revenue kWh	Distribution Volumetric Rate % Revenue kW	Service Charge Revenue	Distribution Volumetric Rate Revenue kWh	Distribution Volumetric Rate Revenue kW	Total Revenue by Rate Class	Billed Customers or Connections	Billed kWh	Billed kW	Service Charge Rate Rider	Distribution Volumetric Rate kWh Rate Rider	Distribution Volumetric Rate kW Rate Rider
	From Sheet 7	*From Sheet 7*	*From Sheet 7*	Col C * Col I_{total}	Col D* Col I_{total}	Col E* Col I_{total}	*Col I_{total}*	*From Sheet 4*	*From Sheet 4*	*From Sheet 4*	Col F / Col K / 12	Col G / Col L	Col H / Col M
RESIDENTIAL	54.86%	0.00%	0.00%	671,324	0	0	671,324	346,125	2,933,738,041		0.16	0.0000	0.0000
GENERAL SERVICE LESS THAN 50 kW	5.65%	8.97%	0.00%	69,133	109,719	0	178,852	33,939	1,011,691,122		0.17	0.0001	0.0000
GENERAL SERVICE 50 TO 4,999 KW	3.94%	0.00%	25.00%	48,236	0	305,931	354,167	4,829	4,695,412,730	12,325,693	0.83	0.0000	0.0248
LARGE USE	0.07%	0.00%	0.21%	861	0	2,533	3,393	2	121,322,389	191,317	35.86	0.0000	0.0132
UNMETERED SCATTERED LOAD	0.16%	0.14%	0.00%	1,962	1,656	0	3,618	3,220	14,434,010		0.05	0.0001	0.0000
SENTINEL LIGHTING	0.00%	0.00%	0.00%	43	0	39	82	146	246,335	664	0.02	0.0000	0.0583
STREET LIGHTING	0.66%	0.00%	0.34%	8,066	0	4,132	12,198	96,465	39,116,765	110,692	0.01	0.0000	0.0373
Total	**65.35%**	**9.10%**	**25.55%**	**799,625**	**111,375**	**312,634**	**1,223,635**	**484,726**	**8,815,961,392**	**12,628,366**			
							1,223,635						
							From Sheet 11, E93						

Attachment 4
2024 Project Listing PRZ

2024 Capital Project Listing - PowerStream Rate Zone

SYSTEM ACCESS	$000s	$MM
New Residential Subdivision and Condo Tower Development - Alectra East	8,715	8.7
Road Authority Projects PS South	2,122	2.1
New Services - Metering (East)	1,903	1.9
Services (New and Upgrades) - Industrial, Commercial and Institutional (ICI) Projects - East South	1,820	1.8
Services (New and Upgrades) - Layouts - East South	1,653	1.7
Road Authority UG Relocation - Portage Pkwy	1,312	1.3
New Subdivision Development - Secondary Service Lateral - Alectra East	1,311	1.3
Road Authority Projects - East North	1,018	1.0
Sub-Total Material Projects	**19,856**	**19.9**
Miscellaneous Projects (under materiality threshold)	6,253	6.3
Total System Access	**26,109**	**26.1**
SYSTEM RENEWAL	**$000s**	**$MM**
Reactive Capital, Alectra East - Distribution Equipment	8,882	8.9
Pole Renewal - East	6,131	6.1
Transformer Renewal - East	3,234	3.2
Cable Replacement Project - East - Left Behind Cable	2,987	3.0
Switchgear Renewal - East	2,841	2.8
Cable Injection Project - (V17) - Langstaff - Keele - Rutherford - Dufferin, Vaughan	2,451	2.5
Storm Hardening - Four-Circuit Poles - Alectra East	2,331	2.3
Cable Injection Project - (V24) - Creditstone Rd area of Vaughan	2,184	2.2
Cable Replacement Project - (A05) - Golf Links, Aurora	2,107	2.1
Cable Replacement Project - (M44) - Cochrane Dr (North) - Scolberg (South), Markham	2,086	2.1
Cable Replacement Project - (BA22) - Sunnidale and Anne, Barrie	2,082	2.1
Joint Use Pole Removal - Alectra East	2,010	2.0
Underground Asset Renewal-Alectra Initiated Distribution System Projects-East	1,915	1.9
Cable Replacement Project - (M15) - Larkin Ave area of Markham	1,881	1.9
Cable Replacement Project - (V26) - St. Joan of Arc area of Vaughan	1,855	1.9
Cable Injection Project - (M39) - 16th - Warden - Hwy 7 - Woodbine, Markham	1,833	1.8
Cable Injection Project - (R23) - Bathurst - Weldrick - Yonge - Carville, Richmond Hill	1,750	1.8
Cable Injection Project - (M21) - Cairns Drive area of Markham	1,692	1.7
Cable Injection Project - (V26) - McNaughton Road area of Vaughan	1,673	1.7
Cable Replacement Project - (M21) - Raymerville Dr, Markham	1,572	1.6
Cable Replacement Project - (A09) - Hammond Dr area of Aurora	1,421	1.4
Cable Injection Project - (V50) - Sovereign Court area of Vaughan	1,280	1.3
Cable Replacement Project - (B23) - Cundles Rd and Janine St, Barrie	1,255	1.3
Cable Injection Project - (M31) - 14th - Old Kennedy - Steeles - Warden, Markham	1,233	1.2
230kV Trench Replacement Program	1,207	1.2
Overhead Asset Renewal-Alectra Initiated Distribution System Projects-East	1,047	1.0
Cable Injection Project - (BR5) - 8th Line and Highway 11, Bradford	1,030	1.0
Reactive Capital, Alectra East - Storm Damage	1,021	1.0
Sub-Total Material Projects	**62,991**	**63.0**
Miscellaneous Projects (under materiality threshold)	6,309	6.3
Total System Renewal	**69,300**	**69.3**
SYSTEM SERVICE	**$000s**	**$MM**
Vaughan TS#4 Feeder Integration - Part 3	3,601	3.6
Distribution Automation - East	1,786	1.8
Sub-Total Material Projects	**5,387**	**5.4**
Miscellaneous Projects (under materiality threshold)	3,378	3.4
Total System Service	**8,766**	**8.8**
GENERAL PLANT		
PowerStream Rate Zone Allocation of General Plant	13,382	13.4
2024 Budget	**117,556**	**117.6**

GENERAL PLANT - ALECTRA UTILITIES		
Work Force Management / Mobile Dispatch	2,267	2.3
Meter-to-Cash CIS CC&B Enhancements	1,917	1.9
ERP Continuous Improvement	1,912	1.9
Customer Service Strategy-CX Project	1,883	1.9
Meter-to-Cash - CIS CC&B Modifications	1,790	1.8
Human Capital Management(HCM) System	1,712	1.7
Derry Generator Replacement	1,655	1.7
IT End User - Client Computing	1,590	1.6
Facilities_Replacement_Patterson Road Roof	1,316	1.3
Cyber Security - Enterprise Information Protection	1,090	1.1
Facilities_West_Capital Replacement Investment Support	1,009	1.0
Sub-Total Material Projects	**18,141**	**18.1**
Miscellaneous Projects (under materiality theshold)	18,622	18.6
Total General Plant	**36,763**	**36.8**

Attachment 5
2024 ICM Model ERZ

Ontario Energy Board

Capital Module
Applicable to ACM and ICM

Note: Depending on the selections made below, certain worksheets in this workbook will be hidden.

Version 1.0

Utility Name	Alectra Utilities - Enersource Rate Zone
Assigned EB Number	EB-2023-0004
Name of Contact and Title	Natalie Yeates, Director, Regulatory Affairs and Reporting
Phone Number	905-798-2872
Email Address	natalie.yeates@alectrautilities.com

Is this Capital Module being filed in a CoS or Price-Cap IR Application?	**Price-Cap IR**	**Rate Year**	**2024**
Indicate the Price-Cap IR Year (1, 2, 3, 4, etc) in which Alectra Utilities - Enersource Rate Zone is applying:	**11**	**Next OEB Scheduled Rebasing Year**	**2027**
Alectra Utilities - Enersource Rate Zone is applying for:	**ICM Approval**		
Last Rebasing Year:	**2013**		
The most recent complete year for which actual billing and load data exists	**2022**		
Current IPI	**2.17%**		
Strech Factor Assigned to Middle Cohort	**III**		
Stretch Factor Value	**0.30%**		
Price Cap Index	**1.87%**		

Based on the inputs above, the growth factor utilized in the Materiality Threshold Calculation will be determined by:

$$\frac{\text{Revenues Based on 2022 Actual Distribution Demand}}{\text{Revenues Based on 2013 Board-Approved Distribution Demand}}$$

Notes

Pale green cells represent input cells.

Pale blue cells represent drop-down lists. The applicant should select the appropriate item from the drop-down list.

White cells contain fixed values, automatically generated values or formulae.

While this model has been provided in Excel format and is required to be filed with the applications, the onus remains on the applicant to ensure the accuracy of the data and the results.

****As per ACM/ICM policy, the middle cohort stretch factor is applied to all ACM/ICM applications.***

OEB policies regarding rate-setting and rebasing following distributor consolidations could allow a distributor to not rebase rates for up to ten years. A distributor could also apply for and receive OEB approval to defer rebasing. If a distributor is under Price Cap IR for more than four years after rebasing and applies for an ICM, this spreadsheet will need to be adapted to accommodate those circumstances. The distributor should contact OEB staff to discuss the circumstances so that a customized model can be provided.

Ontario Energy Board

Capital Module
Applicable to ACM and ICM
Alectra Utilities Corporation - Enersource Hydro Mississauga Inc.

Select the appropriate rate classes as they appear on your most recent Board-Approved Tariff of Rates and Charges, excluding the MicroFit

How many classes are on your most recent Board-Approved Tariff of Rates and Charges? **7**

Select Your Rate Classes from the **Blue Cells** below. Please ensure that a rate class is assigned to **each shaded cell.**

	Rate Class Classification
1	RESIDENTIAL
2	GENERAL SERVICE LESS THAN 50 KW
3	GENERAL SERVICE 50 TO 499 KW
4	GENERAL SERVICE 500 TO 4,999 KW
5	LARGE USE
6	UNMETERED SCATTERED LOAD
7	STREET LIGHTING

Ontario Energy Board

Capital Module
Applicable to ACM and ICM

Alectra Utilities Corporation - Enersource Hydro Mississauga Inc.

Input the billing determinants associated with Alectra Utilities - Enersource Rate Zone's 2022. Input the current approved distribution rates.

		2022 Actual Distribution Demand			Current Approved Distribution Rates		
Rate Class	**Units**	**Billed Customers or Connections**	**Billed kWh**	**Billed kW (if applicable)**	**Monthly Service Charge**	**Distribution Volumetric Rate kWh**	**Distribution Volumetric Rate kW**
RESIDENTIAL	$/kWh	185,254	1,599,146,375		26.76		
GENERAL SERVICE LESS THAN 50 KW	$/kWh	19,579	696,191,917		49.14	0.0144	
GENERAL SERVICE 50 TO 499 KW	$/kW	3,396	1,863,077,828	5,327,788	86.55		5.2083
GENERAL SERVICE 500 TO 4,999 KW	$/kW	416	1,865,649,100	4,396,114	1970.76		2.6800
LARGE USE	$/kW	9	991,422,381	1,690,526	15538.69		3.3264
UNMETERED SCATTERED LOAD	$/kWh	3,106	11,275,180		10.15	0.0184	
STREET LIGHTING	$/kW	50,812	13,531,876	36,860	1.71		13.0129

Ontario Energy Board

Capital Module
Applicable to ACM and ICM

Alectra Utilities Corporation - Enersource Hydro Mississauga Inc.

Calculation of pro forma 2013 Revenues. No input required.

	2022 Actual Distribution Demand			Current Approved Distribution Rates										
Rate Class	Billed Customers or Connections	Billed kWh	Billed kW (if applicable)	Monthly Service Charge	Distribution Volumetric Rate kWh	Distribution Volumetric Rate kW	Service Charge Revenue	Distribution Volumetric Rate Revenue kWh	Distribution Volumetric Rate Revenue kW	Revenue Requirement from Rates	Service Charge % Revenue	Distribution Volumetric Rate % Revenue kWh	Distribution Volumetric Rate % Revenue kW	Total % Revenue
	A	B	C	D	E	F	G = A * D *12	H = B * E	I = C * F	J = G + H + I	K = G / J	L = H / J	M = I / J	N = J / R
RESIDENTIAL	185,254	1,599,146,375		26.76	0.0000	0.0000	59,488,764	0	0	59,488,764	100.0%	0.0%	0.0%	41.5%
GENERAL SERVICE LESS THAN 50 KW	19,579	696,191,917		49.14	0.0144	0.0000	11,545,345	10,025,164	0	21,570,508	53.5%	46.5%	0.0%	15.0%
GENERAL SERVICE 50 TO 999 KW	3,396	1,863,077,828	5,327,788	86.55	0.0000	5.2083	3,527,086	0	27,748,718	31,275,804	11.3%	0.0%	88.7%	21.8%
GENERAL SERVICE 500 TO 4,999 KW	416	1,865,649,100	4,396,114	1,970.76	0.0000	2.6800	9,838,034	0	11,781,586	21,619,619	45.5%	0.0%	54.5%	15.1%
LARGE USE	9	991,422,381	1,690,526	15,538.69	0.0000	3.3264	1,678,179	0	5,623,366	7,301,544	23.0%	0.0%	77.0%	5.1%
UNMETERED SCATTERED LOAD	3,106	11,275,180		10.15	0.0184	0.0000	378,311	207,463	0	585,774	64.6%	35.4%	0.0%	0.4%
STREET LIGHTING	50,812	13,531,876	36,860	1.71	0.0000	13.0129	1,042,662	0	479,655	1,522,318	68.5%	0.0%	31.5%	1.1%
Total	**262,572**	**7,040,294,657**	**11,451,288**				**87,498,380**	**10,232,627**	**45,633,325**	**143,364,332**				**100.0%**

Ontario Energy Board

Capital Module
Applicable to ACM and ICM

Applicants Rate Base

Last COS Rebasing: 2013

Average Net Fixed Assets

Gross Fixed Assets - Re-based Opening	$	554,341,087	A			
Add: CWIP Re-based Opening	$	4,371,726	B			
Re-based Capital Additions	$	46,257,875	C			
Re-based Capital Disposals	-$	1,026,755	D			
Re-based Capital Retirements	-$	2,063,957	E			
Deduct: CWIP Re-based Closing	-$	4,371,726	F			
Gross Fixed Assets - Re-based Closing	$	597,508,250	G			
Average Gross Fixed Assets				$	575,924,669	H = (A + G) / 2
Accumulated Depreciation - Re-based Opening	$	47,380,643	I			
Re-based Depreciation Expense	$	25,461,389	J			
Re-based Disposals	-$	2,063,957	K			
Re-based Retirements	-$	1,026,755	L			
Accumulated Depreciation - Re-based Closing	$	69,751,320	M			
Average Accumulated Depreciation				$	58,565,982	N = (I + M) / 2
Average Net Fixed Assets				**$**	**517,358,687**	O = H - N

Working Capital Allowance

Working Capital Allowance Base	$	786,215,891	P			
Working Capital Allowance Rate		13.5%	Q			
Working Capital Allowance				**$**	**106,139,145**	R = P * Q
Rate Base				**$**	**623,497,832**	S = O + R

Return on Rate Base

Deemed ShortTerm Debt %		4.00%	T	$	24,939,913	W = S * T
Deemed Long Term Debt %		56.00%	U	$	349,158,786	X = S * U
Deemed Equity %		40.00%	V	$	249,399,133	Y = S * V
Short Term Interest		2.08%	Z	$	518,750	AC = W * Z
Long Term Interest		5.09%	AA	$	17,777,070	AD = X * AA
Return on Equity		8.93%	AB	$	22,271,343	AE = Y * AB
Return on Rate Base				**$**	**40,567,163**	AF = AC + AD + AE

Distribution Expenses

OM&A Expenses	$	51,364,731	AG			
Amortization	$	25,461,389	AH			
Ontario Capital Tax			AI			
Grossed Up PILs	$	3,079,932	AJ			
Low Voltage			AK			
Transformer Allowance			AL			
	$	3,200,167	AM			
	-$	848,514	AN			
			AO			
				$	**82,257,705**	AP = SUM (AG : AO)

Revenue Offsets

Specific Service Charges	-$	1,236,975	AQ			
Late Payment Charges	-$	1,800,000	AR			
Other Distribution Income	-$	1,260,695	AS			
Other Income and Deductions	-$	532,207	AT	**-$**	**4,829,877**	AU = SUM (AQ : AT)
Revenue Requirement from Distribution Rates				**$**	**117,994,991**	AV = AF + AP + AU

Rate Classes Revenue

Rate Classes Revenue - Total (Sheet 4)				$	143,364,332	AW

Ontario Energy Board

Capital Module
Applicable to ACM and ICM

Input the billing determinants associated with Alectra Utilities Corporation - Enersource Hydro Mississauga Inc. 2013 Board-Approved Distribution Revenues. This sheet calculates the DENOMINATOR portion of the growth factor calculation. Pseudo Revenue Requirement Calculation.

	2013 Board-Approved Distribution Demand			Current Approved Distribution Rates										
Rate Class	Billed Customers or Connections	Billed kWh	Billed kW	Monthly Service Charge	Distribution Volumetric Rate kWh	Distribution Volumetric Rate kW	Service Charge Revenue	Distribution Volumetric Rate Revenue kWh	Distribution Volumetric Rate Revenue kW	Total Revenue By Rate Class	Service Charge % Revenue	Distribution Volumetric Rate % Revenue kWh	Distribution Volumetric Rate % Revenue kW	Total % Revenue
	A	B	C	D	E	F	G = A * D *12	H = B * E	I = C * F	J = G + H + I	K = G / J_{total}	L = H / J_{total}	M = I / J_{total}	N = J / J_{total}
RESIDENTIAL	176,865	1,423,857,475		26.76	0.0000	0.0000	56,794,889	0	0	56,794,889	38.6%	0.0%	0.0%	38.6%
GENERAL SERVICE LESS THAN 50 KW	17,702	612,188,101		49.14	0.0144	0.0000	10,438,515	8,815,509	0	19,254,024	7.1%	6.0%	0.0%	13.1%
GENERAL SERVICE 50 TO 999 KW	3,950		6,222,022	86.55	0.0000	5.2083	4,102,470	0	32,406,157	36,508,627	2.8%	0.0%	22.0%	24.8%
GENERAL SERVICE 500 TO 4,999 KW	464		5,154,338	1,970.76	0.0000	2.6800	10,973,192	0	13,813,626	24,786,818	7.5%	0.0%	9.4%	16.9%
LARGE USE	9		1,737,267	15,538.69	0.0000	3.3264	1,678,179	0	5,778,845	7,457,023	1.1%	0.0%	3.9%	5.1%
UNMETERED SCATTERED LOAD	2,942	10,383,027		10.15	0.0184	0.0000	358,336	191,048	0	549,383	0.2%	0.1%	0.0%	0.4%
STREET LIGHTING	49,985		49,889	1.71	0.0000	13.0129	1,025,692	0	649,201	1,674,893	0.7%	0.0%	0.4%	1.1%
Total	**251,917**	**2,046,428,603**	**13,163,516**				**85,371,272**	**9,006,556**	**52,647,829**	**147,025,657**				**100.0%**

Ontario Energy Board

Capital Module
Applicable to ACM and ICM

Current Revenue from Rates

This sheet is used to determine the applicant's most current allocation of revenues (after the most recent revenue to cost ratio adjustment, if applicable) to appropriately allocate the incremental revenue requirement to the classes.

	Current Approved Distribution Rates			2022 Actual Distribution Demand										
Rate Class	Monthly Service Charge	Distribution Volumetric Rate kWh	Distribution Volumetric Rate kW	Re-based Billed Customers or Connections	Re-based Billed kWh	Re-based Billed kW	Current Base Service Charge Revenue	Current Base Distribution Volumetric Rate kWh Revenue	Current Base Distribution Volumetric Rate kW Revenue	Total Current Base Revenue	Service Charge % Total Revenue	Distribution Volumetric Rate % Total Revenue	Distribution Volumetric Rate % Total Revenue	Total % Revenue
	A	B	C	D	E	F	G = A * D *12	H = B * E	I = C * F	J = G + H + I	L = G / J_{total}	M = H / J_{total}	N = I / J_{total}	O = J / J_{total}
RESIDENTIAL	26.76	0.0000	0.0000	185,254	1,599,146,375		59,488,764	0	0	59,488,764	41.49%	0.00%	0.00%	41.5%
GENERAL SERVICE LESS THAN 50 KW	49.14	0.0144	0.0000	19,579	696,191,917		11,545,345	10,025,164	0	21,570,508	8.05%	6.99%	0.00%	15.0%
GENERAL SERVICE 50 TO 999 KW	86.55	0.0000	5.2083	3,396	1,863,077,828	5,327,788	3,527,086	0	27,748,718	31,275,804	2.46%	0.00%	19.36%	21.8%
GENERAL SERVICE 500 TO 4,999 KW	1970.76	0.0000	2.6800	416	1,865,649,100	4,396,114	9,838,034	0	11,781,586	21,619,619	6.86%	0.00%	8.22%	15.1%
LARGE USE	15538.69	0.0000	3.3264	9	991,422,381	1,690,526	1,678,179	0	5,623,366	7,301,544	1.17%	0.00%	3.92%	5.1%
UNMETERED SCATTERED LOAD	10.15	0.0184	0.0000	3,106	11,275,180		378,311	207,463	0	585,774	0.26%	0.14%	0.00%	0.4%
STREET LIGHTING	1.71	0.0000	13.0129	50,812	13,531,876	36,860	1,042,662	0	479,655	1,522,318	0.73%	0.00%	0.33%	1.1%
Total							**87,498,380**	**10,232,627**	**45,633,325**	**143,364,332**				**100.0%**

Capital Module
Applicable to ACM and ICM
Alectra Utilities Corporation - Enersource Hydro Mississauga Inc.

No Input Required.

Final Threshold Calculation

$$\textbf{\textit{Threshold Value}}\ (\%) = \mathbf{1} + \left[\left(\frac{\boldsymbol{RB}}{\boldsymbol{d}}\right) \times (\boldsymbol{g} + \boldsymbol{PCI} \times (\mathbf{1} + \boldsymbol{g}))\right] \times \left((\mathbf{1} + \boldsymbol{g}) \times (\mathbf{1} + \boldsymbol{PCI})\right)^{\boldsymbol{n}-\mathbf{1}} + \mathbf{10\%}$$

Year		**2013**	
Year in which Applicant is applying		**5**	n
Price Cap Index		**1.87%**	PCI
Growth Factor Calculation			
Revenues Based on 2022 Actual Distribution Demand		**$143,364,332**	
Revenues Based on 2013 Board-Approved Distribution Demand		**$147,025,657**	g $(Note\ 1)$
Growth Factor		**-0.28%**	
Dead Band		**10%**	
Average Net Fixed Assets			
Gross Fixed Assets Opening	$	554,341,087	
Add: CWIP Opening	$	4,371,726	
Capital Additions	$	46,257,875	
Capital Disposals	-$	1,026,755	
Capital Retirements	-$	2,063,957	
Deduct: CWIP Closing	-$	4,371,726	
Gross Fixed Assets - Closing	$	597,508,250	
Average Gross Fixed Assets	$	575,924,669	
Accumulated Depreciation - Opening	$	47,380,643	
Depreciation Expense	$	25,461,389	
Disposals	-$	2,063,957	
Retirements	-$	1,026,755	
Accumulated Depreciation - Closing	$	69,751,320	
Average Accumulated Depreciation	$	58,565,982	
Average Net Fixed Assets	$	517,358,687	
Working Capital Allowance			
Working Capital Allowance Base	$	786,215,891	
Working Capital Allowance Rate		13.5%	
Working Capital Allowance	$	106,139,145	
Rate Base	**$**	**623,497,832**	RB
Depreciation	**$**	**25,461,389**	d

Threshold Value (varies by Price Cap IR Year subsequent to CoS rebasing)	
Price Cap IR Year 2014	**148.9%**
Price Cap IR Year 2015	**149.5%**
Price Cap IR Year 2016	**150.1%**
Price Cap IR Year 2017	**150.8%**
Price Cap IR Year 2018	**151.4%**
Price Cap IR Year 2019	**152.1%**
Price Cap IR Year 2020	**152.7%**
Price Cap IR Year 2021	**153.4%**
Price Cap IR Year 2022	**154.1%**
Price Cap IR Year 2023	**154.8%**
Price Cap IR Year 2024	**155.5%**

Threshold CAPEX		$Threshold\ Value\ \times d$
Price Cap IR Year 2014	**$ 37,909,484**	
Price Cap IR Year 2015	**$ 38,066,740**	
Price Cap IR Year 2016	**$ 38,226,493**	
Price Cap IR Year 2017	**$ 38,388,783**	
Price Cap IR Year 2018	**$ 38,553,651**	
Price Cap IR Year 2019	**$ 38,721,137**	
Price Cap IR Year 2020	**$ 38,891,283**	
Price Cap IR Year 2021	**$ 39,064,132**	
Price Cap IR Year 2022	**$ 39,239,725**	
Price Cap IR Year 2023	**$ 39,418,107**	
Price Cap IR Year 2024	**$ 39,599,322**	

Note 1: The growth factor g is annualized, depending on the number of years between the numerator and denominator for the calculation. Typically, for ACM review in a cost of service and in the fourth year of Price Cap IR, the ratio is divided by 2 to annualize it. No division is normally required for the first three years under Price Cap IR.

Ontario Energy Board

Capital Module
Applicable to ACM and ICM

Identify ALL Proposed ACM and ICM projects and related CAPEX costs in the relevant years

	Cost of Service	*Price Cap IR*	*Price Cap IR*	*Price Cap IR*	*Price Cap IR*
	Test Year	Year 1	Year 2	Year 3	Year 4
	2013	2014	2015	2016	2017
CAPEX[1]					
Materiality Threshold		$ 37,909,484	$ 38,066,740	$ 38,226,493	$ 38,388,783
Maximum Eligible Incremental Capital (Forecasted Capex less Threshold)		$ -	$ -	$ -	$ -

		Test Year	Year 1			Year 2			Year 3			Year 4		
		2013	2014			2015			2016			2017		
Project Descriptions:	**Type**		**Proposed ACM/ICM**	**Amortization Expense**	**CCA**	**Proposed ACM/ICM**	**Amortization Expense**	**CCA**	**Proposed ACM/ICM**	**Amortization Expense**	**CCA**	**Proposed ACM/ICM**	**Amortization Expense**	**CCA**
Total Cost of ACM/ICM Projects			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Maximum Allowed Incremental Capital			$ -			$ -			$ -			$ -		

	Price Cap IR (Deferred Rebasing) (if necessary)	*Price Cap IR (Deferred Rebasing) (if necessary)*	*Price Cap IR (Deferred Rebasing) (if necessary)*	*Price Cap IR (Deferred Rebasing) (if necessary)*

1. For the Cost of Service Test Year, CAPEX refers to the CAPEX approved in the DSP. For subsequent Price CAP IR years, the CAPEX to be entered is the actual CAPEX. For the current Price Cap IR year, the CAPEX to be entered is the proposed CAPEX including any ICM/updated ACM project CAPEX for the year.

	Price Cap IR	*Price Cap IR*	*Price Cap IR*	*Price Cap IR*
	Year 5	Year 6	Year 7	Year 8
	2018	2019	2020	2021
Distribution System Plan CAPEX				
Materiality Threshold	$ 38,553,651	$ 38,721,137	$ 38,891,283	$ 39,064,132
Maximum Eligible Incremental Capital (Forecasted Capex less Threshold)	$ -	$ -	$ -	$ -

		Year 5				Year 6			Year 7			Year 8		
		2018				2019			2020			2021		
Project Descriptions:	**Type**		**Proposed ACM/ICM**	**Amortization Expense**	**CCA**	**Proposed ACM/ICM**	**Amortization Expense**	**CCA**	**Proposed ACM/ICM**	**Amortization Expense**	**CCA**	**Proposed ACM/ICM**	**Amortization Expense**	**CCA**
Total Cost of ACM/ICM Projects			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Maximum Allowed Incremental Capital			$ -			$ -			$ -			$ -		

	Price Cap IR (Deferred Rebasing) (if necessary)	*Price Cap IR (Deferred Rebasing) (if necessary)*	*Price Cap IR (Deferred Rebasing) (if necessary)*	

1. For the Cost of Service Test Year, CAPEX refers to the CAPEX approved in the DSP. For subsequent Price CAP IR years, the CAPEX to be entered is the actual CAPEX. For the current Price Cap IR year, the CAPEX to be entered is the proposed CAPEX including any ICM/updated ACM project CAPEX for the year.

	Price Cap IR	*Price Cap IR*	*Price Cap IR*
	Year 9	Year 10	Year 10
	2022	2023	2024
Distribution System Plan CAPEX			$ 56,233,618
Materiality Threshold	$ 39,239,725	$ 39,418,107	$ 39,599,322
Maximum Eligible Incremental Capital (Forecasted Capex less Threshold)	$ -	$ -	$ 16,634,297

		Year 9			Year 10			Year 10		
		2022			2023			2024		
Project Descriptions:	**Type**	**Proposed ACM/ICM**	**Amortization Expense**	**CCA**	**Proposed ACM/ICM**	**Amortization Expense**	**CCA**	**Proposed ACM/ICM**	**Amortization Expense**	**CCA**
Cable Injection and Cable Replacement								$ 7,865,203	$ 174,782	$ 629,216
Total Cost of ACM/ICM Projects		$ -	$ -	$ -	$ -	$ -	$ -	$ 7,865,203	$ 174,782	$ 629,216
Maximum Allowed Incremental Capital		$ -			$ -			$ 7,865,203		

1. For the Cost of Service Test Year, CAPEX refers to the CAPEX approved in the DSP. For subsequent Price CAP IR years, the CAPEX to be entered is the actual CAPEX. For the current Price Cap IR year, the CAPEX to be entered is the proposed CAPEX including any ICM/updated ACM project CAPEX for the year.

Ontario Energy Board

Capital Module
Applicable to ACM and ICM
0

Incremental Capital Adjustment **Rate Year:** 2024

Current Revenue Requirement

Current Revenue Requirement - Total	$ 117,994,991	A

Eligible Incremental Capital for ACM/ICM Recovery

	Total Claim	Eligible for ACM/ICM (Full Year Prorated Amount) *(from Sheet 10b)*	
Amount of Capital Projects Claimed	$ 7,865,203	$ 7,865,203	B
Depreciation Expense	$ 174,782	$ 174,782	C
CCA	$ 629,216	$ 629,216	V

ACM/ICM Incremental Revenue Requirement Based on Eligible Amount in Rate Year

Return on Rate Base

Incremental Capital			$ 7,865,203	B
Depreciation Expense (prorated to Eligible Incremental Capital)			$ 174,782	C
Incremental Capital to be included in Rate Base (average NBV in year)			$ 7,777,812	D = B - C/2
	% of capital structure			
Deemed Short-Term Debt	4.0%	E	$ 311,112	G = D * E
Deemed Long-Term Debt	56.0%	F	$ 4,355,575	H = D * F
	Rate (%)			
Short-Term Interest	2.08%	I	$ 6,471	K = G * I
Long-Term Interest	5.09%	J	$ 221,760	L = H * J
Return on Rate Base - Interest			$ 228,231	M = K + L
	% of capital structure			
Deemed Equity %	40.00%	N	$ 3,111,125	P = D * N
	Rate (%)			
Return on Rate Base -Equity	8.93%	O	$ 277,823	Q = P * O
Return on Rate Base - Total			$ 506,054	R = M + Q

Amortization Expense

Amortization Expense - Incremental	C	$ 174,782	S

Grossed up Taxes/PILs

Regulatory Taxable Income		O	$ 277,823	T
Add Back Amortization Expense (Prorated to Eligible Incremental Capital)		S	$ 174,782	U
Deduct CCA (Prorated to Eligible Incremental Capital)			$ 629,216	V
Incremental Taxable Income			-$ 176,611	W = T + U - V
Current Tax Rate	26.5%	X		
Taxes/PILs Before Gross Up			-$ 46,802	Y = W * X
Grossed-Up Taxes/PILs			-$ 63,676	Z = Y / (1 - X)

Incremental Revenue Requirement

Return on Rate Base - Total	Q	$ 506,054	AA
Amortization Expense - Total	S	$ 174,782	AB
Grossed-Up Taxes/PILs	Z	-$ 63,676	AC
Incremental Revenue Requirement		$ 617,161	AD = AA + AB + AC

Ontario Energy Board

Capital Module
Applicable to ACM and ICM

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Calculation of incremental rate rider. Choose one of the 3 options: Fixed and Variable Rate Riders

Rate Class	Service Charge % Revenue	Distribution Volumetric Rate % Revenue kWh	Distribution Volumetric Rate % Revenue kW	Service Charge Revenue	Distribution Volumetric Rate Revenue kWh	Distribution Volumetric Rate Revenue kW	Total Revenue by Rate Class	Billed Customers or Connections	Billed kWh	Billed kW	Service Charge Rate Rider	Distribution Volumetric Rate kWh Rate Rider	Distribution Volumetric Rate kW Rate Rider
	From Sheet 8	*From Sheet 8*	*From Sheet 8*	Col C * Col I_{total}	Col D* Col I_{total}	Col E* Col I_{total}		*From Sheet 4*	*From Sheet 4*	*From Sheet 4*	Col F / Col K / 12	Col G / Col L	Col H / Col M
RESIDENTIAL	41.49%	0.00%	0.00%	256,090	0	0	256,090	185,254	1,599,146,375		0.12	0.0000	0.0000
GENERAL SERVICE LESS THAN 50 KW	8.05%	6.99%	0.00%	49,701	43,157	0	92,858	19,579	696,191,917		0.21	0.0001	0.0000
GENERAL SERVICE 50 TO 999 KW	2.46%	0.00%	19.36%	15,184	0	119,454	134,637	3,396	1,863,077,828	5,327,788	0.37	0.0000	0.0224
GENERAL SERVICE 500 TO 4,999 KW	6.86%	0.00%	8.22%	42,351	0	50,718	93,069	416	1,865,649,100	4,396,114	8.48	0.0000	0.0115
LARGE USE	1.17%	0.00%	3.92%	7,224	0	24,208	31,432	9	991,422,381	1,690,526	66.89	0.0000	0.0143
UNMETERED SCATTERED LOAD	0.26%	0.14%	0.00%	1,629	893	0	2,522	3,106	11,275,180		0.04	0.0001	0.0000
STREET LIGHTING	0.73%	0.00%	0.33%	4,488	0	2,065	6,553	50,812	13,531,876	36,860	0.01	0.0000	0.0560
Total	**61.03%**	**7.14%**	**31.83%**	**376,667**	**44,050**	**196,444**	**617,161**	**262,572**	**7,040,294,657**	**11,451,288**			
							617,161						

Attachment 6
2024 Project Listing ERZ

2024 Capital Project Listing - Enersource Rate Zone

SYSTEM ACCESS	$000s	$MM
New Residential Subdivision and Condo Tower Development - Alectra Central South	1,675	1.7
Service (new and upgrades) - Industrial, Commercial and Institutional (ICI) Projects - Central South	1,622	1.6
Road Authority Projects - Central South	1,383	1.4
New Services - Metering (Mississauga)	1,382	1.4
Services (New and Upgrades) - Layouts – Central South	1,125	1.1
Customer Initiated Distribution System Expansion Projects - Central South	1,016	1.0
Sub-Total Material Projects	**8,203**	**8.2**
Miscellaneous Projects (under materiality threshold)	1,796	1.8
Total System Access	**9,999**	**10.0**
SYSTEM RENEWAL	**$000s**	**$MM**
Lines Central-South - Reactive Renewal	3,869	3.9
Pole Renewal - Central South	3,389	3.4
Cable and Transformer Replacement Project - (AREA21) - Miss. Valley & Bloor, Mississauga	3,252	3.3
Cable Replacement Project - (AREA54) - Copenhagen Rd, Mississauga	2,518	2.5
Cable and Transformer Replacement Project - (AREA25) - Glen Erin & Burnhamthorpe, Mississauga	2,366	2.4
Cable and Transformer Replacement Project - (AREA24) - Burnhamthorpe & Miss. Road, Mississauga	1,805	1.8
Cable Replacement Project - (AREA46) - Montevideo & Battleford, Mississauga	1,599	1.6
Cable Injection - (AREA56) - Derry Rd W & Ninth Line, Mississauga	1,464	1.5
Joint Use Pole Removal - Central South	1,394	1.4
Cable Injection - (AREA 39) - Glen Erin Dr and and Bell Harbour Dr, Mississauga	1,328	1.3
Switchgear Renewal - Central South	1,205	1.2
Underground Asset Renewal-Alectra Initiated Distribution System Projects-Central South	1,164	1.2
Cable Replacement Project - (AREA25) - South Millway, Mississauga	1,109	1.1
Cable Injection - (AREA 39) - Erin Mills Pkwy & Thomas St, Mississauga	1,074	1.1
Sub-Total Material Projects	**27,534**	**27.5**
Miscellaneous Projects (under materiality threshold)	6,816	6.8
Total System Renewal	**34,350**	**34.3**
SYSTEM SERVICE	**$000s**	**$MM**
Distribution Automation - Central South	1,462	1.5
Sub-Total Material Projects	**1,462**	**1.5**
Miscellaneous Projects (under materiality threshold)	645	0.6
Total System Service	**2,106**	**2.1**
GENERAL PLANT		
Enersource Rate Zone Allocation of General Plant	9,779	9.8
2024 Budget	**56,234**	**56.2**

GENERAL PLANT - ALECTRA UTILITIES		
Work Force Management / Mobile Dispatch	2,267	2.3
Meter-to-Cash CIS CC&B Enhancements	1,917	1.9
ERP Continuous Improvement	1,912	1.9
Customer Service Strategy-CX Project	1,883	1.9
Meter-to-Cash - CIS CC&B Modifications	1,790	1.8
Human Capital Management(HCM) System	1,712	1.7
Derry Generator Replacement	1,655	1.7
IT End User - Client Computing	1,590	1.6
Facilities_Replacement_Patterson Road Roof	1,316	1.3
Cyber Security - Enterprise Information Protection	1,090	1.1
Facilities_West_Capital Replacement Investment Support	1,009	1.0
Sub-Total Material Projects	**18,141**	**18.1**
Miscellaneous Projects (under materiality theshold)	18,622	18.6
Total General Plant	**36,763**	**36.8**

Attachment 7
Geometric Mean Calculation

Inflation Factor
Geometric Mean Calculation

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
OEB-Approved Inflation Factor Values	1.70%	1.60%	2.10%	1.90%	1.20%	1.50%	2.00%	2.20%	3.30%	3.70%	4.80%
Enersource RZ Inflation Factor	**2.17%**										
PowerStream RZ Inflation Factor	**2.40%**										

Note: The RZ specific inflation factor based on the geometric mean is calculated using the inflation factor values over the IRM period for each RZ (i.e., 2014-2024 for ERZ and 2018-2024 for PRZ)

Comparison of OEB-Approved IPIs to a Geometric Mean

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
OEB-Approved IPI	2.2%	1.7%	1.6%	2.1%	1.9%	1.2%	1.5%	2.00%	2.2%	3.3%	3.7%	4.8%

		2013-14	2013-15	2013-16	2013-17	2013-18	2013-19	2013-20	2013-21	2013-22	2013-23	2013-24
Geometric Mean		1.9%	1.8%	1.9%	1.9%	1.7%	1.7%	1.7%	1.8%	1.9%	2.0%	2.2%
IPI vs Geometric Mean		-0.2%	-0.2%	0.2%	0.0%	-0.5%	-0.2%	0.3%	0.4%	***1.4%***	***1.7%***	***2.6%***