November 15, 2019

Ms. Christine Long
Registrar & Board Secretary
Ontario Energy Board
P.O. Box 2319, 27th Floor
2300 Yonge Street
Toronto, ON  M4P 1E4

Re: Alectra Utilities Corporation 2020 Electricity Distribution Rate Application
AMPCO Final Submissions
Board File No. EB-2019-0018

Dear Ms. Walli:

Attached please find AMPCO's final submission in the above proceeding.

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

Sincerely yours,

*(Original Signed By)*

Colin Anderson
President
Association of Major Power Consumers in Ontario

Copy to: Alectra Utilities Corporation

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**EB-2019-0018**

**Alectra Utilities Corporation**

**Application for electricity distribution rates and other**

**charges effective January 1, 2020**

**AMPCO Submissions on the M-factor Proposal and Capitalization Policy**

**November 15, 2019**

Alectra Utilities Corporation (Alectra) filed an incentive rate-setting mechanism (IRM) application with the Ontario Energy Board (OEB) on May 28, 2019 under section 78 of the Ontario Energy Board Act, 1998 seeking approval for changes to its electricity distribution rates to be effective January 1, 2020. Alectra Utilities also included a proposal for additional capital funding (M-Factor) and a request to reverse the outcome of a prior OEB decision on capitalization policy.

AMPCO's submissions relate to the M-factor proposal and capitalization policy.

**M-factor Proposal**

Alectra's consolidated 5-year DSP totals $1,456.6 million in capital expenditures over 5 years, 2020 to 2024. Based on the OEB's ICM materiality threshold calculation methodology, Alectra determined that its base distribution rates would support $1,182.2 million of total capital expenditures during the 2020-2024 planning period, for an average annual capital expenditure level of approximately $236 million, leaving a funding gap of $275 million or $55 million per year. To cover the unfunded work identified in the DSP, Alectra designed a new mechanism, the M-factor to provide an envelope of funding over the 5-years of the DSP. On this basis, Alectra proposed M-factor funding for a total of $265 million over the five years (averaging $53 million per year), along with a Capital Investment Variance Account (CIVA) which could be trued-up to a ceiling of an additional $9.3 million so that the total of M-factor funding plus CIVA true-up amounts would not exceed the total funding gap of $275 million.

Specifically, with respect to the M-factor, Alectra seeks approval of:

- incremental capital funding based on the M-factor proposal, which reconciles the capital needs set out in Alectra Utilities' consolidated 5-year DSP, with the capital-related revenue in rates;

- 2020-2024 capital riders for each rate zone, to be updated annually, if needed, as part of future Price Cap IR applications;

- a symmetrical Capital Investment Variance Account (CIVA) to capture capital funding in excess of the revenue requirement associated with Alectra Utilities' actual in-service additions, to be credited or debited to customers at the end of the five-year plan term of the DSP; and

- a symmetrical Externally Driven Capital Variance Account (EDCVA) to capture differences between the revenue requirement associated with externally driven capital expenditures (related to regional

transit projects and capital works required by road authorities) as forecasted in the DSP, and the actual revenue requirement for in-service additions associated with such projects in the same period.

The allocation of the M-factor to each of the predecessor utilities is shown in the table below. The largest allocation, 42%, is to the PowerStream Rate Zone.

| Allocation of M-factor | $M | % |
|---|---|---|
| Horizon | 47.4 | 18% |
| Brampton | 26 | 10% |
| PowerStream | 110.6 | 42% |
| Enersource | 51.5 | 19% |
| Guelph | 4.1 | 2% |
| Multi Rate Zone | 25 | 9% |
| Total | **$264.60** | 100% |

The cumulative 5-year M-factor revenue requirement for 2020 to 2024 totals $60.9 million, which reflects that the M-factor riders will continue until rebasing.[1] Alectra indicates the monthly bill impacts are immaterial from a customer perspective.[2] AMPCO disagrees and submits $60.9 million in incremental funding is material from a customer perspective.

The two largest concerns of AMPCO members are affordability and reliability of electricity service, with affordability being paramount, given the rapid rise in industrial rates in recent years. AMPCO's submissions are focussed on these two issues as they relate to Alectra's M-factor proposal and the proposed pacing of asset replacement.

**Summary of AMPCO's Position**

For the reasons discussed below, AMPCO submits the OEB should deny Alectra's M-factor request and all of the M-factor elements including the proposed CIVA and EDCVA.

- Alectra has not demonstrated that an M-factor is warranted in the context of OEB policies.

- The DSP proposes investment levels that are not fully justified by asset condition assessment, reliability and asset failure data. AMPCO recommends reductions related to: Underground Asset Renewal ($135.7 million), Reactive Capital ($13.4 million) and Fleet ($18.6 million). This would reduce the capital envelop by $167.7 million over the 5-year period. If the OEB approves the M-factor, it should be for a lesser amount to reflect a DSP that should not be fully funded.

- A declining reliability trend is not evident.

[1] AIC P33
[2] AIC P32

- Alectra's DSP Customer Engagement results should not be relied upon to justify proposed DSP spending levels and the M-factor.

- The best mechanism to provide incremental capital funding for Alectra until it rebases is an ICM as per the original merger plan.

- If Alectra cannot work within the existing ICM Framework, Alectra should consider filing a future Custom IR application if it needs to deal with multiple capital projects needs.

**Evolution of Incremental Capital Funding for Alectra**

In approving the merger for Alectra, the OEB approved a deferred rebasing period ending in 2026. During the deferred rebasing period, Alectra's rates are set using the Price Cap IR mechanism.[3] To encourage consolidation, the 2015 Report[4] extended the availability of the ICM for consolidating distributors in order to finance capital investments during the deferral period without being required to rebase earlier than planned.[5] Alectra expected to file an ICM in each year for each rate zone under Price Cap IR during the deferred rebasing period.[6]

Alectra filed ICM requests in 2018 and 2019. The OEB determined that Alectra was eligible for incremental funding for a sub-set of projects in 2018 and 2019 through ICM rate riders. The OEB assessed all of the projects against the three tests for eligibility of materiality, need and prudence. As shown in Table 4 below, on a cumulative basis Alectra received 63% of its applied for ICM capital funding.

**Table 1: Previous ICM Decisions**

| | 2018 EDR | 2019 EDR | Cumulative |
|---|---|---|---|
| # Projects | 22 | 5 | |
| As filed Capital | $56.2 | $31.6 | $87.8 |
| OEB Approved | $28.7 | $26.3 | $55.0 |
| Difference | $27.5 | $5.3 | $32.8 |
| % Approved | 49% | 83% | 63% |
| Ref: | EB-2017-0024 | EB-2018-0016 | |

For the 2018 and 2019 disallowed projects, the OEB found that ICM funding was either not available for typical annual capital programs or projects that are not significant to the operations of the distributor and not a significant capital cost in comparison to Alectra's overall 2018 and 2019 capital budgets.

[3] When the current Incentive Rate-setting Mechanism (IRM) terms end
[4] Rate-making Associated with Distributor Consolidation" dated March 26, 2015 (2015 Report).
[5] The MAADs Handbook, otherwise known as the Handbook to Electricity Distributor and Transmitter Consolidations Issued January 19, 2016
[6] EB-2016-0025 Decision P10

In response to these past OEB ICM Decisions, Alectra did not apply for an ICM in 2020. Rather, Alectra is applying for an M-factor which provides for an envelope of incremental capital spending over the 2020 to 2024 period. Alectra indicates the questions of whether a necessary investment is a "project" or "program" and "whether each project is eligible for incremental funding" in the context of the IRM framework are not relevant considerations for the Board with respect to the proposed M-factor.[7]

In its 2018 ICM Decision, the OEB states "The OEB's ICM policy has evolved over time with the OEB's review of ICM applications as Filing requirements cannot anticipate all needs and circumstances related to ICM requests.[8] Not all capital spending up to the maximum eligible incremental capital amount is eligible for incremental funding. The OEB has established other criteria so that the ICM does not become just a capital budget top-up to the ICM materiality threshold.[9] Other criteria is explained by the following: The OEB's ICM policy does not make ICM funding available for typical annual capital programs.[10] The OEB adopted a second, project-specific materiality test in the Funding of Capital Report, as identified in a decision for Toronto Hydro Electric System Limited (Toronto Hydro). The project-specific materiality test is as follows: Minor expenditures in comparison to the overall capital budget should be considered ineligible for ACM or ICM treatment. A certain degree of project expenditure over and above the Board-defined threshold calculation is expected to be absorbed within the total capital budget.[11] The ICM is also available for any prudent discrete capital project that fits within an incremental capital budget envelope, not just expenditures that were unanticipated or unplanned. In order to qualify for ICM funding, a request must satisfy the eligibility criteria of materiality, need and prudence.[12]

AMPCO sees the M-factor as a new mechanism designed by Alectra to work around the evolution of the OEB's ICM policy, that effectively functions as a Custom IR providing Alectra with capital spending set on a cost of service basis for the next five years.

**Distribution System Plan (DSP)**

Approval of Alectra's M-factor funding inherently includes the need for the OEB to support Alectra's first consolidated DSP for the years 2020 to 2024. For the OEB to approve the M-factor, the OEB must agree that the DSP should be fully funded over the 2020 to 2024 period. The M-factor funding proposed is calculated based on a fully funded DSP. The determination of the $265 million funding shortfall is based on acceptance of $1,465.5 million in capital investments over the 2020 to 2024 period. Should the OEB decide that Alectra has not adequately justified a fully funded DSP, the funding shortfall decreases and the M-factor decreases.

Over the 2020 to 2024 period, Alectra proposes to spend $1,465.5 million in capital investments, an average of $291 million per year. This represents an increase in net capital of $120.1 million compared to a capital spend of $1,336.7 million for the previous five years 2015 to 2019. On a gross capital

[7] VECC-4
[8] EB-2017-0024 P17
[9] EB-2018-0016 Decision P7
[10] Report of the Board New Policy Options for the Funding of Capital Investments: The Advanced Capital Module, EB-2014-0219, September 18, 2014, P13
[11] *Ibid*, p. 24
[12] as set out in section 4.1.5 of the ACM Report

expenditure basis the increase is $190.3 million.[13]

Alectra states its DSP is built "from the ground up" and is not based on the historical expenditures of the utilities that form Alectra.[14] Alectra provided historical expenditures of the predecessor utilities for the sole purpose to comply with the OEB filing requirements. Alectra takes the position that the historical information should not be used to assess and compare Alectra's proposed 2020 to 2024 capital plan and no conclusions should be drawn about Alectra's proposed capital plan as a consolidated utility on the basis of historical spending. AMPCO disagrees with this premise. In AMPCO's view, historical expenditures are relevant to consider in this proceeding given that the OEB requires it as a starting point to assess future expenditures regardless if it is a merged entity or not. The types of assets in the predecessor utilities have not changed post merger. The approach to assessing assets pre-merger was consistent amongst the utilities. The Asset Condition Assessments (ACA) of four out of the five predecessor utilities was undertaken by Kinectrics and the fifth utility, PowerStream, conducted its ACA in-house based on the Kinectrics methodology. [15] Further, the consolidated DSP relies on the Kinectrics methodology and Kinectrics undertook a review of Alectra 2018 ACA in this application.[16] Historical costs are based on individual asset condition assessments for the predecessor utilities. AMPCO submits the ACA approaches are sufficiently similar, then and now, to allow for a meaningful comparison of costs, historical versus forecast.
In addition, Alectra references historical spending when it suits it to demonstrate that forecast costs are below historical levels. For example, when discussion station assets, Alectra states "For the 2015-2019 period, Alectra Utilities (including its predecessors) invested approximately $44.7MM on projects related to renewing station assets. For the 2020-2024 period, Alectra Utilities plans to invest approximately $28.7MM on investments associated with station renewal, a reduction of $16MM over a five-year period.[17]

Appendix A to AMPCO's argument provides a comparison of all of the expenditures over the 2015 to 2019 period to 2020 to 2024 period. The largest component of the increase in spending is System Renewal. Over the 2020 to 2024 period, Alectra proposes to spend $768.3 million on System Renewal compared to $639.2 million over the 2015 to 2019 period, an increase of $129.1 million or 20%.

The largest increase by far is $173.3 million in Underground Asset Renewal, a 76% increase, from $228.5 million to $401.8 million. As discussed under Section D, AMPCO does not support the accelerated pace of Underground Cable & Cable Accessories spending compared to historical levels based on asset condition and failure rate trends. AMPCO believes a slower pace consistent with historical spending and the desire of all customers to keep electricity rates as low as possible is more appropriate.

The other key drivers of capital increases, when comparing the previous five year spend to the forecast spend over the 2020 to 2024 period, are:[18]

[13] Appendix A $1,896.6 million vs.$1,706.3 million
[14] Ex 1-3-1 P1
[15] EB-2016-0025 B-AMPCO-15
[16] Appendix E Kinectrics Inc. ACA Assurance Review
[17] Staff-2 (b) (c) & (d) P5

[18] Highlighted in Appendix A.

- Customer Connections ($60.4 million);
- Reactive Capital ($13.4 million);
- Capacity Lines ($25.2 million);
- Information Technology ($19.8 million); and
- Fleet Renewal ($18.6 million).

AMPCO's specific comments on some of the above projects in the DSP are under section D below.

After reviewing the key elements that underpin Alectra's DSP, i.e., ACA results (Section A), reliability (Section B), project specific spending (Section D) and customer engagement (Section E) AMPCO submits the OEB should conclude Alectra's 5 year DSP should not be fully funded as proposed.

**A. Directionally, Asset Condition is Improving Over Time**

Alectra's ACA, that supports the DSP, indicates Alectra currently has a total of 303,600 assets of which 17,782 or 6% are past their useful life.[19]

Directionally, based on the historical ACAs of the predecessor utilities[20], that were all prepared by Kinectrics or based on the Kinectrics methodology, the quantity of assets past their useful life and in very poor and poor condition is getting better over time. The excel spreadsheet with the details is filed as Appendix C.

**Table 2: Historical Asset Condition Assessment Results**

| **Historical Asset Condition Assessment (ACA) of Predecessor Utilities (AMPCO-2) (K2.1 P34)** | | | | | | |
|---|---|---|---|---|---|---|
| **Legacy Utility** | **Operating Area** | **ACA Year** | **Methodology** | **Total Population at time of each ACA (unit & km)** | **% Assets in VP & P Condition** | **Quantity of Assets in VP & P Condition** |
| PowerStream | East | 2017 | In-house based on Kinectrics | 93,763 | 12.5% | 11,699 |
| Guelph Hydro | South West | 2014 | Kinectrics | 19,702 | 2% | 399 |
| Enersource | South | 2015 | Kinectrics | 57,606 | 9% | 5,172 |
| Horizon Utilities | West | 2013 | Kinectrics | 95,024 | 11% | 10,309 |
| Brampton Hydro | Central North | 2013 | Kinectrics | 30,882 | 6% | 1,913 |
| Total | | | | 296,977 | 10% | 29,492 |

This is especially true for underground XLPE cable.

Currently, Alectra has 21,639 km of XLPE underground cable of which 3,156 km or 15% of in very poor or poor condition.[21] As shown in Table 2 below, this reflects an improvement over historical cable deterioration levels of 27% for Brampton Hydro in 2013, 21% for Enersource in 2015; 29% for Horizon in

[19] Appendix B
[20] AMPCO-11
[21] Appendix B

2013 and 29% for PowerStream in 2017. This data trend does not support a 69% increase in Underground Cable over the 2020 to 2024 period compared to spending over the 2015 to 2019 period and Alectra's proposed accelerated underground asset renewal pace.

**Table 3: Historical Asset Condition Assessment for Underground XLPE Cable**

**Historical ACA Results of Predecessor Utilities**
JT2.2 Q3 Attach #2

| | Asset Class | Unit | Total Population | HI Quantity | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | VP | P | F | G | VG | VP & P | % VP & P |
| Guelph | GH Primary Cables | km | 680 | 0 | 1 | 51 | 11 | 617 | 1 | 0% |
| | GH Secondary Cables | km | 1,123 | 0 | 2 | 13 | 49 | 1059 | | |
| Brampton | BH Primary Feeder XLPE Cable | km | 711 | 153 | 13 | 15 | 17 | 513 | | |
| | BH Primary Distribution XLPE Cable | km | 2411 | 596 | 48 | 61 | 70 | 1636 | 644 | 27% |
| Enersource | EH Distribution UG Cables | km | 4,076 | 679 | 172 | 405 | 498 | 2322 | 851 | 21% |
| Horizon | HR Primary UG Cables XLPE | km | 2060 | 269 | 323 | 375 | 313 | 780 | 592 | 29% |
| | HR Primary UG Cables PILC | km | 1531 | 9 | 3 | 30 | 133 | 1356 | | |
| | HR Secondary UG Cables DB | km | 756 | 82 | 236 | 166 | 132 | 140 | | |
| | HR Secondary UG Cables ID | km | 532 | 77 | 145 | 98 | 91 | 121 | | |
| PowerStream | PS UG Cable (EB-2016-0025 AMPCO-6b) | km | 8220 | | | | | | 2384 | 29% |
| | **Total XLPE Cable in VP & P** | km | | | | | | | **4472** | |

Alectra indicated its legacy PowerStream ACA does not include Health Index categorization of underground cable, hence the Very Poor and Poor percentage provided in does not include underground cables for legacy PSRZ.[22] AMPCO notes at the time of the merger, LDC Co. provided the Health Index categorization of underground cable for PowerStream in response to an AMPCO interrogatory as follows: of PowerStream's 8,220 km of underground cable, 29% was in very poor or poor condition.[23] AMPCO has provided this information in Appendix C. AMPCO added this data in Table 2 above to arrive at 12.5% of assets in poor and very poor condition in the PowerStream rate zone (compared to 10% provided in JT2.2 Question #2).

The overall point of AMPCO's ACA analysis is to point out that directionally it does not appear that asset condition is deteriorating at the urgent rate expressed by Alectra and that the current pace of investment, particularly underground cable renewal, needs to be adjusted and accelerated to the level proposed in the DSP. If the OEB accepts this analysis, then the DSP should not be fully funded and the M-factor, if approved, should be at an amount less than $265 million.

AMPCO does not support the incremental funding requested for underground cable replacement. AMPCO's specific submissions on the Underground Asset Renewal program are in Section C.

[22] JT2.2 Question 2 P2 Footnote #2
[23] EB-2016-0025 AMPCO 6-b; See Appendix C

## B. Reliability

AMPCO has several concerns regarding Alectra's messaging on declining reliability[24] in support of its DSP.

### i) The reliability of Alectra's distribution system cannot be characterized as declining.

AMPCO would not characterize Alectra's reliability as declining over the 2014 to 2018 period and that an urgent System Renewal response is warranted. To be of assistance to the OEB in determining if an M-factor is needed, AMPCO provides the following perspective.

As required by the OEB[25], Alectra reports SAIFI and SAIDI inclusive of all cause codes and excluding Loss of Supply (LoS) and Major Event Days (MEDs).

In order to have a clearer view of overall system performance, AMPCO submits Scheduled Outages should also be excluded. Toronto Hydro tracks SAIDI and SAIFI excluding MEDs, LoS, and Scheduled Outages. Toronto Hydro acknowledges each SAIFI and SAIDI scenario provides valuable information as to the causes, duration, and frequency of outages within its system but also excluding Scheduled Outages provides a more normalized reflection of total system reliability performance.[26] As planned outages do not reflect the inherent reliability performance of the distribution system, AMPCO submits Scheduled Outage data should be excluded from the reliability analyses along with MEDs and LoS.

When MEDs, LoS and Scheduled Outages are excluded from SAIFI and SAIDI, the normalized reflection of total system performance shows that reliability has decreased between 2014 to 2017, with 2016 and 2017 results slightly below 2014 results as shown in Table 4 below.

SAIFI is also on a downward trend between 2014 and 2017, from 1.18 to 1.07, with an increase in 2018 to 1.30. SAIDI is relatively flat between 2014 and 2017, from 0.74 to 0.70, with an increase in 2018 to 0.96.

**Table 4 : Reliability Metrics Excluding Major Event Days, Loss of Supply & Scheduled Outages**

| Reliability Results | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| SAIFI | 1.51 | 1.59 | 1.43 | 1.34 | 1.80 |
| SAIFI - Excluding MEDs, LOS and SO | 1.18 | 1.20 | 1.05 | 1.07 | 1.30 |
| | | | | | |
| SAIDI | 1.30 | 1.42 | 1.66 | 1.10 | 1.87 |
| SAIDI - Excluding MEDs, LOS and SO | 0.74 | 0.89 | 0.73 | 0.70 | 0.96 |

Ref: AMPCO-15 & AMPCO-16

### ii) One Year of Data is Insufficient to Draw Conclusions on Reliability Trends

[24] Ex 1-3-1 P6

[25] OEB's Prescribed Appendix 2-G

[26] EB-2018-0165 Exhibit 1B Tab 2 Schedule 4 P1

AMPCO submits one year of data (2018) is insufficient to draw any conclusions that system reliability is inherently deteriorating and as a result there is an urgent need to increase System Renewal budgets by 20% compared to the previous 5 years.[27]

2018 is an outlier year with respect to weather, as was 2013. The increase in 2018 can be explained by the increased contribution to SAIDI from Adverse Weather and MEDs. [28]

| Metric | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| Major Event Days Contribution to SAIDI | 0.422 | 0.371 | 0.700 | 0.228 | 0.734 |
| % Contribution | 32% | 26% | 42% | 21% | 39% |
| Adverse Weather Contribution to SAIDI | 0.037 | 0.067 | 0.034 | 0.034 | 0.171 |
| % Contribution | 3% | 5% | 2% | 3% | 9% |

The increase in SAIFI and SAIDI in 2018 is not unique to Alectra. As illustrated by the 2018 OEB Yearbook data for distributors, the industry as a whole experienced increases in SAIFI and significant increases in SAIDI in 2018. [29]

### iii) The Contribution from Defective Equipment to SAIFI & SAIDI is Getting Better

Alectra is not unique. Defective Equipment is a leading cause of outages in the electricity industry.[30] However, over the 2014 to 2018 timeframe, the contribution to SAIFI and SAIDI from Defective Equipment (excluding MEDs) decreased from 31% in 2014 to 27% in 2018 for SAIFI[31] and 30% in 2014 to 27% in 2018 for SAIDI.[32] This data is important because its shows that less outages are being caused by defective equipment over time.[33]

The number of customer interruption hours from Defective Equipment decreased 15% from 455,522 hours in 2014 to 387,350 hours in 2017.[34] Over the 2015 to 2019 period, Alectra invested on average $127 million per year in System Renewal.[35] In 2018, the hours of interruption increased to 531,199.[36] Alectra now proposes to invest on average $154 million per year over the next 5 years (2020 to 2024), an increase of 20%. AMPCO submits one year of data is insufficient to conclude the declining trend in hours of interruptions from Defective Equipment will reverse and a significant increase in funding is needed.

[27] System Renewal: $768.3 million (2020-2024) vs $639.2 (2015-2019)
[28] Appendix D Lines H & D
[29] K2.1 AMPCO Compendium P19-20
[30] OEB Yearbook data 2014 to 2018
[31] Appendix D Line A
[32] Appendix D Line E
[33] Appendix D
[34] J2.2
[35] $507.1 million/4 = $127 million per year
[36] J2.2

### iv) Alectra's Reliability Results are Better than the Industry Average

As shown in the tables below, Alectra's reliability results[37] are better than the Industry average[38] for both SAIFI and SAIDI for all years

Alectra Reliability Metrics - All Inclusive (all cause codes)

| Metric | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| SAIFI | 1.51 | 1.59 | 1.43 | 1.34 | 1.80 |
| SAIDI | 1.30 | 1.42 | 1.66 | 1.10 | 1.87 |

Industry Average - All Inclusive (all cause codes)

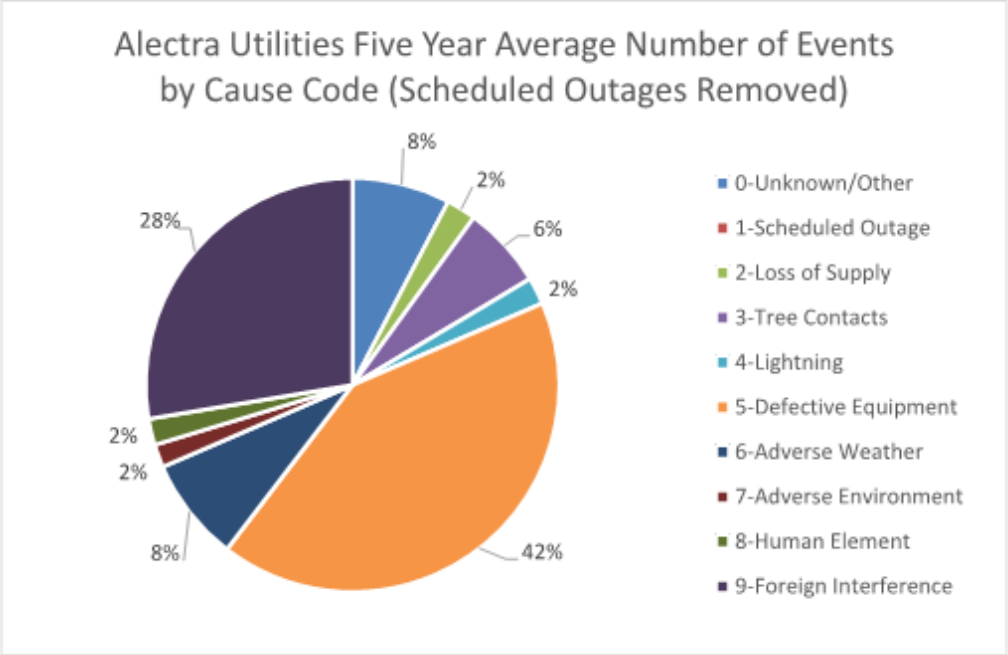
| Metric | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| SAIFI | 2.14 | 2.15 | 2.03 | 2.08 | 2.65 |
| SAIDI | 3.74 | 4.64 | 4.75 | 4.67 | 9.25 |

### v) Scheduled Outages, Not Defective Equipment, is the Leading Cause of Outages

In evidence Alectra provided the Figure below[39] to show the average number of outage events by cause code but Alectra removed the Scheduled Outages cause code from the Figure. This seemed odd to AMPCO.

[37] JT1.2 Attachment #1 – Reliability Metrics
[38] K2.1 AMPCO Compendium P19-20
[39] Ex 4-1-1 Figure 5.2.3-5 Performance Measurement for Continuous Improvement Page 113

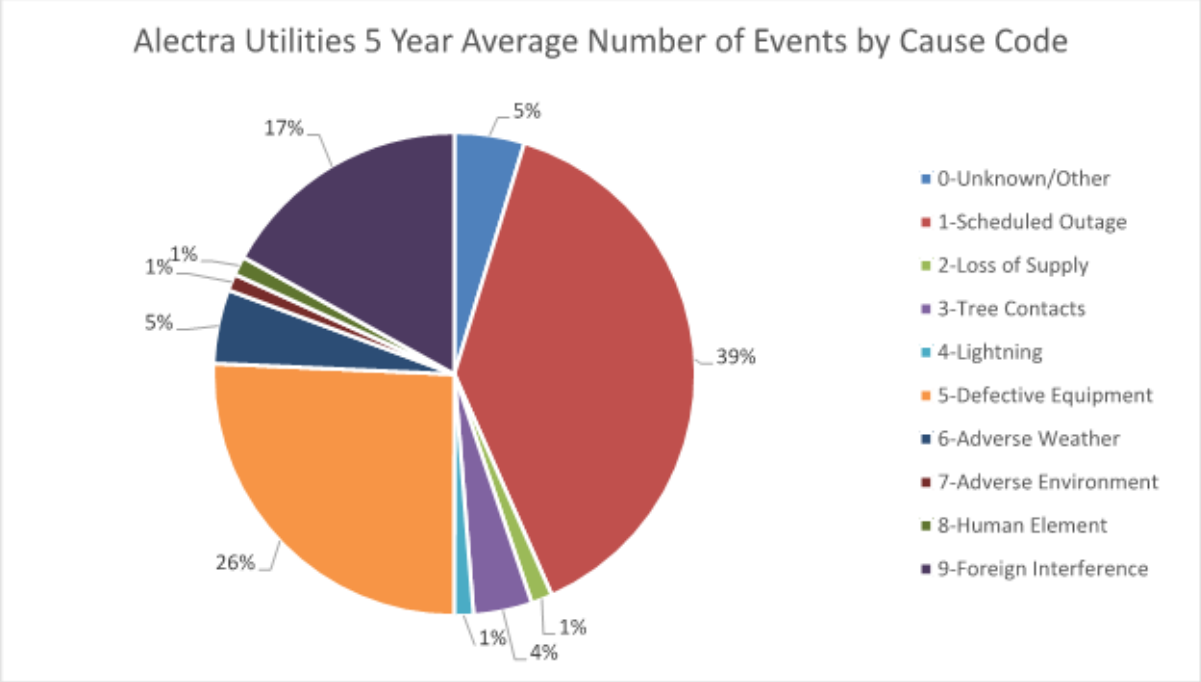
**Figure 5.2.3 - 5: Alectra Utilities Five Year (2014-2018) Average Number of Events by Cause Code (Excluding Scheduled Outages)**




In reference to the Figure which excludes Scheduled Outages, Alectra makes the point that Defective Equipment is the leading contributor in both duration and frequency of outages over the last five years. However, this is not actually the case. When Scheduled Outages are included in the Figure (see below)[40], Scheduled Outages are the leading contributor to outage events, not Defective Equipment. Scheduled Outages contribute 39% to frequency of outages over the last five years compared to 26% for Defective Equipment. This is important because Alectra's customer engagement reveals the top reliability concern for customers is the overall number of outages.[41] Alectra has been emphasizing the need for more Capital funding to respond to Defective Equipment. Alectra should also be looking for operational strategies to reduce its high percentage of Scheduled Outages (controlled by Alectra for construction and maintenance work).

[40] AMPCO-18
[41] Ex 4 Appendix C P1

**Figure 1 - Alectra Utilities' 5 Year Average Number of Events by Cause Code**




### vi) Messaging on Reliability Misleading

AMPCO finds the messaging on reliability provided to the OEB on Presentation Day distorts and overstates the impact of Defective Equipment and Adverse Weather on Alectra's reliability.

On Presentation Day, Alectra presented urgent needs for increased investment in system renewal based on longer and more frequent power outages: 45% from Defective Equipment and 33% from Adverse Weather.[42]

In calculating and reporting this data[43] on the slide, Alectra did not factor in all of the OEB prescribed reliability cause code data. Rather Alectra provided a subset, only 6 out of 10 cause codes, on the basis these outages are "controllable" by Alectra. It's not clear to AMPCO how Adverse Weather is controllable by Alectra.

In PowerStream's DSP prior to consolidation, PowerStream lists its view on which reliability cause codes are controllable and uncontrollable as shown in Table 5 below.[44] PowerStream does not show Adverse weather as a controllable factor. Nor does PowerStream show Animal Contact or Unknown/Other as a controllable factor. Rather, PowerStream lists Scheduled Outages as a controllable factor yet Alectra has not included Scheduled Outages as controllable on the pie chart. Clearly, Scheduled Outages are

[42] KP1.1 Slide 16

[43] Based on five-year average hours of interruption (VECC-14)

[44] Exhibit G Tab 2 5.2.3 Performance Measurement for Continuous Improvement
Page 17 Table 1

within Alectra's control as planned outages are needed and scheduled so Alectra can undertake its planned construction and maintenance work. Scheduled Outages should have been included in the pie chart.

**Table 5: Controllable and Uncontrollable Outage Cause Codes (as per former PowerStream)**

| (CEA Code #) Controllable factors | (CEA Code #) Uncontrollable factors |
|---|---|
| (5) Defective Equipment | (9) Foreign Interference (3rd party event) |
| (1) Scheduled Outage (by P/S to do work) | (2) Loss of Supply (Hydro One) |
| (3) Tree Contact | (7) Adverse Environment *(Weather Dependent) ie salt* |
| (8) Human Element | (6) Adverse Weather *(Weather Dependent)* |
| | (4) Lightning *(Weather Dependent)* |

Table 1: Controllable and Uncontrollable Outage Cause Codes

This issue is important because by being selective and changing the denominator based on a subset of cause codes included in Alectra's pie chart calculation, Alectra has overstated the contribution of Defective Equipment and Adverse Weather. Alectra stated at the Presentation Day that Defective Equipment and Adverse Weather account for 78% of all controllable outages. When all cause codes are considered, the contribution from Defective Equipment to outages is actually 30% and Adverse Weather is 22%,[45] accounting for 52% of all outages, not 78%.

Alectra refers to the 45% contribution from Defective Equipment on controllable outages in its evidence and specifically, as part of its Underground Asset Renewal Business Case (A10).[46] AMPCO submits the OEB should take this into consideration in reviewing the proposed drivers for DSP investment levels and deciding if the DSP warrants full funding for the purpose of determining the M-factor. Perhaps there needs to be agreement in the industry on which cause codes should be included as part of controllable outages.

Alectra indicates its DSP investment levels are driven by poor reliability due to deteriorated equipment in its underground and overhead systems and the impacts of adverse weather.[47] AMPCO asks that the OEB consider the above points raised by AMPCO related to previous and current ACA results and reliability to conclude that Alectra's DSP should not be fully funded.

### C. M-factor Projects

The DSP includes 884 capital investment projects[48] of which 203 (23%) are M-factor projects.[49] Lower

[45] Ex 4-1-1 5.2.3 Performance Measurement for Continuous Improvement P112
[46] A10 P1
[47] Ex 1-2-1 P2
[48] AMPCO-27
[49] CCC-9 J1.3

value investments are funded through the M-factor. Alectra Utilities' materiality threshold as defined in section 2.0.8 of the OEB's Chapter 2 Filing Requirements, is $1 million.[50]

AMPCO estimates that 79 out of 203 M-factor projects (39%) exceed the materiality threshold of $1 million.[51] The remaining projects are under $1 million and reflect minor expenditures in comparison to the overall capital budget and would not pass the OEB's project specific materiality test under an ICM. Many M-factor projects are at or under $100,000.

Based on the 2018 ICM Decision, Alectra Utilities did not include capital investment plans related to underground cable or rear lot renewal in its ICM application for the 2019 rate year. Underground cable and rear lot renewal projects are included as M-factor projects.

AMPCO estimates that approximately $12.2 million of vehicle replacements (each one below the $1 million materiality threshold) are included as M-factor projects. Vehicle replacements would not qualify as ICM projects.

Alectra indicates one of the main differences between an ICM and the M-factor is that the ICM provides specific funding tied to specific projects whereas the M-factor allows for flexible funding that can shift. M-factor capital investments are funded on an envelope basis, allowing specific projects to be replaced, modified or shifted between years depending on system needs and priorities. System needs and priorities change over time, from one year to the next. In AMPCO's experience reviewing electricity rate applications, DSPs are not fully executed as planned and by year five of a DSP, circumstances change, and many factors can change investment priorities. On an annual basis, a certain percentage of work is either advanced, deferred or cancelled and new projects replace planned projects based on a shifting of priorities. For example, updated annual asset condition assessments, system needs, maintenance records, and updated failure data identify new priorities. Under the M-factor proposal Alectra has a perverse incentive to complete the five years of M-factor projects regardless of new priorities, as the OEB has already approved funding for these projects on an envelope basis.

**D. Project Specific Comments**

Underground Asset Renewal

Over the 2015 to 2019 period, Alectra will spend $196.9 million on Underground Cable and Cable Accessories. Over the 2020 to 2024 period, Alectra has increased the level of spending by 69% to $332.6 million which reflects $135.7 million in incremental funding.[52]

| | Historical Spending | | | | Bridge | Forecast Spending | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| CAPEX ($MM) | $38.6 | $36.4 | $46.5 | $40.8 | $34.6 | $48.0 | $61.1 | $68.3 | $74.2 | $81.0 |

[50] VECC 10-(f)
[51] JT2.2 Q1 Attach #1
[52] A10 P10

Alectra proposes to increase the asset renewal rate for underground cable (injection and replacement) from 0.6% for the years 2016 to 2018 to 1.4% in 2020, increasing to 2.4% by 2024.[53] The majority of cable replacement is related to XLPE.

For the following reasons, AMPCO submits the OEB should not support this accelerated pace of cable spending over the 2020 to 2024 period.

First, as discussed above under Section A, the km of underground cable in very poor and poor condition has improved over time. Alectra's ACA indicates Alectra has 21,639 km of underground primary XLPE cables of which 3,156 km or 15% is in very poor and poor condition at the end of 2018[54] In the historical ACAs for each the predecessor utilities the quantity and percentage of XLPE cable in poor and very poor condition was significantly worse: 27% for Brampton Hydro, 21% for Enersource; 29% for Horizon and 29% for PowerStream.

This data does not support a 69% increase in Underground Asset Renewal investment over the 2020 to 2024 period. The condition of underground cable is not deteriorating over time.

Second, underground cable and cable accessories failure rates do not reflect the need for urgent replacement of underground assets.

The number of XLPE cable and XLPE accessories failures decreased between 2015 to 2017 from 559 to 477. In 2018, the number of failures increased to 534. AMPCO submits more years of data beyond 2017, when failure rates were lower than 2015, is required in order to establish that a negative failure rate trend exists for XLPE cable.

The same is true for customer interruption minutes. The number of XLPE cable and XLPE accessories failures decreased between 2015 to 2017 from 183,888 to 163,118. e

| | # Failures | # Failures | # Failures 2016 | # Failures 2017 | # Failures 2018 |
|---|---|---|---|---|---|
| U/G Primary XLPE Cables | 410 | 559 | 541 | 477 | 534 |

| | # Custom er | # Custom er | # Customer Interruptions 2016 | # Customer Interruptions 2017 | # Customer Interruptions 2018 |
|---|---|---|---|---|---|
| U/G Primary XLPE Cables | 138,717 | 183,888 | 177,149 | 163,118 | 182,122 |

Alectra's planned Underground Asset Renewal investments are driven by an increasing decline in reliability. In AMPCO's view, the condition and reliability of underground cable is not deteriorating. As a result, AMPCO submits the OEB should not approved $135.7 million in incremental funding for underground cable.

[53] AMPCO-31
[54] AMPCO-26 Attach#1

Given the level of investment proposed for underground cable in the DSP, AMPCO submits the OEB should require that Alectra establish a performance measure for underground cable related to underground cable failure rates pre and post remediation for specific cable projects.

**Reactive Capital**

Once asset deficiencies are identified through regular maintenance, emergency response, field communications and other analysis, Alectra responds to the deficiency through either corrective maintenance, reactive capital or planned capital budgets.

Assessing the number and type of deficiencies over time provides another view of the health of a utility's system. Alectra was unable to provide data on the historical number of deficiencies for the years 2014 to 2018 because current systems have not been consolidated.[55] As a result, its not known whether the number of identified deficiencies on the system are increasing or decreasing.

With respect to the Reactive Capital budget, Alectra spent a total of $84.6 million on reactive capital investment between 2015 and 2019. During the DSP period, Alectra has budgeted $98 million for Reactive Capital expenditures, an increase of $13.4 million.

| | Historical Expenditure | | | | Bridge | Forecast Expenditure | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| CAPEX ($MM) | $16.7 | $14.6 | $15.6 | $20.5 | $17.2 | $18.8 | $19.2 | $19.6 | $20.0 | $20.4 |

Alectra indicates the budgeted expenditures are based on historical volumes and cost of work.[56]Given that Alectra could not provide historical data on the volume of work its not clear how this information was used to derive the forecast budgets. AMPCO submits the forecast budget should be set based on costs. i.e. historical actuals during the previous five-year period. This results in a $13.4 million reduction to Reactive Capital.

If the OEB approves the incremental capital funding M-factor, AMPCO submits the Reactive Capital budget should be further reduced to reflect that reactive capital needs will decrease due to the increased investment in underground and overhead assets.

**Fleet**

Alectra retained Mercury Associates to conduct a vehicle utilization study which is expected to be completed in Q4, 2019. This study will further inform Alectra Utilities fleet investment decisions.[57] AMPCO submits until this study is complete and the conclusions and recommendations have been considered, incremental capital funding of $18 million related to Fleet should not be approved.

**Other Considerations:**

- **Potential ICM Projects.** Alectra could not identify which M-factor projects would qualify as ICM projects. Some projects qualify as ICM projects.

[55] AMPCO-33
[56] A6
[57] AMPCO-36

- **Productivity.** Alectra has not built any productivity into its DSP to the benefit of customers.

- **System Renewal Spending Increases in 2024**. In 2024, System Renewal spending increases from an average of $148 million from 2020 to 2023, to $177, with notable increases in Rear Lot Conversion and Underground Asset Renewal spending.[58] This jump in System Renewal spending in 2024 is not justified.

- Alectra does not track asset removals and the age an asset is removed from service and although some data is being captured it is currently stored in isolated applications and difficult to locate ad extract.[59] This is important because historic removal information including age allows the build-up of specific asset degradation curves. In order to advance its ACA, Alectra needs to implement a formalized process to track asset removal information including age. Kinectrics noted this in its review of Alectra's ACA. Kinectrics recommends that Alectra develop Alectra-specific degradation curves based on failure statistics. These degradation curves will provide a more representative age scoring model.[60] The impact of not doing this is Alectra may be advancing assets for replacement prematurely.

- The M-factor, CIVA and EDCVA give rate certainty to Alectra that reduces Alectra's risk. Customer are expected to fully fund the DSP and in return Alectra has not put forward any benefits for customers such as an enhanced ESM or CIVA that is symmetrical. This is not a balanced approach.

## E. Customer Engagement

Alectra repeatedly states the DSP is based on the priorities and preferences of Alectra's customers[61] and customer engagement has a significant influence on the resulting capital investment plan.[62] Therefore the OEB must carefully consider the validity of the customer engagement results. AMPCO has significant concerns regarding the approach used in the DSP-specific customer engagement process and the conclusions reached about the expectations and preferences of Alectra's customers. As a result, AMPCO recommends that the Board place minimal weight on the DSP customer engagement as a justification to fully fund the DSP and M-factor projects which are aligned with the second phase of customer engagement.[63]

Alectra engaged Innovative Research Group Inc. (Innovative Research) to assist with two rounds of customer engagement. The first round was conducted in mid-2018 to assess customer needs and preferences. Then once Alectra had a preliminary set of potential capital investments, Alectra returned to customers for a second consultation in 2019 and customers were asked their preference on pacing options for specific capital investments.

[58] Appendix A
[59] AMPCO-13
[60] Ex 4 Appendix E Recommendations
[61] AIC P13
[62] AIC P14
[63] Staff-2

In the first customer consultation, telephone surveys were conducted, and Innovative Research identified the following top two customer priorities: Charging reasonable distribution rates and ensuring reliable electrical service.[64] These top two priorities are common to most distributors. When asked about customer needs, the clear majority of customers in all rate zones are satisfied with the current service they receive and when asked how Alectra can improve service, top responses are either nothing or lower rates.[65] Despite a clear preference for lower rates, Alectra did not place a constraint on capital spending. Rather Alectra identified more investment needs than the current approved rates can support. Alectra then decided it needed to follow-up with customers to get their views on spending priorities and individual projects.[66]

In the second consultation in 2019, customers completed engagement workbooks and customers were asked for their input on the pacing of the following specific capital investment areas:

i. Specific Asset Renewal Investments (Cables, Poles, Transformers)
ii. Rear Lot Conversion Investments
iii. Voltage Conversion Investments
iv. Capacity Investment (Stations and Distribution Lines)
v. Control and Monitoring Equipment Investments
vi. Metering Investments to mitigate data security risks
vii. General Plant Investments
viii. Pilots to evaluate integration of emerging technology and enable customer choice

Innovative Research concluded that overall customers are prepared to fund the level of investments recommended by Alectra.[67] Alectra then incorporated customer preferences into the DSP by adjusting the pace of investments and deferring certain projects. Specifically, Alectra accelerated the pace of Underground Asset Renewal investment, bringing forward projects totaling $22.2MM to address urgent system needs and project deferrals resulted in a net reduction of $17.5 million. The end result is a five-year capital plan totalling $1,456.5 million.

AMPCO finds the information provided to customers was either misleading, leading or insufficient to allow customers to select pacing options that can be relied upon to justify spending levels in the DSP.

**Information on Reliability is Misleading**

Customers were told that the average number of outages (excluding MEDs) has increased by an average 6% per year from 2014 to 2018, rising from 1.27 to 1.53.[68] This information is misleading. Customers were not provided with actual reliability data which shows that SAIFI in 2016 and 2017 is below SAIFI in 2014.[69] The information provided to customers suggests a steady decline in reliability year over year which is not the case.

[64] Ex 4-1-1 5.2.1 Distribution System Plan Overview P35
[65] Ex 4 Appendix C P1
[66] Ex 4 Appendix C P6
[67] Ex 4-1-1 5.2.1 Distribution System Plan Overview P34
[68] Appendix C Residential Customers Online Workbook Results P33
[69] Ex4-1-1 5.2.3 Performance Measurement for Continuous Improvement P110

**Table 5.2.3 - 7: Alectra Utilities' SAIFI, SAIFI Excluding MEDs, LOS results from 2014 to 2018**

| Metric (Number of Outages) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| SAIFI | 1.51 | 1.59 | 1.43 | 1.34 | 1.8 |
| SAIFI - Excluding MEDs | 1.27 | 1.41 | 1.24 | 1.23 | 1.53 |

The same is true for SAIDI. Customers were told that the average duration of outages (excluding MEDs) has increased by an average 8% per year from 2014 to 2018, rising from 0.88 hours to 1.14.[70] Customers were not told that in 2017, SAIDI was consistent with 2014 at 0.87.[71] Customers were not told there was an increase in weather events in 2018 which impacted reliability.

**Table 5.2.3 - 5: Alectra Utilities' SAIDI, SAIDI Excluding MEDs, LOS Results from 2014 to 2018**

| Metric (Hours) | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| SAIDI | 1.30 | 1.42 | 1.66 | 1.10 | 1.87 |
| SAIDI - Excluding MEDs | 0.88 | 1.05 | 0.96 | 0.87 | 1.14 |

With respect to selecting pacing options for specific investments, Alectra provided leading information to customers on the issue and leading information regarding the pace recommended by Alectra but at the same time insufficient information to allow customers to make meaningful selections on complex investment decisions. As a result, most customers selected Alectra's recommended pace for most investments.

For example, with respect to Underground Asset Renewal, Alectra told customers that it reviewed all of its equipment across all of its operating areas and it became clear that replacing XLPE underground cable requires an accelerated investment plan. Alectra put forward a recommended pace which was selected by customers.

AMPCO submits that predecessor utilities previously knew that replacing XLPE underground cable was a priority as evidenced by the high percentage of underground cable in very poor and poor condition in each of these legacy utilities. (PowerStream 29% in 2017; Horizon 29% in 2013; Brampton 27% in 2013 and Enersource 21 % in 2015). This is not a new issue. The DSPs of these utilities had already put a priority on replacing XLPE underground cable. In Enersource's draft DSP, Enersource indicates underground cable failures are the leading cause, accounting for 50% of equipment failures in the distribution system. To address this risk, Enersource has an extensive cable replacement program. [72]

Customers were then asked to decide which cable replacement strategy they would prefer: Slower Pace; Base Pace; Recommended Pace; and Accelerated Base. Each option included a quantity of cable to be replaced or rehabilitated by 2024 and an expected reliability outcome. Customers were not told how much underground cable is currently being replaced or rehabilitated and how the reliability projections were derived.

Customers were provided with only one case study on cable failures, but they were not provided with

[70] Appendix C Residential Customers Online Workbook Results P33
[71] Ex 4-1-1 5.2.3 Performance Measurement for Continuous Improvement P108

[72] EB-2015-0065 2016 Price Cap IR Interrogatory Responses Supp-Staff-15

total cable failure data over time which as previously discussed does not reveal a declining trend. Customers were also not provided with cost information. Customers were not told that historically, Alectra spent $228.5 million over five years (2015 to 2019) on underground asset renewal and that now Alectra is proposing to spend $401.8 million over the 2020 to 2024 period, $173.3 million more. Underground Asset Renewal was the largest System Renewal program historically (36% of System Renewal budget) and it is by far the largest System Renewal program in the consolidated DSP (52% of System Renewal budget). Given the issue around XLPE cable was previously known and being addressed by the predecessor utilities through substantial System Renewal spending, it's AMPCO's view that customers were not provided with sufficient background and cost information in order to make an informed determination on pacing to justify Alectra's decision to in the end implement an accelerated pace of underground cable renewal with such a large proportion of spending in the DSP. Pacing of capital investments is too complex an issue to expect customers to choose an option based on the information that was provided.

**Other Considerations**

- Customers were not informed of the embedded rate of return, nor the level of savings associated with the merger.[73]

- Customers were not told that Alectra is seeking $265 million in incremental capital and that the revenue requirement impact over five years is $60.9 million.

- Customers were not told that Alectra could also recover an additional $9.3 million.

In AMPCO's view, if customers were provided with all of the missing information identified above, the outcome of the customer engagement may have been very different.

**Summary**

The purpose of the M-factor is to bridge the gap during Alectra's rebasing deferral period, between the level of investment funded through base rates and the level of investment that needs to be funded to fully execute its DSP.[74]

Alectra indicates it has prioritized investments in system renewal, necessary to reverse the negative trend in reliability due to defective equipment and failures due to adverse weather condition and to reflect Alectra Utilities' customer preference to maintain reliability levels.

As discussed above, AMPCO does not accept that there is a negative trend in reliability due to defective equipment. The percentage contribution of defective equipment to SAIFI and SAIDI is decreasing between 2014 and 2018 and the number of interruption hours from defective equipment in 2017 is below 2014 levels. A one-year increase in reliability data is not sufficient to draw a conclusion that there is a negative trend in reliability.

[73] CCC-6
[74] Satff-9

Alectra proposes a $129.1 million or 20% increase in its System Renewal budget from $639.2 million over the 2015 to 2019 period to $768.3 million over the 2020 to 2024 period. $101.4 million of capital investments to be funded by the M-factor are System Renewal investments.[75]

AMPCO submits that Alectra has not justified the need to accelerate the pace of key capital investments that drive costs in the consolidated DSP and as a result the DSP and M-factor should not be fully funded. Adjustments in overall pacing to better balance system needs with the interests of customers with respect to price and affordability of electricity service are needed.

The best mechanism to provide incremental capital funding for Alectra until it rebases is an ICM as per the original merger plan.

**F. Capital Investment Variance Account (CIVA)**

Alectra proposes to establish a CIVA to track the difference between the capital funding provided through the M-factor riders and Alectra's actual capital investments during the term of the DSP. Alectra proposes that the account will operate symmetrically such that customers will be refunded for overall under-investment but any spending above the level funded through the M-factor will be recovered by Alectra subject to OEB review for prudency and capped at the revenue requirement associated with incremental capital in-service of $9.3 million. This represents the difference between the $265 million of proposed M-factor funding and the $274.3 million.

Subsequently, Alectra updated its evidence and adjusted the PCI from a placeholder of 1.2% to 1.36%. These and other changes updated the materiality threshold and Alectra's base distribution rates are now expected to support $1,086 million of total capital expenditures during the 2020-2024 planning period, on average $217 million per year, leaving a funding gap of $74 million per year.

**Table 6 : Eligible Incremental Capital**

| | As Filed | Updated |
|---|---|---|
| PCI | 1.20% | 1.66% |
| 2020 to 2024 DSP Capital Forecast | $1,456.5 | $1,456.5 |
| Less: Materiality Threshold | $1,182.2 | $1,086.1 |
| **Maximum M-factor Eligible Capital** | **$274.3** | **$370.4** |
| **Funding Gap** | **$55** | **$74** |

Regardless of the changes in the threshold calculations, Alectra is still seeking $265 million of incremental capital funding through the M-factor and the list of 203 M-factor projects does not change.[76]

AMPCO submits that if the OEB approves the M-factor it should approve the CIVA as it protects customers with respect to any underspend. However, AMPCO does not support Alectra's proposal that the CIVA be symmetrical. With this proposal, customers are at risk of spending beyond the M-factor. Currently, Alectra is unable to provide any historical capital performance data with respect to project

[75] J1.43
[76] Transcript Vol 2 P3-4

cost, schedule or scope changes so it is not known at this time if project execution risks exist with respect to significant project variances in cost and schedule.[77] Just because capital budgets are spent does not mean projects were executed as planned, on time and on budget. Without baseline data on Alectra's historical project performance, customers should not bear the additional risk of spending beyond the M-factor funding level, regardless of the amount. The previous Horizon CIVA reached to in settlement in was asymmetrical. Alectra is not aware of another utility with a CIVA that is symmetrical.[78] A symmetrical CIVA is not in the best interests of the customer and should nit be approved.

In it Argument-in-chief, Alectra indicates it also expects to record amounts relating to DSP projects other than M-factor projects in the CIVA to reflect the capital related revenue requirement arising from the execution of DSP projects that are not funded through base rates arising from the corrections made to billing determinants and the updated placeholder PCI based on a 5-year historical average of inflation rates.[79] AMPCO assumes this means that Alectra is now seeking to recover an additional $96.1 million related to DSP projects other than M-factor projects.[80] AMPCO does not support this new proposal as it has not been tested by the parties. In AMPCO's view, not all capital spending up to the maximum eligible incremental capital amount is eligible for incremental funding.

Should the OEB deny Alectra's M-factor request, AMPCO submits the supporting M-factor elements, i.e. the CIVA and EDCVA should also not be approved.

**G. Externally Driven Capital Variance Account**

Alectra seeks approval of an Externally Driven Capital Variance Account (EDCVA), which would capture the difference between the revenue requirement in rates associated with externally-driven capital expenditures related to regional transit projects and capital works required by road authorities.

AMPCO submits if the OEB approves the M-factor it should approve the EDCVA. If however, it does not approve the M-factor in favour of continuing with using the ICM mechanism to fund incremental capital, the EDCVA should not be approved. Consistent with the EB-2017-0024 Decision[81], when more details of these projects are available, including budgets and in-service date, Alectra Utilities can apply for an ICM if it meets the OEB's criteria.

**H. Capitalization Policy:**

AMPCO has reviewed the detailed submissions of the School Energy Coalition regarding the changes in capitalization policy and supports those submissions.

**Costs:**

AMPCO requests that it be awarded it reasonably incurred costs for its participation in this proceeding.
**ALL OF WHICH IS RESPECTFULLY SUBMITTED**

[77] AMPCO-25
[78] CCC-11
[79] AIC P32
[80] $370.4 - $274.3 = $96.1 million
[81] P72

**Appendix A**

**Capital Investment Comparison**

**2015 to 2019 compared to 2020 to 2024**

Appendix A
AMPCO-29
**Capital Investment Comparison**

| Project Group | 2015 Actual | 2016 Actual | 2017 Actual | 2018 Actual | 2019 | Total 2015 to 2018 | 2020 | 2021 | 2022 | 2023 | 2024 | Total 2020 to 2024 2018 | Variance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MIFRS** | | | | | | | | | | | | | |
| **SYSTEM ACCESS** | | | | | | | | | | | | | |
| Network Metering | 18.1 | 9.4 | 12.2 | 10.8 | 14.3 | 64.8 | 14.8 | 14.3 | 10.2 | 11.6 | 12.2 | 63.1 | -1.7 |
| Customer Connections | 73.9 | 72.5 | 69.2 | 59.8 | 80.8 | 356.2 | 77.5 | 82.2 | 84.5 | 84.8 | 87.6 | 416.6 | 60.4 |
| Road Authority & Transit Projects | 21.1 | 25.5 | 49.4 | 66.5 | 108.1 | 270.5 | 79.3 | 56.5 | 57.0 | 42.1 | 43.9 | 278.8 | 8.3 |
| Transmitter Related Upgrades | 0.0 | 0.0 | 0.0 | 0.0 | 1.9 | 1.9 | 1.9 | 2.2 | 0.0 | 0.0 | 0.0 | 4.1 | 2.2 |
| **Total SYSTEM ACCESS** | 113.1 | 107.4 | 130.8 | 137.1 | 205.1 | **693.4** | 173.5 | 155.2 | 151.7 | 138.5 | 143.8 | **762.7** | **69.3** |
| **Variance %** | | | | | | | | | | | | | **10%** |
| **SYSTEM RENEWAL** | | | | | | | | | | | | | |
| Overhead Asset Renewal | 33.2 | 35.1 | 43.0 | 39.5 | 45.4 | 196.2 | 34.3 | 34.7 | 39.4 | 30.9 | 37.6 | 176.9 | -19.3 |
| Reactive Capital | 16.7 | 14.6 | 15.6 | 20.5 | 17.2 | 84.6 | 18.8 | 19.2 | 19.6 | 20.0 | 20.4 | 98.0 | 13.4 |
| Rear Lot Conversion | 4.0 | 4.6 | 3.4 | 0.0 | 5.1 | 17.1 | 4.8 | 1.2 | 1.2 | 4.2 | 8.5 | 19.9 | 2.8 |
| Substation Renewal | 9.6 | 10.6 | 9.1 | 10.4 | 5.0 | 44.7 | 12.8 | 4.4 | 2.8 | 3.2 | 5.5 | 28.7 | -16.0 |
| Transformer Renewal | 14.7 | 10.9 | 11.5 | 14.0 | 12.3 | 63.4 | 5.5 | 6.3 | 7.0 | 7.4 | 7.8 | 34.0 | -29.4 |
| Underground Asset Renewal | 44.3 | 43.3 | 51.8 | 43.6 | 45.5 | 228.5 | 61.1 | 74.5 | 82.2 | 88.5 | 95.5 | 401.8 | 173.3 |
| Other System Renewal | 0.0 | 0.0 | 1.6 | 1.5 | 1.6 | 4.7 | 1.7 | 1.7 | 1.8 | 1.9 | 1.9 | 9.0 | 4.3 |
| **Total SYSTEM RENEWAL** | 122.5 | 119.1 | 136.0 | 129.5 | 132.1 | **639.2** | 139.0 | 142.0 | 154.0 | 156.1 | 177.2 | **768.3** | **129.1** |
| **Variance %** | | | | | | | | | | | | | **20%** |
| **SYSTEM SERVICE** | | | | | | | | | | | | | |
| SCADA & Automation | 4.9 | 5.3 | 6.0 | 4.5 | 2.8 | 23.5 | 3.4 | 3.6 | 3.7 | 3.8 | 4.7 | 19.2 | -4.3 |
| Capacity (Lines) | 21.2 | 18.6 | 23.8 | 13.4 | 8.0 | 85.0 | 21.1 | 24.0 | 23.9 | 26.4 | 14.8 | 110.2 | 25.2 |
| Capacity (Stations) | 17.0 | 17.6 | 10.3 | 2.4 | 2.7 | 50.0 | 3.0 | 3.0 | 3.1 | 7.5 | 14.3 | 31.0 | -19.0 |
| System Control, Communications & Perf | 4.7 | 1.7 | 2.9 | 3.1 | 5.9 | 18.3 | 6.6 | 5.8 | 4.7 | 4.1 | 2.8 | 24.0 | 5.7 |
| Safety & Security | 1.2 | 0.1 | 1.2 | 0.9 | 3.2 | 6.6 | 5.4 | 2.0 | 2.0 | 2.0 | 2.0 | 13.4 | 6.8 |
| Distributed Energy Resources (DER) Inte | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 | 0.9 | 0.7 | 0.7 | 0.9 | 0.9 | 0.9 | 4.1 | 3.2 |
| **Total SYSTEM SERVICE** | 49.0 | 43.3 | 44.2 | 24.3 | 23.5 | **184.3** | 40.2 | 39.1 | 38.3 | 44.7 | 39.5 | **201.9** | **17.6** |
| **Variance %** | | | | | | | | | | | | | **10%** |
| **GENERAL PLANT** | | | | | | | | | | | | | |
| Facilities Management | 11.6 | 4.8 | 5.2 | 1.4 | 3.7 | 26.7 | 4.2 | 2.6 | 2.9 | 4.6 | 3.5 | 17.8 | -8.9 |
| Information Technology | 24.8 | 9.2 | 5.0 | 4.8 | 10.2 | 54.0 | 15.1 | 18.2 | 19.8 | 12.3 | 8.4 | 73.8 | 19.8 |
| Fleet Renewal | 7.5 | 4.3 | 3.2 | 6.7 | 8.5 | 30.2 | 8.9 | 9.5 | 9.9 | 10.3 | 10.2 | 48.8 | 18.6 |
| Connection and Cost Recovery Agreeme | 54.8 | 0.4 | 0.0 | 6.8 | 1.0 | 63.0 | 8.7 | 1.6 | 0.0 | 0.5 | 0.0 | 10.8 | -52.2 |
| **Sub-Total Material Projects** | 98.7 | 18.7 | 13.4 | 19.7 | 23.4 | 173.9 | 36.9 | 31.9 | 32.6 | 27.7 | 22.1 | 151.2 | -22.7 |
| Miscellaneous Projects (under materiality | 2.6 | 2.1 | 4.7 | 3.3 | 2.8 | 15.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.6 | 12.6 | -2.9 |
| **Total GENERAL PLANT** | 101.3 | 20.8 | 18.1 | 23.0 | 26.2 | **189.4** | 39.4 | 34.4 | 35.1 | 30.2 | 24.7 | **163.8** | **-25.6** |
| **Variance %** | | | | | | | | | | | | | **-14%** |
| **Total Gross Capital** | **385.9** | **290.6** | **329.1** | **313.9** | **386.9** | **1,706.3** | **392.1** | **370.8** | **379.1** | **369.5** | **385.2** | **1,896.6** | 190.3 |
| **Contributions - System Access** | **(52.1)** | **(51.8)** | **(68.2)** | **(70.1)** | **(127.7)** | -369.9 | **(107.0)** | **(88.3)** | **(88.5)** | **(71.4)** | **(73.6)** | -428.8 | -58.9 |
| **Contributions - System Service** | **0.0** | **0.0** | **0.0** | **0.0** | **0.0** | 0.0 | **(2.2)** | **(2.2)** | **(2.3)** | **(2.3)** | **(2.3)** | -11.4 | -11.4 |
| **Total Contributions** | **(52.1)** | **(51.8)** | **(68.2)** | **(70.1)** | **(127.7)** | -369.9 | **(109.2)** | **(90.5)** | **(90.8)** | **(73.7)** | **(75.9)** | -440.2 | -70.3 |
| **Total Net Capital** | **333.8** | **238.8** | **260.9** | **243.8** | **259.2** | **1,336.4** | **282.9** | **280.2** | **288.3** | **295.8** | **309.3** | **1,456.5** | **120.1** |

**Appendix B**

**Alectra Utilities 2018 Asset Condition Assessment Results**

**Appendix B**
**Alectra's ACA Results (2018)**
AMPCO 26-Attach 1

| Asset Class | Unit measure | Total Population | HI Quantity | | | | | Average Age | VP & P | % |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | VP | P | F | G | VG | | | |
| Distribution UG Primary EPR Cables | km | 91 | 0 | 0 | 0 | 0 | 91 | 4 | 0 | 0% |
| Distribution UG Primary PILC Cables | km | 411 | 11 | 6 | 4 | 9 | 381 | 36 | 17 | 4% |
| Distribution UG Primary XLPE Cables | km | 21,639 | 2396 | 760 | 955 | 1450 | 16078 | 21 | 3,156 | 15% |
| Distribution Concrete Poles | unit | 25,340 | 457 | 835 | 1377 | 9616 | 13055 | 23 | 1,292 | 5% |
| Distribution Wood Poles | unit | 105,569 | 4883 | 3664 | 17546 | 40252 | 39224 | 28 | 8,547 | 8% |
| Distribution Overhead Conductors | km | 16,400 | 223 | 157 | 78 | 65 | 15877 | 25 | 380 | 2% |
| Distribution Overhead Switches | unit | 3,889 | 255 | 75 | 63 | 93 | 3403 | 19 | 330 | 8% |
| Distribution Pad-mounted Switchgears | unit | 3,389 | 283 | 303 | 171 | 307 | 2325 | 44 | 586 | 17% |
| Distribution Vault Transformers | unit | 13,345 | 180 | 103 | 2886 | 371 | 9805 | 27 | 283 | 2% |
| Distribution Pole-mounted Transformers | unit | 32,123 | 504 | 511 | 1906 | 11126 | 18076 | 20 | 1,015 | 3% |
| Distribution Pad-mounted Transformers | unit | 79,487 | 1689 | 11 | 10751 | 14734 | 52302 | 17 | 1,700 | 2% |
| Stations Switchgear | unit | 356 | 0 | 36 | 81 | 190 | 49 | 21 | 36 | 10% |
| Stations Circuit Breakers | unit | 1,267 | 51 | 355 | 13 | 245 | 603 | 20 | 406 | 32% |
| Stations Power Transformers | unit | 295 | 0 | 34 | 2 | 53 | 206 | 25 | 34 | 12% |
| **TOTAL** | | **303,601** | **10,932** | **6,850** | | | | | 17,782 | |
| **Quantity VP & P** | | | | **17,782** | | | | | | |
| **% VP & P** | | | | **6%** | | | | | | |

**Appendix C**

**EB-2016-0025 AMPCO 6(b)**

**PowerStream ACA Results**

**Excel Spreadsheet – Historical ACA Results**

**Table 3 - PowerStream ACA Asset Information**

EB-2016-0025 Tech Conf AMPCO 6(b)

| PowerStream | | | | |
|---|---|---|---|---|
| **Asset** | **Total # of Assets** | **% of Assets At or Beyond Typical Useful Life** | **% of Assets in Poor or Very Poor Condition** | **% of Assets in Fair Condition** |
| Transformer Station Power Transformers | 24 | 0% | 0% | 0% |
| Municipal Station Power Transformers | 72 | 25% | 0% | 1% |
| Transformer and Municipal Station Circuit Breakers | 398 | 10% | 13% | 1% |
| Transformer Station 230 kV Primary Switches | 22 | 0% | 0% | 0% |
| Municipal Station Primary Switches | 58 | 1% | 0% | 0% |
| Transformer Station Capacitor Banks | 9 | 0% | 0% | 0% |
| Transformer Station Reactors | 34 | 0% | 0% | 0% |
| TS Station Service Transformers | 20 | 0% | 0% | 0% |
| TS 230 kV Primary Metering Units | 30 | 0% | 0% | 0% |
| TS P&C Relays - Electromechanical | 35 | 11% | 23% | 17% |
| TS P&C Relays - Solid State | 45 | 20% | 9% | 38% |
| TS P&C Relays - Microprocessor | 115 | 2% | 0% | 8% |
| Underground Cable | 8,220 (km) | 33% | 29% | 13% |
| Distribution Transformers | 44,112 | 2% | 14% | 20% |
| Switchgear | 1,821 | 10% | 10% | 6% |
| Mini-Rupter Switches | 433 | 17% | 9% | 28% |
| Automated Switches | 360 | 2% | 4% | 5% |
| Wood Poles | 38,070 | 9% | 3% | 19% |

**Appendix D**

**AMPCO's Reliability Analysis**

**Contributions to SAIFI & SAIDI by Cause Codes**

**Alectra Utilities Consolidated Reliability Indexes**

JT1.2 Attach#1

| Metric | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| Number of Customer Interruptions | 1,503,529 | 1,610,304 | 1,460,921 | 1,382,350 | 1,880,490 |
| Number of Customer-Hours of Interruptions | 1,298,297 | 1,433,442 | 1,696,634 | 1,138,846 | 1,959,067 |
| Average number of distribution customers | 996,930 | 1,009,752 | 1,024,463 | 1,034,326 | 1,046,296 |
| SAIFI | 1.510 | 1.595 | 1.426 | 1.336 | 1.797 |
| SAIDI | 1.304 | 1.420 | 1.656 | 1.101 | 1.873 |

JT2.2 Q5

| | | | | | | |
|---|---|---|---|---|---|---|
| | **Defective Equipment Contribution to SAIFI** | **0.465** | **0.385** | **0.389** | **0.406** | **0.488** |
| A | **% Contribution** | **31%** | **24%** | **27%** | **30%** | **27%** |

| | | | | | | |
|---|---|---|---|---|---|---|
| | **Defective Equipment Contribution to SAIFI including MEDs** | **0.492** | **0.385** | **0.425** | **0.409** | **0.495** |
| B | **% Contribution** | **33%** | **24%** | **30%** | **31%** | **28%** |

| | | | | | | |
|---|---|---|---|---|---|---|
| | **Major Event Days Contribution to SAIFI** | **0.240** | **0.185** | **0.186** | **0.111** | **0.271** |
| C | **% Contribution** | **16%** | **12%** | **13%** | **8%** | **15%** |

| | | | | | | |
|---|---|---|---|---|---|---|
| | **Adverse Weather Contribution to SAIFI** | **0.074** | **0.144** | **0.078** | **0.087** | **0.139** |
| D | **% Contribution** | **5%** | **9%** | **5%** | **7%** | **8%** |

JT2.2 Q4

| | | | | | | |
|---|---|---|---|---|---|---|
| | **Defective Equipment Contribution to SAIDI - MEDS Excluded** | **0.397** | **0.435** | **0.375** | **0.365** | **0.501** |
| E | **% Contribution** | **30%** | **31%** | **23%** | **33%** | **27%** |

| | | | | | | |
|---|---|---|---|---|---|---|
| | **Defective Equipment Contribution to SAIDI - MEDs Included** | **0.457** | **0.443** | **0.446** | **0.374** | **0.508** |
| F | **% Contribution** | **35%** | **31%** | **27%** | **34%** | **27%** |

| | | | | | | |
|---|---|---|---|---|---|---|
| | **Major Event Days Contribution to SAIDI** | **0.422** | **0.371** | **0.700** | **0.228** | **0.734** |
| G | **% Contribution** | **32%** | **26%** | **42%** | **21%** | **39%** |

| | | | | | | |
|---|---|---|---|---|---|---|
| | **Adverse Weather Contribution to SAIDI** | **0.037** | **0.067** | **0.034** | **0.034** | **0.171** |
| H | **% Contribution** | **3%** | **5%** | **2%** | **3%** | **9%** |

Appendix

Ref: JT2.2 Question #4 Table 7



**Table 7: Alectra Utilities SAIDI (2014-2018)**

| Alectra Utilities - SAIDI (2014-2018) | | | | | | |
|---|---|---|---|---|---|---|
| Cause Code | Contribution to SAIDI (Hours) | 2014 | 2015 | 2016 | 2017 | 2018 |
| 0 | Unknown/Other | 0.027 | 0.014 | 0.016 | 0.018 | 0.028 |
| 1 | Scheduled Outage | 0.097 | 0.105 | 0.096 | 0.101 | 0.079 |
| 2 | Loss of Supply | 0.038 | 0.051 | 0.127 | 0.069 | 0.098 |
| 3 | Tree Contacts | 0.048 | 0.061 | 0.090 | 0.067 | 0.073 |
| 4 | Lightning | 0.041 | 0.065 | 0.014 | 0.041 | 0.020 |
| 5 | Defective Equipment | 0.397 | 0.435 | 0.375 | 0.365 | 0.501 |
| 6 | Adverse Weather | 0.037 | 0.067 | 0.034 | 0.034 | 0.171 |
| 7 | Adverse Environment | 0.061 | 0.078 | 0.015 | 0.014 | 0.043 |
| 8 | Human Element | 0.008 | 0.013 | 0.010 | 0.007 | 0.007 |
| 9 | Foreign Interference | 0.128 | 0.159 | 0.180 | 0.156 | 0.121 |
| 10 | Major Event Days | 0.422 | 0.371 | 0.700 | 0.228 | 0.734 |
| **Total** | | **1.304** | **1.420** | **1.656** | **1.101** | **1.873** |

Ref: JT2.2 Question #5 Table 9

**Table 9: Alectra Utilities SAIDI (2014-2018) by Cause Code**

| Alectra Utilities - SAIFI (2014-2018) | | | | | | |
|---|---|---|---|---|---|---|
| Cause Code | Contribution to SAIFI | 2014 | 2015 | 2016 | 2017 | 2018 |
| 0 | Unknown/Other | 0.134 | 0.135 | 0.124 | 0.153 | 0.292 |
| 1 | Scheduled Outage | 0.036 | 0.035 | 0.037 | 0.044 | 0.029 |
| 2 | Loss of Supply | 0.057 | 0.177 | 0.152 | 0.112 | 0.194 |
| 3 | Tree Contacts | 0.074 | 0.068 | 0.079 | 0.050 | 0.059 |
| 4 | Lightning | 0.101 | 0.080 | 0.026 | 0.047 | 0.044 |
| 5 | Defective Equipment | 0.465 | 0.385 | 0.389 | 0.406 | 0.488 |
| 6 | Adverse Weather | 0.074 | 0.144 | 0.078 | 0.087 | 0.139 |
| 7 | Adverse Environment | 0.043 | 0.090 | 0.016 | 0.016 | 0.031 |
| 8 | Human Element | 0.046 | 0.036 | 0.019 | 0.021 | 0.024 |
| 9 | Foreign Interference | 0.239 | 0.260 | 0.320 | 0.290 | 0.226 |
| 10 | Major Event Days | 0.240 | 0.185 | 0.186 | 0.111 | 0.271 |
| **Total** | | **1.510** | **1.595** | **1.426** | **1.336** | **1.798** |