PRZ-AMPCO-1

Reference(s): Exhibit 2, Tab 3, Schedule 10, p. 19

The rapidway development phases that are currently under construction and impacting the PowerStream RZ include the "Y2 phase" (two project sections along Yonge totalling 6.5km), and the "H2 phase" (two project sections along Highway 7 and several other roadways totalling 8.5km).

a) Please complete the following table:

	2018 Underground km relocation	2018 Overhead km relocation	2019 Underground km relocation	2019 Overhead km relocation
Y2 Section 1				
Y2 Section 2				
H2 Section 1				
H2 Section 2				
Total km				

b) Please discuss if the above forecast km of relocation work for underground and overhead plant is consistent with previous forecasts and if not provide a variance analysis.

c) Please provide the unit cost estimates of underground compared to overhead plant relocation.

Response:

a) Table 1 provides the circuit length (km) of underground and overhead system relocation planned for 2018 and 2019.

Table 1 – Planned Circuit Length of Underground and Overhead System Relocation for the YRRT Project in 2018 and 2019

Circuit Length (km)	2018 Underground km relocation	2018 Overhead km relocation	2019 Underground km relocation	2019 Overhead km relocation
Y2.1	4.59	0	7.77	6.42
Y2.2	6.29	1.05	0	0
H2-E	0.28	12.94	0	0
H2-W	0	6.18	3.29	1.98
Total	**11.16**	**20.17**	**11.06**	**8.40**

b) At the request of the York Region Rapid Transit Corporation ("YRRTC"), Alectra Utilities was required to modify the relocation scheduled and scope in the YRRT Project. Please refer to Alectra Utilities' response to PRZ-Staff-60 for a detailed explanation of the required modifications which caused implementation delays and scope change. Table 2 provides the comparison of the previous forecast of circuit length relocation to be completed in 2018 and 2019, relative to the current forecast of relocations to be completed in 2018 and 2019 necessary for the YRRT project.

Table 2 – Comparison of Previous and Current Forecast for Overhead and Underground Plant Relocation in Circuit Length km to be completed in 2018 and 2019 for the YRRT Project

Circuit Length (km)	Previous Forecast				Current Forecast			
	2018 Underground km Relocation	2018 Overhead km relocation	2019 Underground km Relocation	2019 Overhead km relocation	2018 Underground km Relocation	2018 Overhead km relocation	2019 Underground km Relocation	2019 Overhead km relocation
Y2.1	1.54	2	4.59	0	0	0	7.77	6.42
Y2.2	0.00	0	6.29	1.05	0	0	0	0
H2-East	0.00	10.6	0.28	12.94	0.28	4.16	0	0
H2-West	2.90	7.13	0	6.18	1.36	2.7	3.29	1.98
Total	4.44	19.73	11.16	20.17	1.64	6.86	11.06	8.4

c) The unit cost estimate of a standard overhead concrete pole relocation for the YRRT project is $0.875 MM per km. The unit cost estimate of an underground relocation at 5 meter burial depth for the YRRT project is in the range of $5.5 to $6MM per km. The unit cost estimate of an underground relocation at 1.2 meter burial depth for the YRRT project is in the range of $5MM per km.

PRZ-AMPCO-2

Reference(s): Attachment 31, York Region Rapid Transit (YRRT) VIVA Bus Rapid Transit (BRT) Y2 and H2 Projects

Since 2010, the PowerStream RZ has been relocating overhead and underground plant to accommodate road widening and shifting of the boulevard to support the YRRT build.

a) Please provide the forecast and actual Gross Costs, Contributed Capital and Net Costs for each year of the multiyear project.

b) Please provide the forecast and actual km for each year of the multiyear project separated into overhead and underground plant.

c) Please provide 2018 spending to date and the latest forecast of 2018 and 2019 in-service additions.

d) Please provide the date of the Business Case at Attachment #31.

Response:

a) Table 1 below provides the Actual and Forecast capital expenditure for the YRRT Project.

Table 1: Actual and Forecast Capital Expenditure for the YRRT Project

YRRT GROSS Capex ($000)						
	2015 Actual	2016 Actual	2017 Actual	2018 Forecast	2019 Forecast	Total
H2 E	3	214	6,904	4,798	45	11,963
H2 W	0	9	6,674	10,190	540	17,413
Y2.1	62	916	14,011	21,995	2,257	39,241
Y2.2	178	854	6,647	4,092	358	12,129
Grand Total	242	1,993	34,236	41,075	3,200	80,747
YRRT CONTRIBUTIONS ($000)						
	2015 Actual	2016 Actual	2017 Actual	2018 Forecast	2019 Forecast	Total
H2 E	1	210	3,372	3,027	17	6,627
H2 W	0	7	4,035	5,500	238	9,780
Y2.1	31	404	8,376	9,850	1,155	19,816
Y2.2	135	595	2,159	3,690	190	6,769
Grand Total	167	1,215	17,942	22,067	1,600	42,992
YRRT NET CAPEX ($000)						
	2015 Actual	2016 Actual	2017 Actual	2018 Forecast	2019 Forecast	Total
H2 E	1	4	3,532	1,771	28	5,336
H2 W	0	2	2,639	4,690	302	7,633
Y2.1	31	512	5,635	12,145	1,101	19,425
Y2.2	42	259	4,488	402	168	5,360
Grand Total	75	778	16,294	19,009	1,600	37,755

b) Table 2 below provides actual and forecast circuit length (km) for each year of the YRRT project.

Table-2 Actual and Forecast Circuit Length (km) Relocation for YRRT project

Project	2016 (Actual)		2017 (Actual)		2018 (Forecast)		2019 (Forecast)	
	UG Relocation (km)	OH Relocation (km)	UG Relocation (km)	OH Relocation (km)	UG Relocation (km)	OH Relocation (km)	UG Relocation (km)	OH Relocation (km)
Y2.1	0.00	0.00	0.00	0.70	4.59	0	7.77	6.42
Y2.2	0.24	4.24	2.00	9.01	6.29	1.05	0	0
H2 Section E	0.00	0.00	0.00	6.98	0.28	12.94	0	0
H2 Section W	0.00	0.00	0.00	5.04	0	6.18	3.29	1.98
Total km	0.24	4.24	2.00	21.73	11.16	20.17	11.06	8.40

c) Table 3 below provides the 2018 capital expenditure year-to-date. The latest forecast for 2018 and 2019 in-service additions are provided in response to PRZ-Staff-60.

Table-3 – July 2018 Year-to-Date Capital Expenditure for the YRRT Project

Project	Gross ($000)	Contributions ($000)	Net Capex ($000)
H2 E	3,879	410	3,468
H2 W	4,716	779	3,937
Y2.1	9,773	3,581	6,192
Y2.2	2,939	2,150	789
Grand Total	21,307	6,921	14,387

d) The date of the business case is April 11, 2018.

PRZ-AMPCO-3

Reference(s): Attachment 31, York Region Rapid Transit (YRRT) VIVA Bus Rapid Transit (BRT) Y2 and H2 Projects, p .6

The Business Case indicates the Y2.1 and Y2.2 project is being constructed under a Design – Build project structure. There are uncertainties in regards to the timelines, final road alignment, resource allocation as well as the technical challenges as the majority of work is underground. The Y2.1 and Y2.2 began in 2018 and will continue in 2019.

Please discuss any challenges to date in 2018 and the potential impact on cost and schedule in 2018 and 2019.

Response:

Please refer to Alectra Utilities' response to Interrogatory PRZ-Staff-60 for a discussion on the YRRT project scope changes and implementation date modifications requested by the YRRTC.

PRZ-AMPCO-4

Reference(s): Attachment #33, PRZ 2019 Capital Spending

Please provide an excel version of Attachment #33.

Response:

Alectra Utilities has provided an excel version of Attachment 33 as PRZ-AMPCO-4_Attach 1_Capital Spending Plan.

PRZ-AMPCO-4 ATTACHMENT 1
CAPITAL SPENDING PLAN

2019 Capital Project Listing - PowerStream Rate Zone

SYSTEM ACCESS	$000s
Bathurst Road Widening	5,500
New Commercial Subdivision Development - SOUTH	1,000
New Residential Subdivision Development - NORTH	2,558
New Residential Subdivision Development - SOUTH	7,453
New Subdivision Development - Secondary Service Lateral - SOUTH	1,827
Residential Meter "ICON F" Meter Replacement Program	2,280
Road Authority Expenditure PS North	1,328
Road Authority Expenditure PS South	7,009
Road Authority YRRT Yonge St - H2 portion	3,210
Sub-Total Material Projects	**32,165**
Miscellaneous Projects (under materiality threshold)	6,364
Total System Access	**38,529**
SYSTEM RENEWAL	
4-Circuit Pole Storm Hardening	1,686
Cable Injection - (V01) - Yonge - Steeles - Bathurst - Center	1,313
Cable Injection - (V37) - Langstaff and Weston	1,564
Cable Replacement – (V08) - Steeles Ave and New Westminster	2,464
Cable Replacement Program	2,242
Pad Mount Transformer Replacement	1,029
Pole Replacement Program	3,915
Radial Supply Remediation/Conversion - 13.8 kV to 27.6 kV on Miller Ave	1,535
Rear Lot Supply Remediation - Royal Orchard - North	2,353
Storm damage - Replacement of distribution equipment due to storm.	1,035
Switchgear Replacement Program	2,171
Switchgears - Unscheduled Replacement of Failed (end of useful Life) Distribution Equipment	1,703
Unforeseen Projects Initiated by PowerStream	1,077
Unscheduled Replacement of Failed Equipment - Poles, etc	5,205
Sub-Total Material Projects	**29,292**
Miscellaneous Projects (under materiality threshold)	8,711
Total System Renewal	**38,003**
SYSTEM SERVICE	
Barrie TS Upgrade feeders and Metering	2,100
Distribution Automation Switches / Reclosers	1,471
Install Two 27.6kV Ccts on 16th Ave from Hwy 404 to Woodbine Ave	1,119
Install two additional 27.6 kV ccts on Hwy 7 from Jane St to Weston Rd	2,377
Sub-Total Material Projects	**7,067**
Miscellaneous Projects (under materiality threshold)	9,978
Total System Service	**17,044**
GENERAL PLANT	
PowerStream Rate Zone Allocation of General Plant	8,498
Total General Plant	**8,498**
2019 Budget	**102,074**

GENERAL PLANT - ALECTRA UTILITIES	
Bucket Trucks & RBDs	1,540
CIS Modifications (Regulatory Enhancements)	1,519
Smart Grid - Other	1,337
Tools, Shop and Garage Equipment	1,185
Sub-Total Material Projects	**5,582**
Miscellaneous Projects (under materiality threshold)	16,529
Total General Plant	**22,111**

PRZ-AMPCO-5

Reference(s): Attachment #33, PRZ 2019 Capital Spending

Please explain the following 2019 Capital expenditure in the context of the overall YRRT project.

Road Authority YRRT Yonge St - H2 portion	3,210

Response:

The YRRT project is scheduled to be completed in 2019 with the $3.2MM being the capital expenditure required for finalizing this project.

PRZ-AMPCO-6

Reference(s): Attachment #33, PRZ 2019 Capital Spending

Please provide actual spending on the following capital expenditures for the years 2013 to 2017: Storm Damage – Replacement of distribution equipment due to storm; Switchgears – Unscheduled Replacement; Unforeseen Projects Initiated by Alectra Utilities; and Unscheduled Replacement of Failed Equipment.

Response:

The requested information is not relevant to any of the issues raised in this Application.

PRZ-AMPCO-7

Reference(s): Attachment #31, Barrie TS Upgrade Feeder and Wholesale Metering Relocation

a) When was the need to renew and rebuild the Barrie TS first identified?

b) Please provide the date of the Business Case at Attachment #31.

c) Please provide the length and cost of each of the six feeders to be reconfigured.

d) Please provide the length and cost to relocate the Midhurst 23M24 feeder.

e) Please provide the cost to install feeder metering.

Response:

a) Alectra Utilities was first made aware by Hydro One of the need to address the Barrie TS on March 23rd 2015 as part of the IESO South Georgian Bay Scoping Process Kickoff Meeting.

b) The date of the Business Case for the Barrie TS project is April 2018.

c) Table 1 provides the length and the estimated reconfiguration cost of each feeder at Barrie TS

Table 1 – Length and Estimated Costs of Feeder to be Reconfigured – Barrie TS

Description	Cost ($000)
13M1 - Relocate 13M1 from O/H to Underground from station fence to existing poles in Hydro yard- 100m of U/G 1000MCM, 44kV single cct, concrete duct structure to pole	79
13M2 - Relocate 13M2 from O/H to Underground from station fence to existing poles in Hydro yard- 100m of U/G 1000mcm, 44KV single cct, concrete duct structure to pole	62
13M4 – Install 75m of U/G 1000mcm, 44kV single, concrete duct structure to new riser pole and Motomech switch	232
13M5 – Install 75m of U/G 1000mcm, 44kV single, concrete duct structure to new riser pole and Motomech switch	232
13M6 - Relocate 13M6 from O/H to Underground from station fence to existing poles in Hydro yard-100m of U/G 1000mcm, 44KV single cct, concrete duct structure to pole	62
13M7 - Relocate 13M7 from O/H to Underground from station fence to existing poles in Hydro yard-100 m of U/G 1000mcm, 44KV single cct concrete duct structure to pole	79
Total	746

d) The reconfiguration of the Midhurst 23M24 is required to be completed in two parts. Alectra Utilities first requires the installation of a temporary pole line to accommodate the relocation which includes the installation of 350 meters of conductor. The second required step is the installation of the 23M24 in the final feeder location which includes both overhead and underground segment length of 500 meters of conductor and the removal of the temporary line. The total estimated cost to reconfigure the Midhurst 23M24 feeder is $0.654 MM.

e) The cost to install PME feeder metering at Barrie TS is $0.7 MM

PRZ-AMPCO-8

Reference(s): Exhibit 2, Tab 3, Schedule 10, p. 20

The length of the Bathurst road widening is approximately 6km in the City of Vaughan and Town of Richmond Hill. The 2019 scope of relocation of Alectra Utilities assets includes both the overhead and underground distribution system. The proposed solution is to relocate the overhead and underground assets.

a) Please provide the forecast km of overhead plant to be relocated in 2019 and 2020 and the associated gross and net costs in 2019 and 2020.

b) Please provide the forecast km of underground plant to be relocated in 2019 and 2020 and the associated gross and net costs in 2019 and 2020.

c) Please confirm the Bathurst road widening project is not related to the YRRT project.

Response:

a) Please refer to Table 1 for the forecast length of the overhead system to be relocated and the associated gross and net costs for 2019 and 2020.

b) Please refer to Table 1 for the forecast length of underground system to be relocated and the associated gross and net costs for 2019 and 2020.

Table 1 – Forecast System Relocation Lengths and Budget for Bathurst Street Project

Bathurst Road Widening Project		
	2019	2020
Overhead System Relocated (km)	6	4
Underground System Relocated (km)	0.36	0.24
Gross Capital Expenditure ($000s)	$7,500	$5,000
Contributed Capital ($000s)	$2,000	$2,200
Net Capital Expenditure ($000s)	$5,500	$2,800

c) Alectra Utilities confirms that the Bathurst Road Project is not related to the YRRT project.

PRZ-AMPCO-9

Reference(s): Attachment #31, Bathurst Street Road Widening from Highway 7 to Teston Road, p. 1

The Business Case indicates system access investments related to road work are estimated through scope derived from preliminary designs and historical spending from similar projects. It includes consideration of previous phases of multi-year road work projects, as well as continuous meetings and discussions with the road authority.

Please provide further details on the projects and cost analysis of previous phases of multi-year road work projects used to arrive at the budget for the Bathurst Road Widening project.

Response:

The budget for the Bathurst Road Widening project was developed based on known information from York Region regarding the scope of the road widening, identification of Alectra Utilities assets in conflict of the road widening and considered recent road work projects of similar scale, scope and condition.

The most recent project of similar scope, condition and road work was the H2 project from the YRRT. Estimate costs for the Bathurst Street Road Widening were developed based on known number of poles to be relocated and considered actual costs from the H2 project. In the H2 project, Alectra Utilities was requested by the YRRTC to install specific concrete poles. For the Bathurst Street project, Alectra Utilities intends to install standard concrete poles and hence adjusted down the costs from the H2 project. On the Bathurst project, Alectra Utilities requires to relocate and install 85' concrete poles and relocate four circuits from the existing poles to the new poles. Average actual costs from the H2 project considering standard concrete pole relocates was determined to be approximately $56,720 per pole. Alectra Utilities is required to relocate 211 poles for the Bathurst Project, of which 26 require steel caissions (special foundation to support poles in excavation for culverts). The total estimate cost of the multi-year Bathurst Street Road Widening includes $12.0M for pole relocations and $0.5M for the installation of 26 steel caissions for a total project expenditure of $12.5M. In 2019, Alectra Utilities is require to expand $7.5MM which when adjusted for $2.0M for capital contributions results in $5.5MM in net capital in-service additions. Alectra Utilities is required by York Region

to complete the remainder of the multi-year Bathurst road widening project is scheduled to be completed in 2020.

PRZ-AMPCO-10

Reference(s): Attachment #33, PRZ 2019 Capital Spending

As shown below, PRZ's 2019 Capital Spending includes $25.053 million of miscellaneous projects. Please discuss if any of this work could be deferred.

System Access

Miscellaneous Projects (under materiality threshold)	6,364

System Renewal

Miscellaneous Projects (under materiality threshold)	8,711

System Service

Miscellaneous Projects (under materiality threshold)	9,978

Response:

The capital spending within the PRZ Miscellaneous projects groupings in Attachment 33 consists of projects that are required in 2019 and cannot be deferred. As part of the budget process, all projects are reviewed to determine appropriate timing and are budgeted in the year in which the project is required, regardless of their size and whether or not they are over or under the materiality threshold.

For System Access, the Miscellaneous Projects include failed meter replacements, new secondary service connections for residential customers, new service upgrades for commercial customers, as well as metering reverification programs to comply with Measurement Canada requirements. These are mandatory investments necessary for Alectra Utilities to comply with regulations and the Distribution System Code and cannot be deferred.

For System Renewal, the Miscellaneous Projects include investments to replace porcelain insulators; joint use pole removals; unscheduled replacements of failed equipment; non-recoverable replacements of distribution equipment due to vandalism, theft or collisions; reactive replacements of failed Supervisory Control And Data Acquisition (SCADA) equipment; urgent replacements of station equipment; as well as investments necessary to address

commercial delta to wye connections driven by Electrical Safety Authority requirements. As part of the budget development process, all System Renewal investments and their timing needs were reviewed and established. Deferral of the planned 2019 System Renewal investments, including the Miscellaneous Projects, would jeopardize the safety of the system and negatively impact reliability of service for customers.

For System Service, the Miscellaneous Projects include capital projects necessary to provide capacity to connect customers. For 2019, such investments include urgent investments to municipal station protection equipment; extending feeders to service new customers; implementation of fault indicator equipment to aid in power outage restoration; and installation of security equipment to address vandalism and theft of equipment (e.g. copper) at Alectra Utilities' facilities and stations. As part of the budget development process, all System Service investments and their timing needs were reviewed and established. Deferral of the planned 2019 System Service investments, including the Miscellaneous Projects, would jeopardize the capacity of the system, introduce safety and security risks as well as negatively impact reliability of service for customers.

ERZ-AMPCO-11

Reference(s): Exhibit 1, Tab 1, Schedule 1, p. 7

Alectra indicates the 2016 Asset Condition Assessment ("ACA") identified 34.3% of poles in this area as "Poor" and 28.3% as "Fair, based on parameters of physical condition and mechanical damage.

a) Please provide the total number of wood poles and concrete poles in very poor condition in this area.

Response:

a) Based on the 2016 Asset Condition Assessment, there were no wood or concrete poles identified in very poor condition. Alectra Utilities does not run wood or concrete poles to failure. Please also see Alectra Utilities' response to Interrogatory BOMA-29.

ERZ-AMPCO-12

Reference(s): Attachment #46, Rometown Area Overhead System Rebuild P3

"The scope of the project is to renew the deteriorated overhead system to present day standard configuration and to increase the distribution system's longevity. As per the 2016 Asset Condition Assessment ("ACA") study, 34.3% (68 out of 198) poles in this area were flagged "Poor" and 28.3% (56 out of 198) poles "Fair", based on the parameters of pole physical condition, mechanical damage, pole leaning and cracks. Based on these results from the ACA, a total of 78 poles should be replaced based on their condition.

If 68 poles are flagged in poor condition, please explain how Alectra determined 78 poles should be replaced based on their condition.

Response:

The 78 poles identified for replacement include 68 poles that were identified through the ACA as poor condition and 10 poles that failed the Resistograph pole test. The 2016 Asset Condition Assessment was completed based on asset data as of December 31, 2015. In 2016, the legacy Enersource continued with pole testing and tested poles in the Rometown area. Based on the poles tested, 10 additional poles failed the resistograph test and were identified for replacement. The Resistograph test identifies pole strength based on internal pole condition not visible from inspection. The 78 poles identified for urgent replacement in the Rometown Area are the aggregate of poles with poor condition from the asset condition assessment and the poles that failed pole testing.

ERZ-AMPCO-13

Reference(s): Attachment #46, Rometown Area Overhead System Rebuild p. 4, Table 1

Please provide the number of outages by year by equipment type.

Response:

Please see Alectra Utilities' response to Interrogatory ERZ-Staff 89 c).

ERZ-AMPCO-14

Reference(s): Attachment #46, Rometown Area Overhead System Rebuild p. 4, Table 1

a) Please provide the quantity of assets to be replaced by asset type and the corresponding total costs by asset type.

b) Please provide the tree trimming costs and advise if these costs are included in the cost estimate.

Response:

a) Table 1 below provides the quantity of asset to be replaced by asset type and corresponding total cost.

Table 1: Rometown Asset Replacement Costs

Asset	Quantity	Total Cost ($000)
Poles	198	$ 960
Transformers	41	$ 250
Primary (3 PH)	2,023	$ 704
Secondary	6,430	$ 842
	Total Cost	**$ 2,756**

b) Tree Trimming costs, along with vac-truck, traffic control, landscaping restoration, permits, were included in the 15% of the total project budget cost which was included under Material expenditures in Attachment 46, page 6, Table 3. Alectra Utilities requires to complete tree-trimming as part of the project construction as it is necessary to clear away trees that are in conflict with the new install locations.

ERZ-AMPCO-15

Reference(s): Attachment #46, Rometown Area Overhead System Rebuild p. 4, Table 1

Please discuss if Alectra examined the overhead system needs in all rate zones when determining its Rometown Overhead Rebuild ICM request for the ERZ.

Response:

The ERZ is currently the only rate zone which undertakes overhead rebuilds of this nature. For other rate zones, Alectra Utilities addresses overhead rebuild areas as part of Voltage Conversion projects. In Voltage Conversion projects, the system voltage is converted to present day standards at the same time as of the decommissioning municipal stations.

Due to the different scope of work, comparison of overhead system rebuilds against voltage conversion projects is not equitable, nor is it appropriate.

ERZ-AMPCO-16

Reference(s): Attachment #48, ERZ 2019 Capital Spending

Please provide an excel version of Attachment #48.

Response:

Alectra Utilities has provided an excel version of Attachment 48 as ERZ-AMPCO-16_Attach 1_Captial Project Listing.

ERZ-AMPCO-16 ATTACHMENT 1
CAPITAL PROJECT LISTING

2019 Capital Project Listing - Enersource Rate Zone

SYSTEM ACCESS	$000s
New Connections - Industrial/Commercial	1,258
Smart Meter in New Condo - New IMS	1,070
New Connections - Residential	1,000
Roads	2,400
LRT	5,800
Sub-Total Material Projects	**11,528**
Miscellaneous Projects (under materiality threshold)	2,227
Total System Access	**13,755**
SYSTEM RENEWAL	
Subdivision Rebuild - Baldwin Rd/ ROW	1,486
Subdivision Rebuild - Golden Orchard/ Grassfire	1,486
Subdivision Rebuild - Cedarglen Gate - Section 1	1,885
Subdivision Rebuild - Main Feeder renewal at Folkway Dr.	1,885
Subdivision Rebuild - Traders - Section 3	1,885
Subdivision Rebuild - Ellengale - Section 5	1,885
Subdivision Rebuild - Malton - Section 4	2,229
Subdivision - Tamar & Copenhagen	1,486
Subdivision - Clarkson - section 4	1,981
Overhead line replacement-Rometown	3,200
Program-Equipment Replacement	1,483
Program-Pole Installations	1,186
OH Rebuild - The Credit Woodlands	2,314
Substation-Dixie - Londonderry to CN Tracks	1,204
Substation-Shawson - Dixie to Luke	1,053
PCB & Leaking Transformer Replacement Project	7,501
Pad Mounted Switchgear Replacement	1,622
Underground Cable and Splice Replacement	2,296
Sub-Total Material Projects	**38,067**
Miscellaneous Projects (under materiality threshold)	2,881
Total System Renewal	**40,948**
SYSTEM SERVICE	
Substation-Webb MS	2,069
Substation-Rockwood MS - Equipment	2,483
Substation-Rockwood MS - Civil Construction	1,035
Subtransmission-Webb MS - Feeder Egress - Section 1	1,249
Subtransmission-Centreview - Mavis to Duke	1,249
Sub-Total Material Projects	**8,085**
Miscellaneous Projects (under materiality threshold)	5,322
Total System Service	**13,407**
GENERAL PLANT	
Enersource Rate Zone Allocation of General Plant	6,206
Total General Plant	**6,206**
	0
2019 Budget	**74,315**

GENERAL PLANT - ALECTRA UTILITIES	
Bucket Trucks & RBDs	1,540
CIS Modifications (Regulatory Enhancements)	1,519
Smart Grid - Other	1,337
Tools, Shop and Garage Equipment	1,185
Sub-Total Material Projects	**5,582**
Miscellaneous Projects (under materiality threshold)	16,529
Total General Plant	**22,111**

ERZ-AMPCO-17

Reference(s): Attachment #48, ERZ 2019 Capital Spending

As shown below, ERZ's 2019 Capital Spending includes $10.43 million of miscellaneous projects. Please discuss if any of this work could be deferred.

System Access

Miscellaneous Projects (under materiality threshold)	2,227

System Renewal

Miscellaneous Projects (under materiality threshold)	2,881

System Service

Miscellaneous Projects (under materiality threshold)	5,322

Response:

The capital spending within the ERZ Miscellaneous projects groupings in Attachment 48 consists of projects that are required in 2019 and cannot be deferred. As part of the budget process, all projects are reviewed to determine appropriate timing and are budgeted in the year in which the project is required, regardless of their size and whether or not they are over or under the materiality threshold.

For System Access, miscellaneous investments include failed meter replacements, new secondary service connections for residential customers, new service upgrades for commercial customers as well as metering reverification programs to comply with Measurement Canada. These are mandatory investments necessary for Alectra Utilities to comply with regulations and the Distribution System Code and cannot be deferred.

For System Renewal, miscellaneous projects include investments required for emergency replacement of failed equipment, primary distribution system replacement of failed equipment and urgent replacement of underground distribution system assets on Stanfield as well as Burnhamthorpe Road. As part of the budget development process, all system renewal

investments were reviewed and determined to be required in 2019. Deferral of these investments would jeopardize the safety of the system and negatively impact reliability of service for customers.

For 2019 system service, miscellaneous investments include: capital projects necessary to provide capacity to connect new customers; replacement of essential system control equipment required to operate the distribution system; addressing distribution station protection and uninterrupted power systems, as well as the continued implementation of the wireless network system for distribution equipment. As part of the budget development process, all system renewal investments were reviewed and determined to be required in 2019. Deferral of these investments would: jeopardize the capacity of the system; introduce safety and security risks; and negatively impact reliability of service for customers.

ERZ-AMPCO-18

Reference(s): Attachment #48, ERZ 2019 Capital Spending

a) Please list all of the capital projects/programs in 2019 that include pole replacements and provide the total number of poles to be replaced under each project/program.

b) Please provide the total number of poles replaced across all projects/programs for each of the years 2013 to 2017 and provide the forecast for 2018.

Response:

a) Table 1 below provides the 2019 forecasted number of poles to be replaced in ERZ through the capital program. Table 2 provides the 2019 planned number of poles to be replaced in ERZ through capital projects.

Table 1: 2019 Forecasted Pole Replacements in ERZ via Programs

Program	Number of poles forecasted to be replaced in 2019
Program - Pole Installations	330
Total	**330**

Table 2: 2019 Pole Replacements Planned Through Projects

Project	Number of poles planned to be replaced in 2019
Overhead line replacement-Rometown	198
Overhead Rebuild - The Credit Woodlands	114
Dixie - Londonderry to CN Tracks	38
Shawson - Dixie to Luke	23
Subtransmission - Webb MS - Feeder Egress - Section 1	25
Subtransmission - Centreview - Mavis to Duke	22
Total	**420**

b) Table 3 below provides the total number of poles replaced in ERZ for each of the years 2013 to 2017 including the forecast for 2018.

Table 3: Number of poles replaced 2013-2017 and forecast for 2018 in ERZ

	2013	2014	2015	2016	2017	2018 (Forecast)
Total Number of poles	413	251	481	579	604	602

ERZ-AMPCO-19

Reference(s): Attachment #48, ERZ 2019 Capital Spending

Please provide the amount of capital investment for overhead system rebuilds that are included in rates in the ERZ.

Response:

Please refer the business case for Rometown Area Overhead System Rebuild in Attachment 46, page 1 of 6, which identifies that rates in the Enersource RZ support $2.7MM of capital investment for overhead systems renewal. This includes $1.2MM for Pole Replacement Program and $1.5MM for the Overhead Equipment Replacement Program. The Overhead Equipment Replacement Program is required for the renewal of overhead equipment such as overhead switches, fault indicators as well as animal protection equipment as required in spot locations across the Enersource RZ. Incremental funds are required to support investments of the overhead system renewal such as required in the Rometown area.

ERZ-AMPCO-20

Reference(s): ERZ-Staff-89 (c)

In the above interrogatory, Board Staff asked Alectra to provide a breakdown of annual historical failure data (# of failures, # customer outage minutes) for each of the years 2010 to 2018 for the following asset groups: Overhead switches, insulators, wood poles, concrete poles, underground transformers, overhead transformers, padmount switchgears.

For each of the asset groups, please provide the number of customers impacted for each of the years 2010 to 2018.

Response:

Please see the Applicant's response to Interrogatory ERZ-Staff-89 c). The Table contained therein includes the number of customers impacted.

ERZ-AMPCO-21

Reference(s): Attachment #46, Replacement of Leaking Transformers, p. 4, Table 2

a) Please provide the number of leaking transformers to be replaced in 2018 and 2019.

Response:

a) In 2017 Alectra submitted an ICM request for the 2018 scope of the multi-year project. For 2018, the OEB approved $8.45MM to complete the 2018 scope of the multi-year project. Alectra Utilities considered the OEB's findings in the decision and order in EB-2017-0024 and reconfigured the implementation of the project so as to accelerate the evolution of the project into the ongoing capital program. Alectra Utilities determined that 395 of the transformers could be removed from the backlog of transformers being addressed by the project. Instead, Alectra Utilities will monitor those 395 transformers under its inspection program and will replace them at a slower pace under its ongoing transformer replacement program, starting in 2020.

The 2018 scope will address 650 transformers, leaving a backlog of 571 as at the end of 2018. Alectra Utilities plans to complete the 2019 scope of the project, which will address all remaining transformers in the backlog, in order to meet the OEB's expectation that the leaking transformer replacement project is evolved into a typical ongoing capital program from 2020 onward.

ERZ-AMPCO-22

Reference(s): Attachment #46, Replacement of Leaking Transformers, p. 5, Figure 2

Figure 2 illustrates the transformer replacement project capital expenditure relative to the transformer replacement program from 2012 to 2022.

a) Please provide the numerical dollar amounts for the transformer replacement project capital expenditure compared to the transformer replacement program for each of the years 2012 to 2022.

b) Please provide the number of transformers replaced under the transformer replacement project compared to the transformer replacement program for each of the years 2012 to 2022.

Response:

a) Through rigorous inspection from 2013 to 2016, a large number of transformers were found to exhibit signs of oil leaks or contain oil with PCB, which could lead to significant liabilities, in the event of spills. From 2013 to 2017, Alectra Utilities has incurred $27.3MM in capital expenditures to replace 2,680 transformers that were leaking or contained PCB oil. At the end of 2016, Alectra Utilities developed a multi-year project to address the remaining backlog of 2,244 in-service leaking or PCB contaminated transformers. This multi-year project is distinct and has a separate scope from the ongoing transformer replacement program, which is required for reactive replacement of failed and hazardous transformers (i.e. rusted or damaged units). The project is required to ensure compliance with applicable environmental legislation and regulations, and to minimize the risk of environmental liability. In its Decision and Order in EB-2017-0024, the OEB found that it was prudent for Alectra Utilities to materially increase the spending on transformer replacement as a result of the new assessment of transformer condition and that the material change in the replaced of transformers is neither typical nor ongoing relative to the approved transformer replacement levels set by the OEB in the 2013 rates. Table 1 identifies that 2012-2017 Actual and 2018-2022 Forecast capital expenditures for the transformer replacement project compared to the transformer replacement program.

Table 1 – 2012-2017 Actual and 2018-2022 Forecast Capital Expenditures for Transformer Replacement Project and Program

($000)	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Forecast	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast
Program	$1,283	$1,471	$1,981	$2,955	$1,526	$979	$1,131	$1,131	$1,831	$1,642	$1,438
Project	$ -	$1,395	$5,624	$5,472	$6,973	$7,817	$8,447	$7,501	$ -	$ -	$ -

b) Table 2 presents the number of transformers replaced in the project and the number replaced in the transformer replacement program for 2012 to 2017. For 2018 and onward, the number of transformers is forecast for the project. Alectra Utilities does not forecast the number of transformers to be replaced under the program because this work is reactive in nature. Alectra Utilities considered the OEB's findings in the decision and order in EB-2017-0024 and reconfigured the implementation of the project to accelerate the evolution of the project into the ongoing capital program. Alectra Utilities determined that 395 transformers could be removed from the backlog of transformers, that it could implement containment of those minor leaking units, monitor those transformers under its inspection program and replace them at a slower pace under the ongoing transformer replacement program starting in 2020. By adjusting the scope of the backlog so as to remove the 395 transformers, Alectra Utilities plans to complete the 2019 project scope to address the remaining backlog and meet the OEB's expectation that the leaking transformer replacement project is evolved into a typical ongoing capital program from 2020 onward.

Table 2 – Number of Transformers Replaced in the Program and Project in ERZ

	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Forecast	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast
Program	176	134	212	296	160	115					
Project	0	157	385	735	775	628	650	571	0	0	0

ERZ-AMPCO-23

Reference(s): Attachment #49, Appendix 3.4, p. 13

The survey states "Earlier this decade, Enersource identified a backlog of almost 4,000 transformers that show signs of leaking. By the end of this year, over 3,000 of these transformers will have been replaced. However, that will still leave over 600 needing replacement."

Under ERZ's existing renewal plan, how long would it take to replace the remaining 600 transformers.

Response:

As per the business case for Replacement of Leaking Transformers in Attachment 46, Alectra Utilities has determined that with the $7.5MM investment in 2019, the multi-year project to eliminate the remaining backlog of transformers that require replacement, will be completed in 2019.