EB-2018-0016

Alectra Utilities Corporation

Application for electricity distribution rates beginning January 1, 2019

AMPCO Compendium

December 5, 2018

YRRT Y2/H2 In-Service Budget Forecast as of August 31, 2018

*EB-2017-0024 Attachment #33 Table 3 P10

** EB-2018-0016 PRZ-Staff-60 P2 Table 2

Y2	2016 Forecast*	2016 Actual**	2017 Forecast*	2017 Actual**	2018 Forecast*	2018 Forecast Revised Aug 31**	2019 Forecast*	2019 Forecast Revised Aug 31**	Forecast Total*	Total Revised Aug 31**
Gross Capital	4,893.0	0.0	16,000.0	100.0	12,700.0	12,698.0	7,300.0	38,572.0	40,893.0	51,370.0
Contributed Capital	2,574.5	0.0	8,000.0	50.0	6,350.0	7,057.0	3,650.0	19,478.0	20,574.5	26,585.0
Net Capital	2,318.5	0.0	8,000.0	50.0	6,350.0	5,641.0	3,650.0	19,094.0	20,318.5	24,785.0
H2										
Gross Capital	516.9	0.0	11,713.6	5,284.0	12,713.7	15,463.0	3,165.0	8,630.0	28,109.2	29,377.0
Contributed Capital	466.7	0.0	7,007.7	3,036.0	7,820.5	8,359.0	2,326.9	5,012.0	17,621.8	16,407.0
Net Capital	50.3	0.0	4,705.9	2,248.0	4,893.2	7,104.0	838.1	3,618.0	10,487.5	12,970.0
Total YRRT										
Gross Capital	5,409.9	0.0	27,713.6	5,384.0	25,413.7	28,161.0	10,465.0	47,202.0	69,002.2	80,747.0
Contributed Capital	3,041.2	0.0	15,007.7	3,086.0	14,170.5	15,416.0	5,976.9	24,490.0	38,196.3	42,992.0
Net Capital	2,368.7	0.0	12,705.9	2,298.0	11,243.2	12,745.0	4,488.1	22,712.0	30,805.9	37,755.0
Variance		*-2,368.7*		*-10,407.9*		*1,501.8*		*18,223.9*		*6,949.1*
U/G km					4.40	1.64	11.16	11.06		
O/H km					19.73	6.86	20.17	8.40		
Ref: PRZ-AMPCO-1					24.13	8.50	31.33	19.46		

In order to accommodate the development of this transportation infrastructure, Alectra Utilities is required to relocate a very significant amount of overhead ("OH") and underground ("UG") plant, including express 27.6kV feeders, that have been identified as posing a conflict to the construction of the rapidway.

Since 2010, the former PowerStream has been relocating OH and UG plant to accommodate road widening and shifting of the boulevard to support the YRRT construction. The following details the work completed to date:

(i) H3.2: Highway 7, East of Bayview Ave to West of Warden Avenue
(ii) H2 VMC: Highway 7, West of Edgeley Blvd to East of Bowes Road in Vaughan
(iii) H2 West: Sections along Highway 7, Helen Street East of Highway 400 in Vaughan
(iv) H2 East: Sections on Centre Street from Highway 7 to Bathurst Street, on Bathurst Street from Centre Street to Highway 7 in Vaughan
(v) Highway 7 from Bathurst Street to Yonge Street in Richmond Hill
(vi) Y2.2: Sections on Yonge Street from 19th Avenue to Levendale Road
(vii) Y2.1: Sections on Yonge Street from Major Mackenzie Drive to Highway 407 in Richmond Hill,

The timelines for the project are dictated by the YRRTC, in conjunction with the contractors: RapidLink and EDCO.

Scope

The current BRT Rapidways phases under construction are Y2 and H2, as illustrated in Figure 2.

The Y2 project is illustrated and outlined in blue. The Y2 consists of two project sections along Yonge Street referred to as Y2.1 (from Highway 7 to Major Mackenzie Drive) and Y2.2 (from Levendale to 19th Avenue) totaling to approximately 6.5km of BRT Rapidway. The contract for this project, valued at approximately $260MM, was awarded by YRRTC to Rapid Link. The Y2 project is structured as a Design-Build initiative.

The H2 project is illustrated and outlined in red. The H2 consists of two project sections H2-West and H2-East totaling approximately 8.5km of BRT Rapidway. The contract for this project, valued

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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. The following are details of the work completed to date:

1) H3.2: Highway 7, East of Bayview Ave to West of Warden Avenue
2) H2 VMC: Highway 7, West of Edgeley Boulevard to East of Bowes Road in Vaughan
3) H2 West: Sections along Highway 7, Helen Street East of Highway 400 in Vaughan
4) H2 East: Sections on Centre Street from Highway 7 to Bathurst Street, on Bathurst Street from Centre Street to Highway 7 in Vaughan, Highway 7 from Bathurst Street to Yonge Street in Richmond Hill
5) Y2.2: Sections on Yonge Street from 19th Avenue to Levendale Road
6) Y2.1: Sections on Yonge Street from Major Mackenzie Drive to Highway 407 in Richmond Hill,

The timelines for the project are dictated by the YRRTC in conjunction with the project contractors RapidLink and the joint venture of EllisDon Capital Inc. and Coco Paving Inc. ("EDCO").

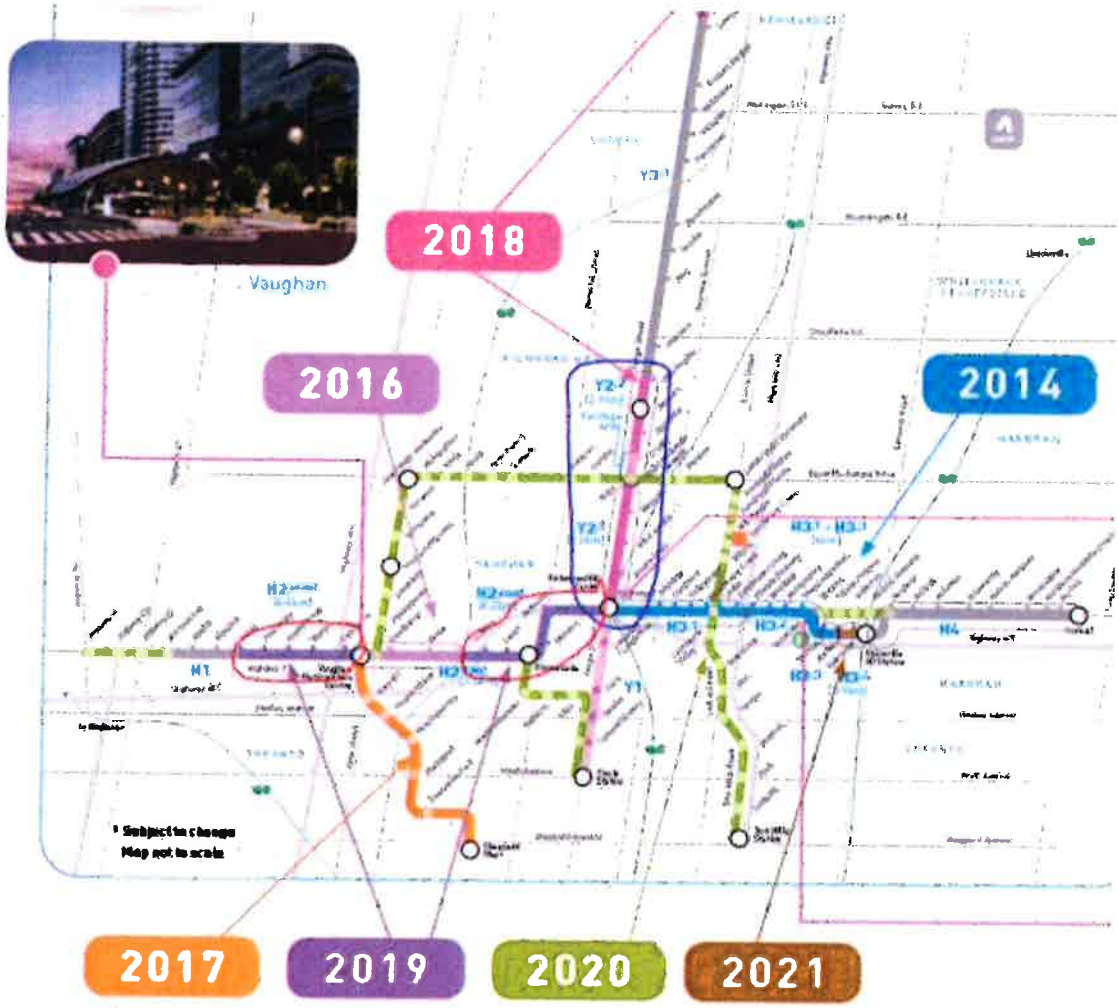
Scope

The current BRT Rapidways phases under construction are Y2 and H2, as illustrated in Figure 2.

The Y2 project is illustrated and outlined in blue. The Y2 consists of two project sections along Yonge Street referred to as Y2.1 (from Highway 7 to Major Mackenzie Drive) and Y2.2 (from Levendale Road to 19th Avenue) totaling to approximately 6.5 km of BRT Rapidway. The contract for this project, valued at approximately $260MM, was awarded by YRRTC to Rapid Link. The Y2 project is structured as a Design-Build initiative.

The H2 project is illustrated and outlined in red. The H2 consists of two project sections H2-West and H2-East totaling approximately 8.5 km of BRT Rapidway. The contract for this project, valued at approximately $ 330MM, was awarded by YRRTC to EDCO. The H2 project is being done through Alternative Financing and Procurement (AFP) structure as a Design-Build-Finance project. Figure 2 illustrates the BRT route and the proposed construction schedule.

Figure 2 – BRT Rapidways Project



The Y2 and H2 rapidway projects are located on major streets, with significant overhead, as well as underground distribution system plant including express 27.6kV feeders, which pose a conflict to construction of the rapidways.

Based on known designs and plans, Alectra has assessed the scope of the required relocation work which involves both overhead and underground relocations, as well as Joint-Use Trench ("JUT") to accommodate road widening and shifting of the boulevard. Table 1 and Table 2 provide the high level hydro relocation scope necessary to facilitate the construction of the rapidway.

AH# 31

Table 1 – Detailed Work for Y2

Y2.1						
Phase/Stage	**Description**	**Work**	**Length of Underground Alignment**	**Length of 1000 MCM CU**	**Length of 350 MCM CU**	**Number of Switchgear**
Stage 4	Yonge St- West Side - Baif Blvd. to Major MacKenzie Dr. W.	Concrete Encased Ductbank Installation, Cable Installation and Final Terminations/Cutovers	1430m	16830m	5610m	4
Stage 5,6	Yonge St- East Side - High Tech Blvd. to 16th Ave.	Final Terminations/Cutovers	1340m	9450m	3150m	0
Stage 7,8	Yonge St- East Side - 16th Ave. to Major MacKenzie Dr. E.	Concrete Encased Ductbank Installation, Cable Installation and Final Terminations/Cutovers	2000m	14370m	4790m	5
Y2.2						
Phase/Stage	**Description**	**Work**	**Length of Underground Alignment**	**Length of 1000 MCM CU**	**Length of 350 MCM CU**	**Number of Switchgear**
Stage 7,8,9	Yonge St- East Side - South of Devonsleigh Blvd. to 19th Ave.	Cable Installation and Final Terminations/Cutovers	775m	4725m	875m	2

Y2.1 from a construction standpoint has been staged in three sections (stages 4, 5&6, 7&8) as outlined in Table 1.

Y2.2 from a construction standpoint has been staged in one section (stages 7, 8 and 9) which includes relocation work on Yonge Street East from South of Devonsleigh Boulevard to 19th Avenue.

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.

Table 2 – Detailed Work for H2

H2-East									
Phase/Stage	Description	Work	Number of Poles	Number of LIS	Length of Underground Alignment	Length of 1000 MCM CU	Length of 2/0 AL	Number of poles where neutral is to be raised
Phase 3B and 3C	along Bathurst, from Flamingo to North End of Project	Installation of poles including OH equipments, Cable Insallation and Final Terminations/Cutovers, Neutral Raising along	41	3	57m	0m	171m	50
Phase 4	along Centre, from New Westminster to Concord	Installation of poles including OH equipments, Cable Insallation and Final Terminations/Cutovers	4	0	10m	0m	30m	0
Phase 5	along Centre, from Concord to West of Dufferin	Installation of poles including OH equipments, Cable Installation and Final Terminations/Cutovers	22	6	180m	0m	540m	0
H2-West								
Phase/Stage	Description	Work	Number of Poles	Number of LIS	Length of Underground Alignment	Length of 1000 MCM CU	Length of 2/0 AL	Number of Switchgear
Phase 2	along Hwy 7, from C1 to Aberdeen	Installation of poles including OH equipments,Cable Installation and Final Terminations/Cutovers	6	1	40m	0m	120m	0
Phase 3	along Weston Road	Installation of poles, concrete encased ductbank, and switchgears	8	0	400m	2400m	0m	2
Phase 4 & 5	along Hwy 7, Nova Star to West of Edgeley	Installation of poles, 4-bore shot crossing Hwy 400	29	8	360m	2160m	0m	2
Phase 6	along Hwy 7, C1 to West End of Project	Installation of poles including OH equipments, Cable Installation and Final Terminations/Cutovers	24	0	280m	0m	840m	0m

H2 East from a construction standpoint has been staged in three stages (Phase 3B & 3C, Phase 4 and Phase 5) as outlined in Table 2.

H2 West from a construction standpoint has been staged in four stages (Phase 2, Phase 3, Phase 4 & 5 and Phase 6) as outlined in Table 2. It is expected that majority of the work for the H2 will be completed in 2018 and small portion will be left to be completed in 2019.

Options Considered

Alectra is obligated to relocate the Distribution plant to facilitate expansion of the roads and transportation infrastructure. This project is deemed mandatory under the PSWHA.

Financial Impact

Table 3 provides the forecasted in-service expenditures from 2018 to 2019, based on the scope of relocation work as determined from firm designs and construction timelines received from YRRT as well as the project contractors, RapidLink and EDCO.

Project Summary Report	Project Code	Report Start Year	Number of Years	Scale
	101762	2015	6	Dollars
	Project Name	Road Authority Expenditure PS South		

Major Category	System Access	
Project Overview		
1. Additional Information	Service Territory	PowerStream South
	Location	PowerStream South Service Territory
	Scope	YORK REGION 19th Avenue at Leslie Street Intersection, Richmond HillDonald Cousins Parkway from Major Mack to Hwy 48, Markham, King Road from Yonge Street to Bond Crescent King, Richmond Hill, Langstaff Road from Dufferin St to Keele St, Vaughan, Major Mackenzie from Donald Cousins to 9th Line, Markham No apparent conflicts, St. John's SideRoad from Bayview Ave to Leslie St, Aurora, YRRT Y2.2 Yonge St. - Major Mackenzie Dr to 19th Ave, Richmond Hill, H2 - HWY 7 - Pine Valley to Hwy 400 and Go Tracks to Yonge Highway 7, Vaughan, AURORA Bluegrass Drive Bluegrass Drive, Aurora, Skyview Lane, Aurora, Steeplechase Avenue, Aurora, Woodsend Crescent, Aurora, RICHMOND HILL Portage Avenue from Bathurst east, Richmond Hill, Madison Avenue from Bathurst east, Richmond Hill, Park Crescent from Sunset Beach to Sunset Beach Park, Richmond Hill, Coon's Road from Humberland to Yonge, Richmond Hill, West Beaver Creek Road from Leslie Street to West Pearce St, Richmond Hill, MARKHAM, Miller Avenue from Birchmont to Kennedy, Markham
	Justification	The Region's and local Municipalities requires PowerStream to relocate the distribution system to accomodate road works.
2. General Project Information (OEB)	Contributed Capital	Contributed Capital Road Authority
	Fiscal Year	2015
	Parent WO#	
	Job Number	C00200
3. General Information on the Project/Activity (OEB)	Risks to Completion and Risk Management	The timing and schedule of the road projects is non-controllable and based on the road projects being advanced by the Municipalities.
	Comparative Information on Equivalent Historical Projects (if any)	Historically in PS South Territory, the Road Authority spend has been $5M gross, $1.5M contributed, and $3.5M net. The Road Authority budget for the next few years has been increased due to increased road widenings due to by York Region's rapid bus transit projects and increased road projects by York Region.
	Total Capital and OM&A Costs for Renewable Energy Generation portion of Projects (if any)	0
4. Evaluation Criteria (OEB)	Project Summary	The Region's and local Municipalities requires PowerStream to relocate the distribution system to accomodate road works.
	1a. Main Driver	Service Requests. These projects are non-controllable and are a requirement of the Public Service Works on Highways Act R.S.O. 1990, CHAPTER P.49
	1b. Priority and Reasons for Priority	These projects are non-controllable and are a requirement of the Public Service Works on Highways Act R.S.O. 1990, CHAPTER P.49
	1c. Qualitative and Quantitative Analysis of Project and Project Alternatives	The scope is defined and determined by the limits and amount of road work / road widening being done by the Municipality.
	2. Safety	The relocation of the distribution system needs to be done in advance of the road work. PS Crews cannot safely work in the same time and space as the Road Crews.
	3. Cyber-Security, Privacy	Not Applicable.
	4. Coordination, Interoperability	Not Applicable.
	5. Economic Development	Not Applicable.
	6. Environmental Benefits	Not Applicable.
5. Category-Specific Requirements for Each Project/Activity (OEB)	Factors Affecting Timing/Priority	The scope and timing of the projects are driven by the Municipalities. Planned road projects may be advanced or deferred within a calendar year based on various constraints such as budget, or based on political pressures, economic development, traffic flow, etc.
	Factors Relating to Customer Preferences or Input	The scope and timing of the projects are driven by the Municipalities. Planned road projects may be advanced or deferred within a calendar year based on various constraints such as budget, or based on political pressures, economic development, traffic flow, etc.
	Factors Affecting the Final Cost of the Project	The scope is defined and determined by the limits and amount of road work / road widening being done by the Municipality.
	How Controlled Costs have been Minimized	Construction service is provided by PowerStream and its contractor. PowerStream's contractor was selected through a competitive RFP process which provides best costs and cost certainty.

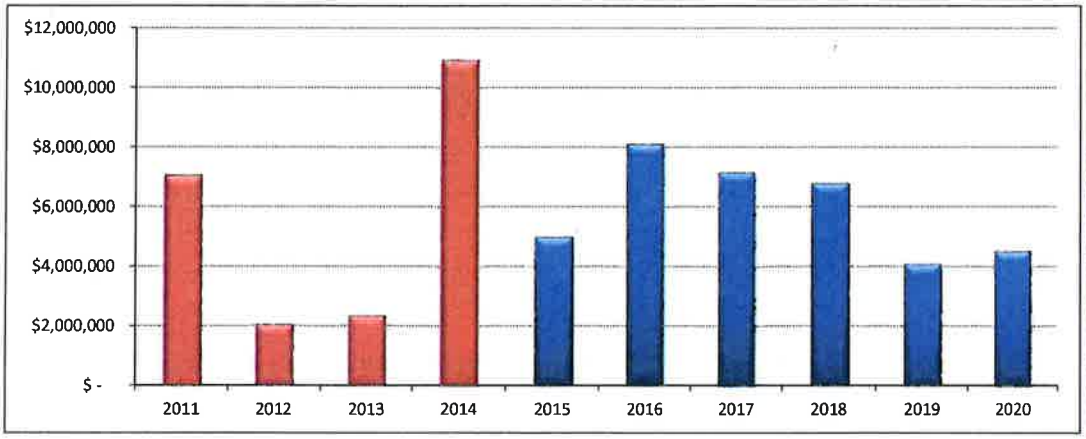
Project Code	Report Start Year	Number of Years	Scale
101762	2015	6	Dollars

Project Summary Report

Project Name: Road Authority Expenditure PS South

Identify if Other Planning Objectives are Met by the Project, if so, which ones	**Not Applicable.**
Options Considered and Summary of Analysis	**Not Applicable.**
Results of Final Economic Evaluation, if applicable	**Not Applicable.**
System Impacts (Nature, Magnitude and Costs)	**The scope is defined and determined by the limits and amount of road work / road widening being done by the Municipality.**

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Expenditures Historical/Planned	$ 7,077,271	$ 2,055,042	$ 2,342,483	$ 10,956,175	$ 5,007,538	$ 8,136,379	$ 7,179,017	$ 6,799,693	$ 4,102,094	$ 4,539,401



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-Staff-60

Incremental Capital Module

Reference(s): Attachment 31 ICM business cases PowerStream RZ
EB-2017-0024 Attachment 33 ICM business cases PowerStream RZ, Page 10

Alectra Utilities is requesting $13.27M to relocate distribution assets resulting from the construction of the York Region Rapid Transit (YRRT) VIVA Bus Rapid Transit (BRT) Y2 and H2 project. This project includes relocating approximately 6.5 km for the Y2 project and 8.5 km for the H2 project.

a) In EB-2017-0024 the referenced ICM business cases show that the forecasted gross capital expenditure for the Y2 project in 2019 is $7.3M. In the current ICM business case the forecasted gross capital expenditure in 2019 is $24.17M. Please provide a detailed explanation to the change in gross capital expenditure.

b) For the Y2 project, are the existing distribution assets that are being relocated all underground? If not, what is the number of kilometer of distribution assets that are now underground compared to the existing design?

c) Has Alectra Utilities considered an overhead distribution system compared to the underground design for the Y2 project? If not, why not?

d) How many feeders are in being relocated in both the Y2 and H2 project?

Response:

a) The YRRT Y2 and H2 business cases, as submitted in Attachment 33 of Alectra Utilities' 2018 Electricity Distribution Rate ("EDR") Application (EB-2017-0024), as well as in Attachment 31 of this Application, present a forecast of capital in-service additions.

The YRRT project in-service capital addition schedules were updated as of August 31, 2018. The YRRT Y2 and H2 in-service schedule, as submitted in the 2018 EDR Application, is reproduced in Table 1, below. Table 2 provides the most recent forecast of capital in-service additions for this project.

1 **Table 1 - YRRT Y2 H2 In-Service Forecast 2016-2019 (as submitted in EB-2017-0024)**

	Y2				
$000s	2016	2017	2018	2019	Total Y2 Budget
Gross	4,893	16,000	12,700	7,300	40,893
Contributed	2,574	8,000	6,350	3,650	20,574
Net	**2,319**	**8,000**	**6,350**	**3,650**	**20,319**
	H2				
	2016	2017	2018	2019	Total H2 Budget
Gross	517	11,714	12,714	3,165	28,110
Contributed	467	7,008	7,821	2,327	17,623
Net	**50**	**4,706**	**4,893**	**838**	**10,487**
	Total YRRT				
	2016	2017	2018	2019	Total YRRT Budget
Gross	5,410	27,714	25,414	10,465	69,003
Contributed	3,041	15,008	14,171	5,977	38,197
Net	**2,369**	**12,706**	**11,243**	**4,488**	**30,806**

2

3 **Table 2 – Revised YRRT Y2 H2 In-Service Budget Forecast 2016-2019 as of August 31, 2018**

	Y2				
	2016 Actual ($000)	2017 Actual ($000)	2018 Forecast ($000)	2019 Forecast ($000)	Total Y2 Budget
Gross	0	100	12,698	38,572	51,370
Contributed	0	50	7,057	19,478	26,585
Net	**0**	**50**	**5,641**	**19,094**	**24,785**
	H2				
	2016 Actual ($000)	2017 Actual ($000)	2018 Forecast ($000)	2019 Forecast ($000)	Total H2 Budget
Gross	0	5,284	15,463	8,630	29,377
Contributed	0	3,036	8,359	5,012	16,407
Net	**0**	**2,248**	**7,104**	**3,618**	**12,970**
	Total				
	2016 Actual ($000)	2017 Actual ($000)	2018 Forecast ($000)	2019 Forecast ($000)	Total YRRT Budget
Gross	0	5,384	28,161	47,202	80,747
Contributed	0	3,086	15,416	24,490	42,992
Net	**0**	**2,298**	**12,745**	**22,712**	**37,755**

As of August 31, 2018, the forecasted 2019 in-service addition for the YRRT project is $22.7MM. This is an increase of $18.2MM, relative to the 2019 in-service addition budget of $4.5MM, from the YRRT business case, as submitted in Attachment 33 of EB-2017-0024.

As provided in Tables 1 and 2 above, Alectra Utilities initially forecast to put $15.1MM in service between 2016 and 2017. During this period, $2.3MM was put in-service, a difference of $12.8MM. The delay in placing assets in-service in 2016 and 2017 caused an increase in the forecast of in-service additions of $1.5MM for 2018 and $18.2MM for 2019. Details related to the delay are provided below.

York Region Rapid Transit Corporation ("YRRTC"), the road authority overseeing the YRRT project, is responsible for the project schedule and sequence of work. It has continued to revise both over time. In response, Alectra Utilities has been required to modify the project scope to accommodate the changes in: project stage sequencing; requests to utilize joint use trench implementation; and the installation of underground assets at a deeper depth relative to Alectra Utilities' construction standards. These project scope changes resulted in an increase of $6.9MM in the total project budget.

The project construction delays and subsequent delays in placing assets in-service are the result of YRRTC changes to the order of construction; modifications of the implementation sequencing in order to accommodate transportation infrastructure construction as well as joint use utilities such as telecommunications companies. Alectra Utilities' initial construction schedule was developed to accommodate YRRTC timelines before detailed designs were developed. Although this design-build approach provides flexibility in construction for the YRRTC, this is not a typical practice for Alectra Utilities in completing road widening projects. Further, the number of utilities and contractors involved in the overall project contributed to scheduling complications. As a result of co-dependencies between utilities and contractors, at the request of the YRRTC, Alectra Utilities was required by the YRRTC to mobilize crews in different sequences and order to permit work to continue, albeit it in less sequential and less efficient manner. Alectra Utilities was limited in its ability to complete phases and to place assets into–service, as a result of having to mobilize crews to stages that were different than those that were planned.

Changes in project scope as a result of unanticipated underground congestion and requirement to implement joint trench installation required that Alectra Utilities had to relocate and install underground assets at deeper depths as well under roadways. Alectra Utilities needed to revise project designs and incur increased costs of construction to relocate assets along the Y2 and H2 sections of the project to facilitate the changes in the scope. The change of project scope and sequencing of construction to match YRRTC contractors have resulted in an increase in overall project costs of $6.9 MM.

The scheduling of the H2 portion of the project started in August 2016. Preliminary schedules were prepared prior to drawings being started to meet the YRRTC project timeline requirement. As described above, the original schedule phase sequencing and scope changed to better facilitate the transit contractors and joint use utilities construction. The H2 project was also further complicated due to YRRTC requirements to install specific concrete poles that required additional burial depth. Implementation of non-standard equipment contributed to redesigns. Alectra Utilities addressed the YRRTC requirements by resourcing construction contractors familiar with the installation of such concrete poles as this was not a standard practice within Alectra Utilities' PowerStream Rate Zone.

The scheduling of the Y2 portion of the project started in April 2016. Preliminary schedules were prepared prior to drawings being started to meet the YRRTC project timeline requirement. As described above, the original schedule phase sequencing and scope changed to better facilitate the transit contractors and joint use utilities construction. The construction dates were delayed due to design changes driven by YRRTC requirements. These were beyond Alectra Utilities' control. Due to congestion and limited space in the boulevard, Alectra Utilities was required to install ducts at 5 meter depths as opposed to 1 meter depth, as is the standard at Alectra Utilities. In some situations on the project where no space on the boulevard was available for electrical infrastructure, Alectra Utilities was required to install electrical underground system infrastructure below the roadways. This also contributed to the increase in the project cost and introduced further delays due to designs changes.

The $31.2MM increase to the 2019 in-service gross capital additions for the Y2 project section relative to the previous 2019 in-service gross capital additions forecast of $7.30MM was largely due to the project delays and changes to project scope driven by YRRTC requirements. For the

Y2 portion of the YRRT, the increase in 2019 in-service gross capital contributions due to changes driven by YRRTC, account for a $20.8MM increase in gross in-service additions. For the Y2 portion of the YRRT, the increase in 2019 in-service gross capital contributions due to change in scope driven by YRRTC and construction challenges, account for a $10.4MM increase in gross in-service additions.

Once adjusted for capital contributions, the increase to the 2019 in-service net capital additions for the Y2 project section relative to the previous 2019 in-service net capital additions forecast of $3.7MM is $15.4MM and is largely due to the project delays and changes to project scope driven by YRRTC requirements.

b) Approximately 3.4 km of the existing 16.4 km of Alectra Utilities' distribution system on the Y2 section of the YRRT project is required to be relocated underground. Table 3 below provides the breakdown of the sections that are required to be placed underground. Please refer to Alectra Utilities' response to part c) below for an explanation of the reasons why sections of the distribution system are required to be relocated underground.

Table 3 – Segments of Alectra Utilities Distribution System to be Relocated Underground – Y2 Portion of the Project

Section	Stage	Length of System (km)	Location
Y2.1	4	0.750	Weldrick to Harding
	5/6	0.375	Northern Height to 16th Ave
	7	0.600	16th Ave to Weldrick
	8	1.050	Weldrick to Elmwood
Y2.2	6	0.615	Elgin Mills to Canyon Hill
	Total	**3.390**	

c) Alectra Utilities considered an overhead distribution system compared to an underground one for the Y2 project. However, due to the limited boulevard space and the YRRTC streetscape design, an overhead system was not a feasible option. Constructing a distribution system with intermittent short (50 to 150 meters) segments of underground systems followed by short segments overhead would have increased project costs and reduced the reliability of the system. Further, in some sections of the project, the boulevard space was so limited that portions of the underground infrastructure needed to be installed under the roadway which is not a typical Alectra Utilities standard practice. The installation

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Reference(s): Attachment 31 ICM business cases PowerStream RZ
PowerStream's Distribution System Plan, Exhibit G/Tab 2, Table 5.4.5.1 System Access Proposed Expenditures
PowerStream's Distribution System Plan, Exhibit G/Tab 2, 5.4.4. Capital Expenditure Summary, Page 4

In PowerStream's Distribution System Plan (DSP), the referenced table shows a planned expenditure of $8.357M for Road Authority in 2018.

a) Please provide the current forecast for Road Authority spending in 2018 without considering the YRRT project.

b) As a result of resources being allocated to the YRRT project were any capital projects in PowerStream's DSP deferred due to lack of resources?

On page 4 of the above reference, PowerStream had noted that historical System Access variances between 2011-2014 were primarily due to increased Road Authority projects in York region, Simcoe county, and the 11 municipalities. In the ICM business case Alectra Utilities had also noted that this overall project started in 2010 in figure 1.

c) Please provide the methodology PowerStream used at the time to forecast the 5 year Road Authority capital budget.

Response:

a) The current forecast for Road Authority spending in 2018 without considering the YRRT projects is $4.602MM.

b) There were no capital projects deferred in the PowerStream DSP due to lack of resources as a result of the YRRT project.

c) The methodology to forecast the 5 year Road Authority capital budget was to collect all available information from Road Authorities to determine where relocations would potentially occur in the future. Potential projects were identified based on published capital work plans by the York Region, MTO and other road authorities as well as information gathered from

meetings and discussions with municipal planners. Based on identified locations, site visits together with engineering software were used to identify the existing plant potentially in conflict with the corresponding Road Authority project. Where information was available, the former PowerStream prepared preliminary project scope and high level cost estimates based on similar historical work were forecasted.

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Reference(s): Attachment 31 ICM business cases PowerStream RZ
PowerStream's Distribution System Plan, Appendix A, Project Code – 101762

In Appendix A, PowerStream had asked for a project called Road Authority Expenditure PS South. This project is to relocate distribution system assets as a result of road works on Yonge St. from Major Mackenzie Dr to 19th Ave. This is the same project as in the ICM business cases.

a) Please explain why Alectra Utilities is requesting an ICM for this project when it was already included in PowerStream's forecasted capital for 2019 and included in PowerStream's approved rates.

b) Please explain if there was a change in scope for this project from the time of the DSP to the ICM since this overall project appears to be from 2010 to 2020?

c) Was there a scope change from the DSP to the ICM? If so, please provide a detailed scope of work at the time of the DSP and a detailed scope of work for this ICM. This should include, at a minimum, preliminary engineering designs.

Response:

a) Alectra Utilities does not agree that the identified project is already included in approved rates. PowerStream's 2016-2020 Distribution System Plan ("DSP"), filed as part of its Cost of Service Application (EB-2015-0003) the Ontario Energy Board ("OEB") on May 22, 2015, was based on information known at that time. The projects at issue were not known and had not been identified by the York Region Rapid Transit Commission ("YRRTC"). Subsequent to the application, PowerStream was made aware of extensive enhancements to the transportation infrastructure and expansion on several Rapid Transit corridors. It was brought to the attention of the board during the custom IR proceedings and noted in the rate decision. (Refer to EB-2015-003, Page 14- excerpt included below).

> *PowerStream suggested that any reduction to its capital spending program was inappropriate, but that a reduction of $23.22 million was feasible, except that an*

additional $20.00 million may be needed for York Region Rapid Transit project (Refer EB-2015-003, Page 14)

While these were brought to the attention of the OEB during the rate application proceeding and noted in the rate application decision, the project was not included in the DSP.

Project 101762 is not limited to YRRT projects and includes all the plant relocations due to the road authority works for the entire PowerStream South (York) region.

In EB-2015-0003, the OEB approved a net amount of $7.17MM in rates for the Road Authority South projects and $1.49MM in rates for Road Authority North (101764) for a total of $8.66MM for PowerStream. For 2019, Alectra Utilities requires a net capital amount of $9.94MM to complete the projects listed in Table-1, which do not include the YRRT and the Bathurst project.

Table 1 – 2019 PRZ Road Authority Projects

2019 PRZ Road Authority Projects
MAIN STREET FROM THOMPSONS ROAD TO BROCK STREET -
BELL FARM ROAD ROW EXPANSION - ST. VINCENT TO DUCKWORTH -
HARVIE ROAD - ESSA ROAD TO BRYNE DRIVE -BARRIE
DUCKWORTH ST. ROW EXPANSION - BELL FARM TO ST. VINCENT -BARRIE
DUNLOP STREET RIGHT OF WAY EXPANSION - CEDAR POINTE TO ANNE-
ESSA ROAD NEW TRANSMISSION WATERMAIN AND ROAD-BARRIE
MAPLEVIEW DRIVE EAST IMPROVEMENTS - MADELINE TO YONGE-BARRIE
SOUTH WEST ARTERIAL ROAD - 10TH SIDEROAD-BRADFORD
HWY 427 EXTENSION, LANGSTAFF RD E/O HUNTINGTON RD -
DUNLOP STREET, ANNE ST & SUNNIDALE ROAD BRIDGES
KEELE STREET FROM STEELES AVENUE TO HIGHWAY 7
BATHURST STREET FROM NORTH OF HWY 7 TO RUTHERFORD ROAD
OH AND UG RELOCATION-10 INTERSECT., MMD(BAYVIEW AVE- LESLIE ST) AND LESLIE ST(MMD-JOHN ST), RICHMOND HILL AND MARKHAM
RUTHERFORD RD - JANE TO WESTBURNE
PERMANENT RELOCATION - PROCTOR AVE AND HENDERSON AVE.
GLEN SHIELDS AVE BRIDGE, VAUGHAN-PERMANENT RELOCATION
OTHER MISC PROJECTS

The budgeted amount for project 101762 has been allocated to the above listed road authority projects, however, there is insufficient funding to address the YRRT relocations.

b) The project scope for the Y2.2 Project was not known at the time of the DSP and no design work had been completed. The initial scope and designs were not completed until 2016. Subsequently, there have been scope changes driven by YRRTC, which has been discussed in Alectra Utilities' response to Interrogatory PRZ-Staff-60 (a).

c) Please see Alectra Utilities' response to part b).