

Undertaking No. JT1.1

To provide a list of projects that are deferred for the year 2014

Table 1 below is the list of deferred projects for the year 2014, as referenced in Table SEC 9-1 (dashed lines).

Table 1 - 2014 PROJECTS DEFERRED

Project Title	Net Cost	Risk Profile
1) Station - Nomenclature, Signage	\$17,072	No Risk
2) Cityview "Room Wizard" replacement program (for booking meeting rooms)	\$19,800	No Risk
3) Carpet Replacement at Barrie Office, 55 Patterson Ave.	\$44,000	No Risk
4) Install "Room Wizard" modules (for booking meeting rooms) at Addiscott and Jane Street locations	\$49,500	No Risk
5) SIP POC (Voice SIP Trunking Improvements)	\$99,000	No Risk
6) Oil Containment Systems - 4 Transformers	\$194,198	No Risk
7) Markham TS#4 Heating Improvements	\$7,704	Low Risk
8) Various Stations - Station Lighting Upgrade / Retrofit - Energy Efficient Lighting	\$31,680	Low Risk
9) Station Service Transfer Panels - PS South	\$42,126	Low Risk
10) Amber MS - RTU Upgrade	\$43,252	Low Risk
11) Wireless Network Redesign	\$44,000	Low Risk
12) Purchase of Critical Spare Parts	\$49,500	Low Risk
13) Technology Upgrades Improving the System Control Room Environment	\$53,680	Low Risk

14) Cityview Lighting Relamping	\$55,000	Low Risk
15) File Sharing POC - Mobility File Share	\$55,000	Low Risk
16) Netmotion Pilot	\$55,000	Low Risk
17) Video Surveillance at two PS North Stations	\$66,912	Low Risk
18) HMI Upgrades - Richmond Hill TS2	\$84,075	Low Risk
19) Station Service Transfer Panels - PS North	\$87,796	Low Risk
20) Web Based GIS Improvement - ArcGIS Server	\$88,550	Low Risk
21) Installation of Programmable IR Cameras integrated with SWI Video system and with CASCADE CMMS at 2 TS Stations	\$100,925	Low Risk
22) Replacement of Legacy RTU and Recloser Controllers at Morgan MS	\$109,146	Low Risk
23) Video Surveillance - Markham TS#1 and Markham TS#2	\$119,568	Low Risk
24) Expand Communication Network to Isolated Stations in Tottenham and Penetanguishene.	\$123,599	Low Risk
25) On-Line Dissolved Gas Oil Monitoring of 20 MS and CS transformers	\$124,048	Low Risk
26) Add a Second Supply to PowerStream's Addiscott office	\$129,781	Low Risk
27) Purchase of Remote Disconnection Meters 2014	\$247,500	Low Risk
28) MV-90 Settlement Software Purchase	\$495,000	Low Risk
29) Replace Heavy Duty Vehicle, Unit# 103 (1.5 years lead time, expenditure occurs in 2015 and dollars go into 2015 budget)	\$0	Medium Low Risk
30) Replace Old Office Chairs in Distribution Design North	\$6,600	Medium Low Risk
31) Additional Technical Workstation	\$6,600	Medium Low Risk
32) JD Edwards Mobility Planning	\$22,000	Medium Low Risk
33) New Vehicle Acquisition (Addition to Fleet Inventory) Metering Dept.	\$38,500	Medium Low Risk

34) Replace Miscellaneous Equipment, Pole Trailer - Unit# 419, 1992 vintage.	\$49,500	Medium Low Risk
35) Replace Miscellaneous Equipment, Pole Trailer - Unit# 409, 1988 vintage.	\$49,500	Medium Low Risk
36) Replace Miscellaneous Equipment, Box Trailer Unit# 487, 1992 vintage	\$49,500	Medium Low Risk
37) Vulnerability Assessment Tool	\$66,000	Medium Low Risk
38) Expansion of Link between Addiscott and Cityview	\$99,000	Medium Low Risk
39) New Vehicle Acquisition (Addition to Fleet Inventory) Lines South	\$154,000	Medium Low Risk
40) JD Edwards High Availability Implementation	\$165,000	Medium Low Risk
41) Elder Mill MS Conversion- Part 2 (3F2)	\$284,636	Medium Low Risk
42) Purchase Site for New MS, Harvie Rd. MS – Barrie	\$770,000	Medium Low Risk
43) Integrate GPS technology with Responder OMS	\$72,794	Medium Risk
44) Replace Miscellaneous Equipment, Backhoe/Loader Unit# 396 - 1997 vintage	\$88,000	Medium Risk
45) Concord MS Conversion to 27.6 kV - Phase 2	\$402,556	Medium Risk
46) MS424 - Centennial MS Recloser Installation on 4.16kV Feeders	\$471,407	Medium Risk
47) Dufferin South MS#2,Purchase Site for New Substation	\$770,000	Medium Risk
48) OM&A Budget Development	\$79,200	Medium High Risk
49) Enterprise Software Application Standard Review	\$99,000	Medium High Risk
50) Painswick South MS-44kV Supply to Painswick South MS	\$322,744	Medium High Risk
51) Painswick South MS-13.8kV Feeder Integration	\$373,061	Medium High Risk
TOTAL COST	\$7,077,010	

Undertaking No. JT1.2

To provide source for the numbers provided on page 7 of 11 of the Asset Plan

A number of sources for average cost for customer interruptions were reviewed.

PowerStream staff then, through discussions, considered the composition of PowerStream customers in comparison to the sources and decided on the costs to be used in PowerStream studies. The sources and results were documented in the Excel Spreadsheet that is provided on the following page. These numbers have remained the same for calculating customer interruption costs for the 2013-2014 budget years.

Customer Interruption Costs

Date: August 5, 2010

**0. PowerStream "Interim" Customer Interruption Costs, to be used for the 2011 & 2012 Budget Years
(Recommended by Ted Wojcinski, Doug Fairchild, Richard Wang, Joe Bonadie and Quan Tran on August 5, 2010)**

Customer Interruption Cost				
	Residential	Mixed Residential, Commercial & Industrial (approx. 30% Res, 70% C & I)	Purely Commercial & Industrial (100% C & I)	
\$/kW (Frequency Cost)	\$2.00	\$20.00	\$20.00	
\$/kWh (Duration Cost)	\$4.00	\$20.00	\$30.00	

References are listed below:

1. Pacific Northwest National Laboratory - "Electrical Power Interruption Cost Estimates for Individual Industries, Sector, and U.S. Economy" (2002)

\$/kW by Sector (1996 US \$)

Duration	Residential	Commercial	Industrial	Transportation
20 Minutes	\$0.03	\$4.74	\$6.29	\$8.91
1 Hour	\$0.15	\$12.87	\$13.93	\$16.42
4 Hours	\$1.64	\$44.37	\$29.94	\$45.95

2. Ernest Orlando Lawrence Berkeley National Laboratory (LBNL)

- "Understanding the Cost of Power Interruptions to U.S. Electricity Consumers" (2004)

Cost per outage per customer

Duration	Residential	Commercial	Industrial
0 sec	\$2.18	\$605	\$1,893
1 hour	\$2.70	\$886	\$3,253
Sustained	\$2.99	\$1,067	\$4,227

3. Energy and Environmental Economics, Inc. & EPRI Solutions, Inc. - "Value of Distribution Automation Applications" (2007)

Value of Service (VOS)

	Residential	Commercial & Industrial
\$ per kWh unserved	\$2.19 - \$5.71	\$4.19 - \$703.20
\$ per outage	\$2.41 - \$6.27	\$1,533 - \$45,926

4. Victorian Value Customer Reliability (VCR) Powercor Australia Ltd. (2003) (cited in PowerStream Planning Philosophy)

Value of Loss Load (VoLL)

	Residential	Commercial	Industrial	Arggricultural
\$/kWh (Australian\$)	\$11.87	\$56.63	\$18.53	\$54.78

5. Hydro One - Risk Based Optimization of Strategic Spares (2001) (cited in PowerStream Planning Philosophy)

Average Customer Interruption Costs in \$/kW of Peak Demand

Duration	Residential	Retail	Office Building	Large Industrial	Small Industrial
1 hour	\$0.68	\$17.00	\$33.29	\$7.57	\$12.78
2 hours	\$2.17	\$38.42	\$60.18	\$11.41	\$21.27
3 hours	\$4.28	\$61.88	\$85.09	\$14.50	\$28.65
8 hours	\$22.13	\$228.14	\$188.54	\$25.27	\$65.32

6. Billinton and Wacker (Data Series Date 1992, 1996) (cited in Pacific Northwest National Laboratory - Item 1 above)

Cost CAN \$/kW - 1 hour Interruption

Duration	Residential	Commercial	Industrial
1 hour	\$0.16	\$32.20	\$9.56

Undertaking No. JT1.3

To explain the nature of the variances in capital additions for the 2013 forecast as at 6 September 2013 Evidence, Compared to 20 November 2013 IR Update

The following table was provided to PowerStream.

Other Non-Discretionary Spending Capital Additions	2014 Proposed Sept 6, 2013	2013 Forecast Sept 6, 2013	2013 (Column 2) Reference Sept 6, 2013	2013 EP IR#3 Q4 Forecast Nov 29, 2013	2013 Board Approved EP #5
Customer Service Work	\$12,462,448	\$12,693,767	Appendix H-1, Page 1	\$13,919,908	\$11,695,457
3 rd Party Infrastructure Development	\$11,716,684	\$6,406,909	Appendix H-2, page 1	\$3,371,183	\$6,279,604
Mandated Service Obligations	\$1,533,227	\$2,579,056	Appendix H-3, page 1	\$1,626,980	\$638,706
Emergency Replacements	\$8,721,411	\$10,208,271	Appendix H-4, page 1	\$10,618,537	\$9,409,215
Information Communications	\$1,495,660	\$1,428,063	Appendix H-5	\$1,201,239	\$1,440,069
	\$35,929,430	\$33,316,066		\$20,193,310	\$29,463,051
PowerStream addition re corrected total:				\$30,737,847	

- a) PowerStream provides one correction to the table. The total for column **2013 EP IR#3 Q4 Forecast Nov 29, 2013** should read **\$30,737,847**, not \$20,193,310.
- b) Both the September 6 and November 29 amounts are forecasts. The September 6 forecast is based on a forecast completed in July. The November 29 forecast is based on a forecast completed mid-November. The forecasts are based on the best information available at that time.

The major drivers for the changes to the November forecast from the September forecast are as follows:

- Customer Service Work – increase in subdivision activity in PowerStream North (Barrie & Simcoe County) area;
- 3rd Party Infrastructure Development – delay in pole relocation projects for York Region Rapid Transit;
- Mandated Service Obligations – reduced meter reverification costs;
- Emergency Replacements – increase in replacement of major equipment in PowerStream South;
- Information Communications – reduced need to make changes to the existing Customer Information System (CIS) and reduced replacement of new computers;