

2019 OEB Custom Incentive Regulation Progress Report

1. INTRODUCTION

As part of Hydro Ottawa's 2016 to 2020 (EB-2015-0004) Custom Incentive Rate (CIR) setting process, Hydro Ottawa has committed to report annually on the following:

Key Performance Metrics (KPIs)

a) Additional Operational Effectiveness KPIs which are not included in the OEB's Electricity Distributor Scorecard or the Ontario Energy Board's Yearbook:

- Safety,
- System Reliability,
- Asset Management, and
- Cost Control.

b) The progress of its capital spending program in the following categories:

- Service Access,
- System Service and System Renewal, and
- General Plant.

Hydro Ottawa uses KPIs to measure continuous improvement in asset management planning, capital investment planning and in customer-oriented performance. These indicators include quantitative measures to monitor the effectiveness of planning processes, efficiencies in carrying out those plans, as well as identifying shortfalls as areas for continuous improvement.

2. SAFETY

Hydro Ottawa tracks and reports on oil spills and the cost of remediation.¹ Reportable spills are identified to the Ministry of the Environment, Conservation and Parks. In 2019, Hydro Ottawa's annual oil spills amounted to 1,131L with remediation costs estimated at \$948,000.²

3. SYSTEM RELIABILITY

Customer Average Interruption Duration Index

The annual average time required to restore power to the average customer per sustained outage in 2019 was 1.3 hours, including Loss of Supply and Major Event Days. Excluding Loss of Supply and Major Event Days, the annual average time to restore power to the average customer was 0.77 hours.

Feeders Experiencing Multiple Sustained Interruptions

This represents the number of feeders that experienced 10 or more sustained outages greater than one minute. This performance metric provides an indication as to which regions have seen the most localized issues. For 2019, 10 feeders had 10 or more sustained outages.

Worst Feeder Analysis

In 2018, there were five feeders identified as having "Very Poor" performance, which represents 1% of all feeders. It takes several years to realize the impact of addressing worst feeders. In 2019, four of the five feeders identified in 2018 as "Very Poor" saw improvements in their performance rankings.

The System Average Root Mean Square Variation Frequency Index

This index measures the average number of voltage sags on the system. Poor voltage is considered to be outside $\pm 6\%$ of the system nominal voltage. Hydro Ottawa maintained voltage within these tolerances in 2019 with the exception of 10 events. All of these events

¹ Cost represents external remediation contractor costs only.

² Oil spill work can continue into the next calendar year.

occurred on four separate days and can be attributed to transmission system faults. They did not coincide with any Hydro Ottawa power interruptions.

Stations Exceeding Planning Capacity

The percentage of stations with a summer peak operating above 100% of their planned capacity rating in 2019 was 8.8%.

Feeders Exceeding Planning Capacity

The percentage of feeders with a summer peak operating above 100% of their planned capacity rating in 2019 was 1.6%.

Stations Approaching Rated Capacity

The percentage of stations at or above 100% of the station rated capacity in 2019 was 0%.

Feeders Approaching Rated Capacity

The percentage of feeders at or above 90% of the rated capacity in 2019 was 0.1%.

4. ASSET MANAGEMENT

Hydro Ottawa's capital spending is over the 2016-2020 Rate Application plan on a cumulative basis by 6.8% at the end of 2019. Hydro Ottawa forecasts no underspending by the end of its five year (2016 to 2020) approved capital spending plan.

System Access

System Access capital spending is driven by customer request. As a result Hydro Ottawa has limited control over activity in this category of spending. Plans are based on historical trends. See Table 1 for 2019 progress on System Access capital spending compared to Rate Application plan. Major System Expansion projects include the Chaudiere Generating Facility. At the end of 2019, on a cumulative basis, System Access spending is over plan by 11.5%.

Table 1 – Capital Spending Compared to Rate Application Plan – System Access (\$000)

Investment Category / Capital Program	Budget Program	2019			Cumulative		
		Planned	Actual	Variance	Planned	Actual	Variance
Plant Relocation	Plant Relocation	8,087	12,008	3,921	31,407	29,602	(1,805)
Residential	Residential	7,310	11,461	4,151	28,394	26,933	(1,461)
Commercial	Commercial	12,827	9,182	(3,645)	51,868	51,572	(296)
System Expansion	System Expansion	2,462	10,070	7,608	10,720	28,059	17,339
Stations Embedded Gen.	Stations Embedded Generation	400	165	(235)	1,553	1,224	(329)
Infill & Upgrade	Infill & Upgrade	3,353	3,021	(332)	13,024	14,701	1,677
Damage To Plant	Damage To Plant	1,219	2,161	942	4,733	5,258	525
Metering	Metering	177	1,190	1,013	686	1,462	776
Total Spending		35,835	49,258	13,423	142,385	158,811	16,426

System Renewal and System Service

Actual spending on System Renewal and System Service was under Rate Application plan by \$10M in 2019. On a cumulative basis spending has exceeded budget by 3.3% for the four fiscal years ending in 2019. System Renewal spending is incurred for replacement and refurbishment of system assets to extend original service life. System Service spending covers modifications to Hydro Ottawa's system to ensure the distribution system meets operational objectives while addressing future customer needs. See Table 2 for 2019 progress on System Renewal and System Service capital spending compared to plan.

Table 2 – Capital Spending Compared to Rate Application Plan – System Renewal and System Service (\$000)

Investment Category / Capital Program	Budget Program	2019			Cumulative		
		Planned	Actual	Variance	Planned	Actual	Variance
Stations Asset	Transformer Replacement	8,225	3,155	(5,070)	30,108	25,106	(5,002)
	Switchgear Replacement	6,870	4,117	(2,753)	26,790	28,458	1,668
	Stations Plant Failure	107	0	(107)	505	721	216
Stations Refurbishment	Stations Enhancement	662	414	(248)	2,624	2,037	(587)
Distribution Asset	Pole Replacement	6,886	5,665	(1,221)	29,727	37,726	7,999
	Insulator Replacement	176	27	(149)	538	401	(137)
	Elbow & Insert Replacement	198	0	(198)	896	450	(446)
	Distrib. Transformer Replacement	844	(53)	(897)	3,389	955	(2,434)
	Civil Rehabilitation	664	665	1	5,188	4,059	(1,129)
	Cable Replacement	5,496	3,869	(1,627)	22,805	24,395	1,590
	Switchgear New & Rehab	393	377	(16)	2,424	3,717	1,293
	O/H Equipment New & Rehab	942	260	(682)	3,669	985	(2,684)
	Plant Failure Capital	2,893	11,988	9,095	11,495	42,982	31,487
Metering	Remote Disconnect Smart Meter	1,623	939	(684)	5,168	3,198	(1,970)
Stations Capacity	Stations New Capacity	14,441	8,163	(6,278)	45,853	26,894	(18,959)
Distribution Enhancements	Line Extensions	6,455	7,055	600	27,289	29,535	2,246
	System Voltage Conversion	5,185	2,460	(2,725)	18,635	11,248	(7,387)
	System Reliability	464	252	(212)	1,750	1,285	(465)
	Distribution Enhancements	725	1,044	319	2,902	3,379	477
Automation	SCADA Upgrades	51	251	200	2,628	2,904	276
	SCADA – RTU Additions	79	2	(77)	410	29	(381)
	Distribution Automation	2,449	5,679	3,230	14,669	19,562	4,893
	Stations Automation	624	0	(624)	2,047	136	(1,911)
Total Spending		66,452	56,329	(10,123)	261,509	270,162	8,653

General Plant

On a cumulative basis, capital spending in Hydro Ottawa's General Plant category is 10.5% above Rate Application plan. Within the sub categories, timing of some projects has shifted resulting in variances. The increased spending in this category is largely a result of retrofit expenditures on one of Hydro Ottawa's older facilities. See Table 3 for 2019 progress on General Plant capital spending compared to plan.

Table 3 – Capital Spending Compared to Rate Application Plan – General Plant (\$000)

Investment Category / Capital Program	Budget Program	2019			Cumulative		
		Planned	Actual	Variance	Planned	Actual	Variance
Buildings - Facilities	Buildings - Facilities	324	3,971	3,647	1,929	8,988	7,059
Customer Service	Customer Service	6,658	4,676	(1,982)	13,907	8,284	(5,623)
ERP System	ERP System	354	186	(168)	6,100	11,320	5,220
Fleet Replacement	Fleet Replacement	1,480	562	(918)	5,596	5,960	364
IT New Initiatives	IT New Initiatives	1,218	1,514	296	5,516	6,662	1,146
IT Life Cycle & Ongoing Operations Initiatives	IT Life Cycle & Ongoing Enhance	2,232	871	(1,361)	7,297	4,940	(2,357)
Operations Initiatives	Operations Initiatives	891	1,227	336	2,823	3,691	868
Tools Replacement	Tools Replacement	538	932	394	2,101	2,267	166
Hydro One Payments	Hydro One Payments	5,000	6,094	1,094	19,575	19,531	(44)
Total Spending		18,695	20,033	1,338	64,844	71,643	6,799

5. COST CONTROL

Hydro Ottawa utilizes two metrics in order to monitor labour utilization: productive time and labour allocation. In 2019 the results for these two metrics were 72% and 58%, respectively. Productive time targets are set to maximize efficiencies while labour allocation metrics are set to ensure the appropriate amount of time is spent between capital and operation, maintenance and administration activities.