EXHIBIT 2 – RATE BASE & DSP

2021 Cost of Service

Hearst Power Distribution Company Ltd.
EB-2021-0027

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2.1 OVERVIEW OF RATE BASE

2.1.1 RATE BASE OVERVIEW

HPDCL converted to International Financial Reporting Standards ("MIFRS") on January 1, 2015 and rates were approved under MIFRS in its 2015 Cost of Service.

The net fixed assets used to determine the utility's Rate Base include those distribution assets associated with activities that enable the conveyance of electricity for distribution purposes. HPDCL does not have non-distribution assets nor does it conduct non-distribution activities within the regulated utility. Controllable expenses include operations and maintenance, billing and collecting and administration expenses which are discussed in detail in Exhibit 4.

HPDCL has calculated its 2021 test year rate base to be $2,414,857. This rate base is also used to determine the proposed revenue requirement found in Exhibit 6. Table 1 - Test Year Rate Base below presents HPDCL's Rate Base calculations for the Test Year.

Table 1 - Test Year Rate Base

Particulars	***Last Board Approved***	***2021***	***Variance $***	***Variance %***
Capital Assets in Service:				
Avg Gross Fixed Assets	4,980,312	2,941,929	- 2,038,383	-40.98%
Avg Accumulated Depreciation	- 3,632,943	- 1,220,802	2,412,141	-66.40%
Average Balance	1,347,369	1,721,127	373,758	27.55%
Working Capital Allowance	828,703	693,730	- 134,973	-16.29%
Total Rate Base	**2,176,072**	**2,414,857**	**238,785**	10.85%
Expenses for Working Capital	**Last Board Approved**	**2021**	**Variance $**	**Variance %**
Eligible Distribution Expenses:				
3500-Distribution Expenses - Operation	145,860	181,784	35,924	24.63%
3550-Distribution Expenses - Maintenance	322,700	310,458	- 12,243	-3.79%
3650-Billing and Collecting	282,250	328,564	46,314	16.41%
3700-Community Relations	8,000	5,063	- 2,938	-36.72%
3800-Administrative and General Expenses	260,414	381,580	121,166	46.53%
6105-Taxes other than Income Taxes	-	-	-	
Total Eligible Distribution Expenses	1,019,224	1,207,448	188,224	18.47%
3350-Power Supply Expenses	10,030,148	8,042,286	- 1,987,862	-19.82%
Total Expenses for Working Capital	11,049,372	9,249,733	- 1,799,638	-16.29%
Working Capital factor	7.5%	7.5%	0.0%	0.00%
Total Working Capital	**828,703**	**693,730**	**- 134,973**	**-16.29%**

2.1.2 RATE BASE TREND

Table 2 - Rate Base Trend below presents HPDCL's Rate Base calculations for all required years, including the 2021 Test Year. Year over year variance analysis follows.

Table 2 - Rate Base Trend

Particulars	**Last Board Approved**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Capital Assets in Service:								
Avg Gross Fixed Assets	4,980,312	3,449,975	1,987,300	2,104,986	2,290,232	2,484,917	2,658,179	2,941,929
Avg Accumulated Depreciation	- 3,632,943	- 1,973,751	- 614,231	- 745,275	- 860,925	- 964,392	- 1,084,709	- 1,220,802
Average Balance	1,347,369	1,476,223	1,373,069	1,359,710	1,429,307	1,520,525	1,573,469	1,721,127
Working Capital Allowance	828,703	832,036	882,513	804,916	736,848	760,822	693,555	693,730
Total Rate Base	**2,176,072**	**2,308,259**	**2,255,582**	**2,164,627**	**2,166,156**	**2,281,348**	**2,267,024**	**2,414,857**

Expenses for Working Capital	**Last Board Approved**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Eligible Distribution Expenses:								
3500-Distribution Expenses - Operation	145,860	175,120	129,461	180,412	165,467	169,073	212,350	181,784
3550-Distribution Expenses - Maintenance	322,700	422,733	282,006	257,745	317,482	305,687	274,000	310,458
3650-Billing and Collecting	282,250	304,232	287,594	311,125	289,861	303,101	320,550	328,564
3700-Community Relations	8,000	15,068	9,089	6,063	9,048	3,895	5,000	5,063
3800-Administrative and General Expenses	260,414	296,831	339,676	337,252	339,857	319,991	392,950	381,580
6105-Taxes other than Income Taxes	-	-	-	-	-	-	-	-
Total Eligible Distribution Expenses	1,019,224	1,213,984	1,047,826	1,092,597	1,121,716	1,101,747	1,204,850	1,207,448
3350-Power Supply Expenses	10,030,148	9,879,823	10,719,015	9,639,620	8,702,931	9,042,549	8,042,551	8,042,286
Total Expenses for Working Capital	11,049,372	11,093,807	11,766,841	10,732,216	9,824,646	10,144,297	9,247,401	9,249,733
Working Capital factor	7.5%	7.5%	7.5%	7.5%	7.5%	7.5%	7.5%	7.5%
Total Working Capital	**828,703**	**832,036**	**882,513**	**804,916**	**736,848**	**760,822**	**693,555**	**693,730**

The Rate Base for the 2021 Test Year has increased by $105,276 over the last actual 2019, and $238,785 over the last Board Approved Rate Base.

Year over year variances are presented in the next section.

2.1.3 RATE BASE VARIANCE ANALYSIS

The following paragraphs and Table 3 – 2015 BA to 2015 Actual Rate Base Variance to Table 15-2020-2021 Rate Base Variances provide a narrative on the changes that have driven the increase in rate base since HPDCL's 2012 Board Approved Cost of Service Application.

HPDCL's materiality threshold is $50,000.

HPDCL has provided the following variances on the change in Rate Base:

- ✓ 2021 Test Year (MIFRS) against 2020 Bridge Year (MIFRS)
- ✓ 2020 Bridge Year (MIFRS) against 2019 Actual (MIFRS)
- ✓ 2019 Actual (MIFRS) against 2018 Actual (MIFRS)
- ✓ 2018 Actual (MIFRS) against 2017 Actual (MIFRS)
- ✓ 2017 Actual (MIFRS) against 2016 Actual (MIFRS)
- ✓ 2016 Actual (MIFRS) against 2015 Actual (MIFRS)
- ✓ 2015 (MIFRS) against 2015 Board Approved (MIFRS)

2015 BOARD APPROVED VS. 2015 ACTUAL:

Table 3 – 2015 BA to 2015 Actual Rate Base Variance

Particulars	*Last Board Approved*	*2015*	*$Var*	*%Var*
Capital Assets in Service:				
Gross Fixed Assets	*4,980,312*	*3,449,975*	*-1,530,337*	*-30.73%*
Accumulated Depreciation	*- 3,632,943*	*- 1,973,751*	*1,659,192*	*-45.67%*
Average Balance	*1,347,369*	*1,476,223*	*128,855*	*9.56%*
Working Capital Allowance	*828,703*	*832,036*	*3,333*	*0.40%*
Total Rate Base	*2,176,072*	*2,308,259*	*132,187*	*6.07%*
Expenses for Working Capital	*Last Board Approved*	*2015*	*$Var*	*%Var*
Eligible Distribution Expenses:				
3500-Distribution Expenses - Operation	*145,860*	*175,120*	*29,260*	*20.06%*
3550-Distribution Expenses - Maintenance	*322,700*	*422,733*	*100,033*	*31.00%*
3650-Billing and Collecting	*282,250*	*304,232*	*21,982*	*7.79%*
3700-Community Relations	*8,000*	*15,068*	*7,068*	*88.35%*
3800-Administrative and General Expenses	*260,414*	*296,831*	*36,417*	*13.98%*
6105-Taxes other than Income Taxes	*-*	*-*	*-*	
			-	
Total Eligible Distribution Expenses	*1,019,224*	*1,213,984*	*194,760*	*19.11%*
3350-Power Supply Expenses	*10,030,148*	*9,879,823*	*- 150,325*	*-1.50%*
Total Expenses for Working Capital	*11,049,372*	*11,093,807*	*44,435*	*0.40%*
Working Capital factor	*7.5%*	*7.5%*	*0.0%*	*0.00%*
Total Working Capital	*828,703*	*832,036*	*3,333*	*0.40%*

The total Rate Base in 2015 Actual of was $132,187 or 6.07% greater than the 2015 Board Approved. The main reason for the variances are:

- Following MIFRS accounting transition in 2015, HPDCL's accounting firm removed assets that are no longer in operation from depreciation. The general book cleanup resulted in a better picture of the actual assets owned by HPDCL but also caused the average Gross Fixed Asset and average Accumulated Depreciation to decrease significantly; HPDCL notes that this cleanup did not actually affect its total rate base for rate making purposes, as all it did, essentially, was remove the value of fully depreciated assets from

both HPDCL's gross fixed assets and accumulated depreciation, a net zero impact on the resulting total rate base.

- The net effect of the actual 2015 Capital Expenditures and accumulated depreciation resulted in an increase in average net book value between the 2015 BA and 2015 Actual. The major contributors to the change were investments in pole replacement (110K) and Overhead Conductors & Devices (26.6K).
- The change in Working Capital Allowance was marginal and did not contribute to the overall change in Rate Base.
- The overall OM&A variances can be found in Exhibit 4.

Table 4 – 2015BA-2015 Variances in CapEx additions (by traditional function)

		Year 2015 BA	Year 2015		
OEB	**Description**	**Additions**	**Additions**	**Var $**	**Var %**
1611	Computer Software	$8,675	$0	-$8,675	-100.00%
1830	Poles, Towers & Fixtures	$16,958	$69,251	$52,293	308.37%
1835	Overhead Conductors & Devices	$12,414	$8,940	-$3,474	-27.99%
1845	Underground Conductors & Devices	$3,382	$0	-$3,382	-100.00%
1850	Line Transformers	$13,880	$9,880	-$4,000	-28.82%
1860	Meters (Smart Meters)	$13,902	$0	-$13,902	-100.00%
1908	Buildings & Fixtures	$35,965	$24,635	-$11,330	-31.50%
1910	Leasehold Improvements	$21,325			
1915	Office Furniture	$3,160			
1920	Computer Equipment - Hardware	$10,297	$0	-$10,297	-100.00%
1940	Tools, Shop & Garage Equipment	$4,307	$5,467	$1,160	26.94%
2440	2440-Deferred Revenues		-$29,251	-$29,251	100.00%
	Sub-Total	**$144,265**	**$88,921**	**-$22,184**	

Major capital cost drivers 2015

System Renewal:

- Distribution Overhead - Replace Poles $110,636
- Underground Conduits $104
- U/G conductors and devices $231
- Line Transformers - Replace transformer $31,144

System Service:

- Services $792
- Overhead Conductors & Devices $26,604

General Plant:

- New natural gas furnace + Building sign $10,574
- Computer Equipment Hardware $1,440
- Tools & Equipment - New tools $7,353

2015 ACTUAL VS. 2016 ACTUAL:

Table 5 – 2015-2016 Rate Base Variances

Particulars	2015	2016	$Var	%Var
Capital Assets in Service:				
Gross Fixed Assets	3,449,975	1,987,300	-1,462,675	-42.40%
Accumulated Depreciation	- 1,973,751	- 614,231	1,359,521	-68.88%
Average Balance	1,476,223	1,373,069	- 103,154	-6.99%
Working Capital Allowance	832,036	882,513	50,478	6.07%
Total Rate Base	2,308,259	2,255,582	- 52,677	-2.28%
Expenses for Working Capital	**2015**	**2016**	**$Var**	**%Var**
Eligible Distribution Expenses:				
3500-Distribution Expenses - Operation	175,120	129,461	- 45,659	-26.07%
3550-Distribution Expenses - Maintenance	422,733	282,006	- 140,726	-33.29%
3650-Billing and Collecting	304,232	287,594	- 16,638	-5.47%
3700-Community Relations	15,068	9,089	- 5,979	-39.68%
3800-Administrative and General Expenses	296,831	339,676	42,845	14.43%
6105-Taxes other than Income Taxes	-	-	-	
			-	
Total Eligible Distribution Expenses	1,213,984	1,047,826	- 166,158	-13.69%
3350-Power Supply Expenses	9,879,823	10,719,015	839,192	8.49%
Total Expenses for Working Capital	11,093,807	11,766,841	673,034	6.07%
Working Capital factor	7.5%	7.5%	0.0%	0.00%
Total Working Capital	832,036	882,513	50,478	6.07%

The total Rate Base in 2016 Actual is -$52,677 or 2.28% lesser than 2015 Actual. The main reason for the variances are:

- Following MIFRS accounting transition in 2015, which HPDCL accounting firm removed fully depreciated assets that are no longer in operation, the general book cleanup resulted in a more realistic picture of assets owned by HPDCL in 2016. The general book cleanup resulted in a better picture of the actual assets owned by HPDCL in 2016.
- A capital investment in pole replacement (69K) and much needed investment in the utility's warehouse.
- The capex was offset by $29,147 in capital contributions.

- OM&A was also higher than the previous year by $42k. Year over Year variances are presented at Exhibit 4.

Table 6 – 2015-2016 Variances in CapEx additions (by traditional function)

OEB	Description	Year 2015 Additions	Year 2016 Additions	Var $	Var %
1830	Poles, Towers & Fixtures	$110,636	$69,251	-$41,386	-37.41%
1835	Overhead Conductors & Devices	$26,604	$8,940	-$17,665	-66.40%
1840	Underground Conduit	$104	$0	-$104	-100.00%
1845	Underground Conductors & Devices	$231	$0	-$231	-100.00%
1850	Line Transformers	$31,144	$9,880	-$21,264	-68.28%
1860	Meters (Smart Meters)	$792	$0	-$792	-100.00%
1908	Buildings & Fixtures	$10,574	$24,635	$14,062	132.99%
1920	Computer Equipment - Hardware	$1,440	$0	-$1,440	-100.00%
1940	Tools, Shop & Garage Equipment	$7,353	$5,467	-$1,886	-25.65%
2440	2440-Deferred Revenues	$0	-$29,251	-$29,251	100.00%
	Sub-Total	**$188,878**	**$88,921**	**-$99,957**	

Major capital cost drivers 2016

System Renewal:

- Distribution Overhead - Replace Poles $69,251
- Line Transformers - Replace transformer $9,880

System Service:

- Overhead Conductors & Devices $8,940

General Plant:

- Warehouse interior renovations $24,635
- Tools & Equipment - New tools $5,167

2016 ACTUAL VS. 2017 ACTUAL:

Table 7 – 2016-2017 Rate Base Variances

Particulars	2016	2017	$Var	%Var
Capital Assets in Service:				
Gross Fixed Assets	1,987,300	2,104,986	117,686	5.92%
Accumulated Depreciation	- 614,231	- 745,275	- 131,045	21.33%
Average Balance	1,373,069	1,359,710	- 13,359	-0.97%
Working Capital Allowance	882,513	804,916	- 77,597	-8.79%
Total Rate Base	2,255,582	2,164,627	- 90,955	-4.03%
Expenses for Working Capital	2016	2017	$Var	%Var
Eligible Distribution Expenses:				
3500-Distribution Expenses - Operation	129,461	180,412	50,951	39.36%
3550-Distribution Expenses - Maintenance	282,006	257,745	- 24,261	-8.60%
3650-Billing and Collecting	287,594	311,125	23,530	8.18%
3700-Community Relations	9,089	6,063	- 3,026	-33.29%
3800-Administrative and General Expenses	339,676	337,252	- 2,424	-0.71%
6105-Taxes other than Income Taxes	-	-	-	
			-	
Total Eligible Distribution Expenses	1,047,826	1,092,597	44,771	4.27%
3350-Power Supply Expenses	10,719,015	9,639,620	-1,079,395	-10.07%
Total Expenses for Working Capital	11,766,841	10,732,216	-1,034,625	-8.79%
Working Capital factor	7.5%	7.5%	0.0%	0.00%
Total Working Capital	882,513	804,916	- 77,597	-8.79%

The total Rate Base in 2017 Actual is $-$90,955 or -4.03% lesser than 2016 Actual. The main reason for the variances are:

- A significant decrease in Power Supply Expense due to Provincially set electricity price reductions in mid-2017, which in turn reduced the Working Capital.
- Due to having less capital work in 2016, the 2017 Gross Fixed Asset (Avg) is lower than the Accumulated Depreciation (Avg).
- The capital investment in pole replacement ($101K) and transformer replacement ($34K) which increased the asset base.
- OM&A increased by 44K which is explained in Exhibit 4.

Table 8 – 2016-2017 Variances in CapEx additions (by traditional function)

		Year	Year		
		2016	2017	Var $	Var %
OEB	**Description**	**Additions**	**Additions**		
1611	Computer Software (Formally known as Account 1925)	$0	$1,116	$1,116	100.00%
1830	Poles, Towers & Fixtures	$69,251	$101,232	$31,981	46.18%
1835	Overhead Conductors & Devices	$8,940	$24,849	$15,910	177.97%
1845	Underground Conductors & Devices	$0	$706	$706	100.00%
1850	Line Transformers	$9,880	$34,314	$24,434	247.32%
1855	Services (Overhead & Underground)	$0	$1,468	$1,468	100.00%
1908	Buildings & Fixtures	$24,635	$0	-$24,635	-100.00%
1920	Computer Equipment - Hardware	$0	$1,363	$1,363	100.00%
1940	Tools, Shop & Garage Equipment	$5,467	$1,850	-$3,617	-66.15%
2440	Deferred Revenues	-$29,251	-$13,751	$15,500	-52.99%
	Sub-Total	**$88,921**	**$153,147**	**$64,225**	

<u>Major capital cost drivers 2017 by RRFE Function</u>

System Access:

- New Construction: $13,751

System Renewal:

- Distribution Overhead - Replace Poles $101,232
- U/G conductors and devices $706
- Line Transformers - Replace transformer $34,314

System Service:

- Services $1,468
- Overhead Conductors & Devices $24,849

General Plant:

- Computer Software $1,116
- Transportation - New Bucket truck $1,363
- Tools & Equipment - New tools $1,850

2017 ACTUAL VS. 2018 ACTUAL:

Table 9 - 2017-2018 Rate Base Variances

Particulars	2017	2018	$Var	%Var
Capital Assets in Service:				
Gross Fixed Assets	2,104,986	2,290,232	185,246	8.80%
Accumulated Depreciation	- 745,275	- 860,925	- 115,649	15.52%
Average Balance	1,359,710	1,429,307	69,597	5.12%
Working Capital Allowance	804,916	736,848	- 68,068	-8.46%
Total Rate Base	2,164,627	2,166,156	1,529	0.07%
Expenses for Working Capital	2017	2018	$Var	%Var
Eligible Distribution Expenses:				
3500-Distribution Expenses - Operation	180,412	165,467	- 14,945	-8.28%
3550-Distribution Expenses - Maintenance	257,745	317,482	59,737	23.18%
3650-Billing and Collecting	311,125	289,861	- 21,264	-6.83%
3700-Community Relations	6,063	9,048	2,985	49.23%
3800-Administrative and General Expenses	337,252	339,857	2,605	0.77%
6105-Taxes other than Income Taxes	-	-	-	
		-	-	
Total Eligible Distribution Expenses	1,092,597	1,121,716	29,119	2.67%
3350-Power Supply Expenses	9,639,620	8,702,931	- 936,689	-9.72%
Total Expenses for Working Capital	10,732,216	9,824,646	- 907,570	-8.46%
Working Capital factor	7.5%	7.5%	0.0%	0.00%
Total Working Capital	804,916	736,848	- 68,068	-8.46%

The total Rate Base in 2018 Actual is $1,529 or 0.07% greater than 2017 Actual. The main reason for the variances are:

- A significant decrease in average Power Supply Expense due to Provincially set electricity prices reduction in mid-2017, which in turn reduced the Working Capital.
- The capital investment in pole replacement (100K) and new construction (30K)
- A decrease in Cost of Power of $68K offets the increase in net book additions in capital.

Table 10 – 2017-2018 Variances in CapEx additions (by traditional function)

		Year 2017	Year 2018	Var $	Var %
OEB	**Description**	**Additions**	**Additions**		
1611	Computer Software (Formally known as Account 1925)	$1,116	$0	-$1,116	-100.00%
1830	Poles, Towers & Fixtures	$101,232	$100,286	-$946	-0.93%
1835	Overhead Conductors & Devices	$24,849	$22,176	-$2,673	-10.76%
1845	Underground Conductors & Devices	$706	$489	-$217	-30.76%
1850	Line Transformers	$34,314	$17,030	-$17,284	-50.37%
1855	Services (Overhead & Underground)	$1,468	$13,743	$12,275	836.27%
1860	Meters (Smart Meters)	$0	$24,429	$24,429	100.00%
1905	Land	$0	$0	$0	100.00%
1908	Buildings & Fixtures	$0	$16,732	$16,732	100.00%
1910	Leasehold Improvements	$0	$0	$0	100.00%
1915	Office Furniture & Equipment	$0	$19,288	$19,288	100.00%
1920	Computer Equipment - Hardware	$1,363	$0	-$1,363	-100.00%
1920	Computer Equip.-Hardware(Post Mar. 22/04)	$0	$0	$0	100.00%
1920	Computer Equip.-Hardware(Post Mar. 19/07)	$0	$0	$0	100.00%
1930	Transportation Equipment	$0	$61,484	$61,484	100.00%
1940	Tools, Shop & Garage Equipment	$1,850	$2,499	$649	35.05%
2440	Deferred Revenues	-$13,751	-$29,510	-$15,759	114.60%
		$153,147	**$248,646**	**$95,499**	

Major capital cost drivers 2018 by RRFE Function

System Access:

- New Construction: $29,510

System Renewal:

- Distribution Overhead - Replace Poles $100,286
- U/G conductors and devices $489
- Line Transformers - Replace transformer $17,030

System Service:

- Services $13,743
- Meters - New meters $24,429
- Overhead Conductors & Devices $22,176

General Plant:

- Electric Vehicle Charging Stations $13,879

- Building & Fixtures $2,853
- Office Furniture Equipment $19,288
- Transportation - New Pickup $61,484
- Tools & Equipment - New tools $2,499

2018 ACTUAL VS. 2019 ACTUAL:

Table 11 - 2018-2019 Rate Base Variances

	MIFRS	*MIFRS*		
Particulars	***2018***	***2019***	***$Var***	***%Var***
Capital Assets in Service:				
Gross Fixed Assets	***2,290,232***	***2,483,618***	***193,386***	***8.44%***
Accumulated Depreciation	***- 860,925***	***- 964,392***	***- 103,467***	***12.02%***
Average Balance	***1,429,307***	***1,519,226***	***89,919***	***6.29%***
Working Capital Allowance	***736,848***	***760,822***	***23,974***	***3.25%***
Total Rate Base	***2,166,156***	***2,280,048***	***113,893***	***5.26%***
Expenses for Working Capital	***2018***	***2019***	***$Var***	***%Var***
Eligible Distribution Expenses:				
3500-Distribution Expenses - Operation	***165,467***	***169,073***	***3,606***	***2.18%***
3550-Distribution Expenses - Maintenance	***317,482***	***305,687***	***- 11,796***	***-3.72%***
3650-Billing and Collecting	***289,861***	***303,101***	***13,240***	***4.57%***
3700-Community Relations	***9,048***	***3,895***	***- 5,152***	***-56.94%***
3800-Administrative and General Expenses	***339,857***	***319,991***	***- 19,867***	***-5.85%***
6105-Taxes other than Income Taxes	***-***	***-***	***-***	
			-	
Total Eligible Distribution Expenses	***1,121,716***	***1,101,747***	***- 19,968***	***-1.78%***
3350-Power Supply Expenses	***8,702,931***	***9,042,549***	***339,619***	***3.90%***
Total Expenses for Working Capital	***9,824,646***	***10,144,297***	***319,651***	***3.25%***
Working Capital factor	***7.5%***	***7.5%***	***0.0%***	***0.00%***
Total Working Capital	***736,848***	***760,822***	***23,974***	***3.25%***

The total Rate Base in 2019 is projected to be $113,893 or -5.26% greater than 2018 Actual. The main reason for the variances are:

- Capital investment in pole replacements (91K) which increased the asset base as well as invesements in much needed tools and equipment such as a trencher and wood chipper (40K) and new construction (10K).

Table 12 – 2018-2019 Variances in CapEx additions (by traditional function)

		Year 2018	Year 2019	Var $	Var %
OEB	**Description**	**Additions**	**Additions**		
1830	Poles, Towers & Fixtures	$100,286	$91,129	-$9,157	-9.13%
1835	Overhead Conductors & Devices	$22,176	$4,802	-$17,375	-78.35%
1845	Underground Conductors & Devices	$489	$0	-$489	-100.00%
1850	Line Transformers	$17,030	$13,909	-$3,121	-18.33%
1855	Services (Overhead & Underground)	$13,743	$13,345	-$398	-2.90%
1860	Meters (Smart Meters)	$24,429	$0	-$24,429	-100.00%
1908	Buildings & Fixtures	$16,732	$0	-$16,732	-100.00%
1915	Office Furniture & Equipment	$19,288	$0	-$19,288	-100.00%
1920	Computer Equipment - Hardware	$0	$7,346	$7,346	100.00%
1930	Transportation Equipment	$61,484	$3,454	-$58,030	-94.38%
1940	Tools, Shop & Garage Equipment	$2,499	$45,459	$42,960	1719.09%
2440	Deferred Revenues	-$29,510	-$10,454	$19,056	-64.58%
	Sub-Total	**$248,646**	**$168,991**	**-$79,655**	

Major capital cost drivers 2019 by RRFE Function

System Access:

- New Construction: $10,454

System Renewal:

- Distribution Overhead - Replace Poles $91,129
- Line Transformers - Replace transformer $13,909

System Service:

- Services $2,891
- Overhead Conductors & Devices $4,802

General Plan:

- Computer Equipment Hardware $7,346
- Transportation - New Pickup $3,454
- Tools & Equipment - New tools $5,787
- Tools & Equipment – Trencher $23,300
- Tools & Equipment - Wood chipper $16,372

2019 ACTUAL VS. 2020 BRIDGE:

Table 13 - 2019-2020 Rate Base Variances

Particulars	2019	2020	$Var	%Var
Capital Assets in Service:				
Gross Fixed Assets	**2,484,917**	**2,658,179**	**173,262**	**6.97%**
Accumulated Depreciation	**- 964,392**	**- 1,084,709**	**- 120,318**	**12.48%**
Average Balance	**1,520,525**	**1,573,469**	**52,944**	**3.48%**
Working Capital Allowance	**760,822**	**693,555**	**- 67,267**	**-8.84%**
Total Rate Base	2,281,348	2,267,024	- 14,323	-0.63%
Expenses for Working Capital	2019	2020	$Var	%Var
Eligible Distribution Expenses:				
3500-Distribution Expenses - Operation	**169,073**	**212,350**	**43,277**	**25.60%**
3550-Distribution Expenses - Maintenance	**305,687**	**274,000**	**- 31,687**	**-10.37%**
3650-Billing and Collecting	**303,101**	**320,550**	**17,449**	**5.76%**
3700-Community Relations	**3,895**	**5,000**	**1,105**	**28.35%**
3800-Administrative and General Expenses	**319,991**	**392,950**	**72,959**	**22.80%**
6105-Taxes other than Income Taxes	-	-	-	
			-	
Total Eligible Distribution Expenses	**1,101,747**	**1,204,850**	**103,103**	**9.36%**
3350-Power Supply Expenses	**9,042,549**	**8,042,551**	**- 999,998**	**-11.06%**
Total Expenses for Working Capital	**10,144,297**	**9,247,401**	**- 896,895**	**-8.84%**
Working Capital factor	**7.5%**	**7.5%**	**0.0%**	**0.00%**
Total Working Capital	760,822	693,555	- 67,267	-8.84%

The total Rate Base in 2020 Bridge is projected to be -$14,323 or -0.63% lesser than 2019 Actual. The main reason for the variances are:

- A significant decrease in Power Supply Expense due to a decrease in consumption and decrease in Provincially set electricity prices due to COVID-19, which in turn reduced the Working Capital.
- Capital investment in pole replacements (110K) and line transformers (25K) which increases the asset base partially offset the decrease in working capital.

Table 14 – 2019-2020 Variances in CapEx additions (by traditional function)

		Year 2019	Year 2020	Var $	Var %
OEB	**Description**	**Additions**	**Additions**		
1830	Poles, Towers & Fixtures	$91,129	$121,000	$29,871	32.78%
1835	Overhead Conductors & Devices	$4,802	$5,000	$198	4.13%
1850	Line Transformers	$13,909	$25,000	$11,091	79.74%
1855	Services (Overhead & Underground)	$13,345	$6,500	-$6,845	-51.29%
1860	Meters (Smart Meters)	$0	$5,000	$5,000	100.00%
1905	Land	$0	$0	$0	100.00%
1908	Buildings & Fixtures	$0	$25,000	$25,000	100.00%
1910	Leasehold Improvements	$0	$0	$0	100.00%
1915	Office Furniture & Equipment	$0	$2,500	$2,500	100.00%
1920	Computer Equipment - Hardware	$7,346	$0	-$7,346	-100.00%
1930	Transportation Equipment	$3,454	$0	-$3,454	-100.00%
1940	Tools, Shop & Garage Equipment	$45,459	$5,000	-$40,459	-89.00%
2440	Deferred Revenues	-$10,454	-$15,000	-$4,546	43.49%
	Sub-Total	**$168,991**	**$180,000**	**$11,009**	

Major capital cost drivers 2020 by RRFE Function

System Access:

- New Construction: $15,000

System Renewal:

- Distribution Overhead - Replace Poles $110,000
- Line Transformers - Replace transformer $25,000

System Service:

- Services $2,500
- Meters - New meters $5,000
- Overhead Conductors & Devices $5,000

General Plan:

- Building & Fixtures $25,000
- Office Furniture Equipment $2,500
- Tools & Equipment - New tools $5,000

2020 BRIDGE VS. 2021 TEST YEAR:

Table 15- 2020-2021 Rate Base Variances

Particulars	2020	2021	$Var	%Var
Capital Assets in Service:				
Gross Fixed Assets	**2,658,179**	**2,941,929**	**283,750**	**10.67%**
Accumulated Depreciation	**- 1,084,709**	**- 1,220,802**	**- 136,093**	**12.55%**
Average Balance	**1,573,469**	**1,721,127**	**147,657**	**9.38%**
Working Capital Allowance	**693,555**	**693,730**	**175**	**0.03%**
Total Rate Base	2,267,024	2,414,857	147,832	6.52%
Expenses for Working Capital	2020	2021	$Var	%Var
Eligible Distribution Expenses:				
3500-Distribution Expenses - Operation	**212,350**	**181,784**	**- 30,566**	**-14.39%**
3550-Distribution Expenses - Maintenance	**274,000**	**310,458**	**36,458**	**13.31%**
3650-Billing and Collecting	**320,550**	**328,564**	**8,014**	**2.50%**
3700-Community Relations	**5,000**	**5,063**	**63**	**1.25%**
3800-Administrative and General Expenses	**392,950**	**381,580**	**- 11,370**	**-2.89%**
6105-Taxes other than Income Taxes	**-**	**-**	**-**	
			-	
Total Eligible Distribution Expenses	**1,204,850**	**1,207,448**	**2,598**	**0.22%**
3350-Power Supply Expenses	**8,042,551**	**8,042,286**	**- 265**	**0.00%**
Total Expenses for Working Capital	**9,247,401**	**9,249,733**	**2,332**	**0.03%**
Working Capital factor	**7.5%**	**7.5%**	**0.0%**	**0.00%**
Total Working Capital	693,555	693,730	175	0.03%

The total Rate Base in 2021 Test Year is forecast to be $147,832 or 6.52% greater than the 2020 Bridge Year. The main reason for the variances are:

- The level of yearly capital spending for 2021, in the amount of $387,500 is supported by the utility's new Distribution System Plan. The budget takes into consideration the replacement of assets at a steady pace to avoid rate shock and unexpected failure of these assets all while ensuring the proper functioning of the HPDCLs distribution system. The expenditure, for the most part, relates to aging asset replacement. Details regarding capital planning can be found in the Distribution System Plan in Section 2.4.2 of this Exhibit.

Table 16 – 2020-2021 Variances in CapEx additions (by traditional function)

		Year 2020	Year 2021	Var $	Var %
OEB	**Description**	**Additions**	**Additions**		
1830	Poles, Towers & Fixtures	$121,000	$111,000	-$10,000	-8.26%
1835	Overhead Conductors & Devices	$5,000	$5,000	$0	0.00%
1850	Line Transformers	$25,000	$15,000	-$10,000	-40.00%
1855	Services (Overhead & Underground)	$6,500	$6,500	$0	0.00%
1860	Meters (Smart Meters)	$5,000	$0	-$5,000	-100.00%
1908	Buildings & Fixtures	$25,000	$0	-$25,000	-100.00%
1915	Office Furniture & Equipment	$2,500	$0	-$2,500	-100.00%
1930	Transportation Equipment	$0	$265,000	$265,000	100.00%
1940	Tools, Shop & Garage Equipment	$5,000	$0	-$5,000	-100.00%
2440	Deferred Revenues	-$15,000	-$15,000	$0	0.00%
	Sub-Total	**$180,000**	**$387,500**	**$207,500**	

Major capital cost drivers 2021

System Access:

- New Construction: $15,000

System Renewal:

- Distribution Overhead - Replace Poles $100,000
- Line Transformers - Replace transformer $15,000

System Service:

- Services $2,500
- Overhead Conductors & Devices $5,000

General Plan:

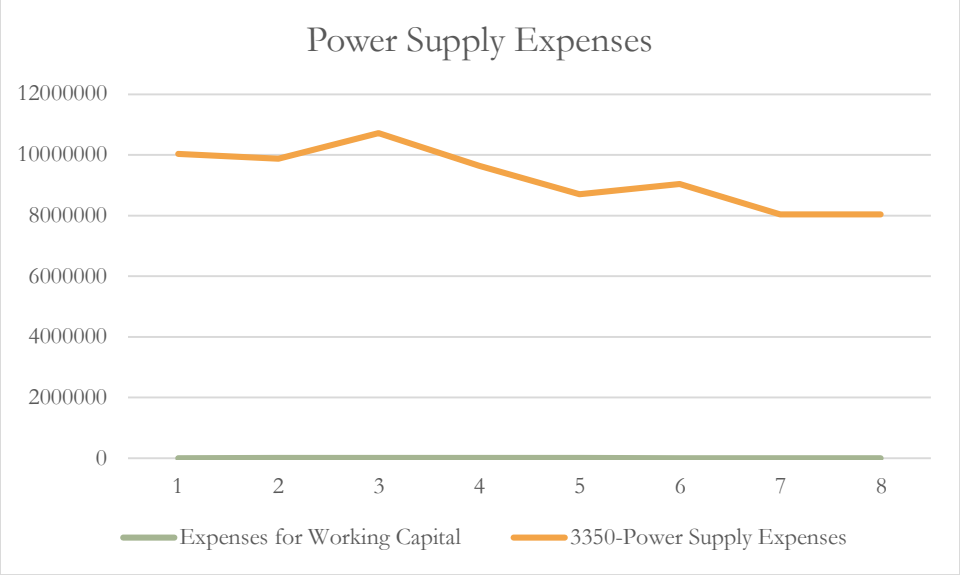
- Tools & Equipment - New Bucket Truck $265,000

Decreased Power Supply Expenses

- HPDCL has forecasted a decrease in the 2021 Power Supply Expenses over 2015 Board approved of $1,988,006. As can be seen from the table at the next page, the Cost of Power has for the most part decreased over the period of 2015 to 2021. The

forecasted decrease is due to a combination of the COVID-19 impact, conservation initiatives over the past few years and an overall reduction in commodity prices and global adjustment over the last several years including the forecast calculations provided by the OEB.

Table 17- Trend in Power Supply Expenses



Increased Distribution Expenses

- The 2021 forecast for OM&A reflects an increase of $188,224 from the 2015 Board Approved. The details of the increases in OM&A are provided in Exhibit 4, but some of the highlights include:
    - increases to regulatory expenses and outside services ($121k increase in 3800 – Admin and General Expenses)
    - increased billing expenses due to increase costs from billing supplies and software ($46k increase in 3650 – Billing and Collecting).
    - increased operation costs as a result of the DSP and taking a more proactive approach to asset management.

The Working Capital Allowance has decreased by -$134,973, over the 2015 Board Approved. The reason for the decrease is mainly related to the Cost of Power decrease of $2M.

2.1.4 FIXED ASSET CONTINUITY SCHEDULE

This Schedule presents a continuity schedule of its investment in capital assets, the associated accumulated amortization, and the net book value for each Capital USoA account for the 2015 to 2019 Actuals and 2020 Bridge Year and 2021 Test Year.

HPDCL attests that the OEB Appendices 2-BA continuity statements presented at the next page reconcile with the calculated depreciation expenses, under Exhibit 4 – Operating Costs, and presented by asset account. The utility also attests that the netbook value balances reported on Appendix 2-BA reconcile with the rate base calculation. The Excel version of the OEB Appendices is filed in conjunction with this application. The utility notes that it has not applied for an ACM or ICM in this Cost of Service or any other previous applications.

Information on year-over-year variance and explanation where variances are greater than the materiality threshold are summarized in the previous section 2.1.3 and explained in detail in Appendix A of the Distribution System Plan.

HPDCL does not have any Asset Retirement Obligation related to decommissioning or asset retirement obligations,

Fixed Asset Continuity Schedule - CGAAP/ASPE/USGAAP

Year 2015 IFRS

CCA Clas	OEB	Description	Cost				Accumulated Depreciation				Net Book Value
			Opening Balance	Additions	Disposals	Closing Balance	Opening Balance	Additions	Disposals	Closing Balance	
12	1611	Computer Software (Formally known as Account 1925)	$130,427	$0	$0	$130,427	$120,300	$2,894	$0	$123,194	$7,232
CEC	1612	Land Rights (Formally known as Account 1906 and 1806)	$4,232	$0	$0	$4,232	$4,232	$0	$0	$4,232	$0
N/A	1805	Land	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1808	Buildings	$0	$0	$0	$0	$0	$0	$0	$0	$0
13	1810	Leasehold Improvements	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1815	Transformer Station Equipment >50 kV	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1820	Distribution Station Equipment <50 kV	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1825	Storage Battery Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1830	Poles, Towers & Fixtures	$707,005	$110,636	-$562,933	$254,708	$564,671	$6,539	-$562,001	$9,209	$245,499
47	1835	Overhead Conductors & Devices	$981,152	$26,604	-$799,050	$208,706	$817,997	$19,675	-$794,497	$43,175	$165,531
47	1840	Underground Conduit	$7,681	$104	-$2,408	$5,377	$2,589	$287	-$2,286	$590	$4,787
47	1845	Underground Conductors & Devices	$438,182	$231	-$384,143	$54,270	$386,138	$2,278	-$383,740	$4,676	$49,595
47	1850	Line Transformers	$571,797	$31,144	-$486,331	$116,610	$489,596	$3,641	-$487,308	$5,928	$110,682
47	1855	Services (Overhead & Underground)	$25,416	$0	-$3,823	$21,593	$4,602	$1,015	-$3,821	$1,795	$19,797
47	1860	Meters	$146,988	$0	-$105,212	$41,776	$108,607	$9,467	-$107,681	$10,393	$31,383
47	1860	Meters (Smart Meters)	$661,252	$792	-$3,327	$658,717	$0	$303,523	-$44,236	$259,287	$399,430
N/A	1905	Land	$7,600	$0	$0	$7,600	$0	$0	$0	$0	$7,600
47	1908	Buildings & Fixtures	$289,759	$10,574	-$96,776	$203,558	$103,098	$6,094	-$95,506	$13,685	$189,872
13	1910	Leasehold Improvements	$0	$0	$0	$0	$0	$1,521	-$1,521	$0	$0
8	1915	Office Furniture & Equipment	$45,274	$0	-$40,542	$4,732	$41,014	$755	-$40,667	$1,103	$3,630
10	1920	Computer Equipment - Hardware	$118,909	$1,440	-$101,654	$18,694	$105,623	$4,852	-$102,799	$7,676	$11,018
45	1920	Computer Equip.-Hardware(Post Mar. 22/04)		$0	$0	$0	$0	$0	$0	$0	$0
45.1	1920	Computer Equip.-Hardware(Post Mar. 19/07)		$0	$0	$0	$0	$0	$0	$0	$0
10	1930	Transportation Equipment	$732,199	$0	-$517,931	$214,268	$548,600	$34,232	-$522,564	$60,268	$154,000
8	1935	Stores Equipment	$1,855	$0	-$1,855	$0	$1,855	$0	-$1,855	$0	$0
8	1940	Tools, Shop & Garage Equipment	$102,728	$7,353	-$92,778	$17,304	$95,224	$1,799	-$92,778	$4,245	$13,059
8	1945	Measurement & Testing Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	1950	Power Operated Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	1955	Communications Equipment	$3,546	$0	-$3,191	$355	$3,546	$0	-$3,191	$355	$0
8	1955	Communication Equipment (Smart Meters)	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	1960	Miscellaneous Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1970	Load Management Controls Customer	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1975	Load Management Controls Utility Premises	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1980	System Supervisor Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1985	Miscellaneous Fixed Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1990	Other Tangible Property	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	2440	2440-Deferred Revenues	-$19,489	$0	$0	-$19,489	$0	$0	$0	$0	-$19,489
		Sub-Total	**$4,956,513**	**$188,878**	**-$3,201,956**	**$1,943,436**	**$3,397,692**	**$398,572**	**-$3,246,453**	**$549,811**	**$1,393,625**
		Less Socialized Renewable Energy Generation Investments (Input as negative)Less Socialized Renewable Energy Generation Investments (Input as negative)				$0				$0	$0
		Less Other Non Rate-Regulated Utility Assets *(Input as negative)Less Other Non Rate-Regulated Utility Assets (Input as negative)*				$0				$0	$0
		Total PP&E	**$4,956,513**	**$188,878**	**-$3,201,956**	**$1,943,436**	**$3,397,692**	**$398,572**	**-$3,246,453**	**$549,811**	**$1,393,625**
		Depreciation Expense adj. from gain or loss on the retirement of assets (pool of like assets)									
		Total						**$398,572**			

10		Transportation
8		Stores Equipment
8		Tools, Shop
8		Meas/Testing
8		Communication

Less: *Fully Allocated Depreciation*	
Transportation	
Stores Equipment	
Tools, Shop	
Meas/Testin	
Communication	
Net Depreciation	$398,572

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Year 2016 IFRS

CCA Clas	OEB	Description	Cost				Accumulated Depreciation				Net Book Value
			Opening Balance	Additions	Disposals	Closing Balance	Opening Balance	Additions	Disposals	Closing Balance	
12	1611	Computer Software (Formally known as Account 1925)	$130,427	$0	$0	$130,427	$123,194	$2,894		$126,088	$4,338
CEC	1612	Land Rights (Formally known as Account 1906 and 1806)	$4,232	$0	$0	$4,232	$4,232	$0	$0	$4,232	$0
N/A	1805	Land	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1808	Buildings	$0	$0	$0	$0	$0	$0	$0	$0	$0
13	1810	Leasehold Improvements	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1815	Transformer Station Equipment >50 kV	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1820	Distribution Station Equipment <50 kV	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1825	Storage Battery Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1830	Poles, Towers & Fixtures	$254,708	$69,251	-$879	$323,080	$9,209	$7,237	-$60	$16,386	$306,694
47	1835	Overhead Conductors & Devices	$208,706	$8,940	$0	$217,646	$43,175	$17,510	$0	$60,685	$156,960
47	1840	Underground Conduit	$5,377	$0	$0	$5,377	$590	$283	$0	$873	$4,504
47	1845	Underground Conductors & Devices	$54,270	$0	$0	$54,270	$4,676	$2,215	$0	$6,891	$47,379
47	1850	Line Transformers	$116,610	$9,880	-$18	$126,472	$5,928	$3,785	-$4	$9,709	$116,763
47	1855	Services (Overhead & Underground)	$21,593	$0	$0	$21,593	$1,795	$1,015	$0	$2,810	$18,782
47	1860	Meters	$41,776	$0	$0	$41,776	$10,393	$7,481	$0	$17,873	$23,902
47	1860	Meters (Smart Meters)	$658,717	$0	$0	$658,717	$259,287	$43,914	$0	$303,201	$355,515
N/A	1905	Land	$7,600	$0	$0	$7,600	$0	$0	$0	$0	$7,600
47	1908	Buildings & Fixtures	$203,558	$24,635	$0	$228,193	$13,685	$8,232	$0	$21,917	$206,276
13	1910	Leasehold Improvements	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	1915	Office Furniture & Equipment	$4,732	$0	$0	$4,732	$1,103	$505	$0	$1,607	$3,125
10	1920	Computer Equipment - Hardware	$18,694	$0	-$298	$18,396	$7,676	$3,418	-$298	$10,797	$7,600
45	1920	Computer Equip.-Hardware(Post Mar. 22/04)	$0	$0	$0	$0	$0	$0	$0	$0	$0
45.1	1920	Computer Equip.-Hardware(Post Mar. 19/07)	$0	$0	$0	$0	$0	$0	$0	$0	$0
10	1930	Transportation Equipment	$214,268	$0	$0	$214,268	$60,268	$29,599	$0	$89,867	$124,402
8	1935	Stores Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	1940	Tools, Shop & Garage Equipment	$17,304	$5,467	$0	$22,771	$4,245	$2,072	$0	$6,317	$16,453
8	1945	Measurement & Testing Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	1950	Power Operated Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	1955	Communications Equipment	$355	$0	$0	$355	$355	$0	$0	$355	$0
8	1955	Communication Equipment (Smart Meters)	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	1960	Miscellaneous Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1970	Load Management Controls Customer	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1975	Load Management Controls Utility Premises	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1980	System Supervisor Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1985	Miscellaneous Fixed Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1990	Other Tangible Property	$0	$0	$0	$0	$0	$0	$0	$0	$0
	2440	Deferred Revenues	-$19,489	-$29,251	$0	-$48,740	$0	-$959	$0	-$959	-$47,782
		Sub-Total	**$1,943,436**	**$88,921**	**-$1,194**	**$2,031,163**	**$549,811**	**$129,201**	**-$362**	**$678,650**	**$1,352,513**
		Less Socialized Renewable Energy Generation Investments (Input as negative)Less Socialized Renewable Energy Generation Investments (Input as negative)				$0				$0	$0
		Less Other Non Rate-Regulated Utility Assets *(Input as negative)Less Other Non Rate-Regulated Utility Assets (Input as negative)*				$0				$0	$0
		Total PP&E	**$1,943,436**	**$88,921**	**-$1,194**	**$2,031,163**	**$549,811**	**$129,201**	**-$362**	**$678,650**	**$1,352,513**
		Depreciation Expense adj. from gain or loss on the retirement of assets (pool of like assets)									
		Total								**$129,201**	

10		Transportation
8		Stores Equipment
8		Tools, Shop
8		Meas/Testing
8		Communication

Less: *Fully Allocated Depreciation*

Transportation	
Stores Equipment	
Tools, Shop	
Meas/Testin	
Communication	
Net Depreciation	$129,201

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Year 2017 IFRS

CCA Clas	OEB	Description	Cost				Accumulated Depreciation				Net Book Value
			Opening Balance	Additions	Disposals	Closing Balance	Opening Balance	Additions	Disposals	Closing Balance	
12	1611	Computer Software (Formally known as Account 1925)	$130,427	$1,116	$0	$131,543	$126,088	$1,846	$0	$127,935	$3,608
CEC	1612	Land Rights (Formally known as Account 1906 and 1806)	$4,232	$0	$0	$4,232	$4,232	$0	$0	$4,232	$0
N/A	1805	Land	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1808	Buildings	$0	$0	$0	$0	$0	$0	$0	$0	$0
13	1810	Leasehold Improvements	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1815	Transformer Station Equipment >50 kV	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1820	Distribution Station Equipment <50 kV	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1825	Storage Battery Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1830	Poles, Towers & Fixtures	$323,080	$101,232	-$2,655	$421,657	$16,386	$9,174	-$181	$25,379	$396,278
47	1835	Overhead Conductors & Devices	$217,646	$24,849	-$820	$241,675	$60,685	$18,393	-$649	$78,429	$163,246
47	1840	Underground Conduit	$5,377	$0	$0	$5,377	$873	$306	$0	$1,179	$4,198
47	1845	Underground Conductors & Devices	$54,270	$706	$0	$54,976	$6,891	$2,308	$0	$9,199	$45,777
47	1850	Line Transformers	$126,472	$34,314	-$2,028	$158,759	$9,709	$4,410	-$176	$13,943	$144,816
47	1855	Services (Overhead & Underground)	$21,593	$1,468	$0	$23,060	$2,810	$1,044	$0	$3,854	$19,206
47	1860	Meters	$41,776	$0	$0	$41,776	$17,873	$7,481	$0	$25,354	$16,422
47	1860	Meters (Smart Meters)	$658,717	$0	$0	$658,717	$303,201	$43,914	$0	$347,116	$311,601
N/A	1905	Land	$7,600	$0	$0	$7,600	$0	$0	$0	$0	$7,600
47	1908	Buildings & Fixtures	$228,193	$0	$0	$228,193	$21,917	$8,847	$0	$30,764	$197,429
13	1910	Leasehold Improvements	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	1915	Office Furniture & Equipment	$4,732	$0	$0	$4,732	$1,607	$505	$0	$2,112	$2,620
10	1920	Computer Equipment - Hardware	$18,396	$1,363	$0	$19,759	$10,797	$3,557	$0	$14,353	$5,406
45	1920	Computer Equip.-Hardware(Post Mar. 22/04)	$0	$0	$0	$0	$0	$0	$0	$0	$0
45.1	1920	Computer Equip.-Hardware(Post Mar. 19/07)	$0	$0	$0	$0	$0	$0	$0	$0	$0
10	1930	Transportation Equipment	$214,268	$0	$0	$214,268	$89,867	$29,599	$0	$119,466	$94,803
8	1935	Stores Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	1940	Tools, Shop & Garage Equipment	$22,771	$1,850	$0	$24,621	$6,317	$5,155	$0	$11,472	$13,149
8	1945	Measurement & Testing Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	1950	Power Operated Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	1955	Communications Equipment	$355	$0	$0	$355	$355	$0	$0	$355	$0
8	1955	Communication Equipment (Smart Meters)	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	1960	Miscellaneous Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1970	Load Management Controls Customer	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1975	Load Management Controls Utility Premises	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1980	System Supervisor Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1985	Miscellaneous Fixed Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1990	Other Tangible Property	$0	$0	$0	$0	$0	$0	$0	$0	$0
	2440	Deferred Revenues	-$48,740	-$13,751	$0	-$62,492	-$959	-$2,283	$0	-$3,242	-$59,250
		Sub-Total	**$2,031,163**	**$153,147**	**-$5,502**	**$2,178,808**	**$678,650**	**$134,256**	**-$1,007**	**$811,900**	**$1,366,908**
		Less Socialized Renewable Energy Generation Investments (Input as negative)Less Socialized Renewable Energy Generation Investments (Input as negative)				$0				$0	$0
		Less Other Non Rate-Regulated Utility Assets *(Input as negative)Less Other Non Rate-Regulated Utility Assets (Input as negative)*				$0				$0	$0
		Total PP&E	**$2,031,163**	**$153,147**	**-$5,502**	**$2,178,808**	**$678,650**	**$134,256**	**-$1,007**	**$811,900**	**$1,366,908**
		Depreciation Expense adj. from gain or loss on the retirement of assets (pool of like assets)									
		Total								**$134,256**	

10		Transportation
8		Stores Equipment
8		Tools, Shop
8		Meas/Testing
8		Communication

Less: *Fully Allocated Depreciation*	
Transportation	
Stores Equipment	
Tools, Shop	
Meas/Testin	
Communication	
Net Depreciation	$134,256

Year 2018 IFRS

CCA Clas	OEB	Description	Cost				Accumulated Depreciation				Net Book Value
			Opening Balance	Additions	Disposals	Closing Balance	Opening Balance	Additions	Disposals	Closing Balance	
12	1611	Computer Software (Formally known as Account 1925)	$131,543	$0	$0	$131,543	$127,935	$1,958	$0	$129,893	$1,650
CEC	1612	Land Rights (Formally known as Account 1906 and 1806)	$4,232	$0	$0	$4,232	$4,232	$0	$0	$4,232	$0
N/A	1805	Land	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1808	Buildings	$0	$0	$0	$0	$0	$0	$0	$0	$0
13	1810	Leasehold Improvements	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1815	Transformer Station Equipment >50 kV	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1820	Distribution Station Equipment <50 kV	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1825	Storage Battery Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1830	Poles, Towers & Fixtures	$421,657	$100,286	-$384	$521,559	$25,379	$11,555	-$70	$36,865	$484,694
47	1835	Overhead Conductors & Devices	$241,675	$22,176	$0	$263,852	$78,429	$9,337	$0	$87,766	$176,086
47	1840	Underground Conduit	$5,377	$0	$0	$5,377	$1,179	$334	$0	$1,513	$3,864
47	1845	Underground Conductors & Devices	$54,976	$489	$0	$55,464	$9,199	$2,155	$0	$11,354	$44,111
47	1850	Line Transformers	$158,759	$17,030	-$34	$175,755	$13,943	$5,220	-$15	$19,147	$156,607
47	1855	Services (Overhead & Underground)	$23,060	$13,743	$0	$36,803	$3,854	$1,348	$0	$5,202	$31,601
47	1860	Meters	$41,776	$0	$0	$41,776	$25,354	$7,481	$0	$32,835	$8,941
47	1860	Meters (Smart Meters)	$658,717	$24,429	$0	$683,146	$347,116	$44,729	$0	$391,845	$291,301
N/A	1905	Land	$7,600	$0	$0	$7,600	$0	$0	$0	$0	$7,600
47	1908	Buildings & Fixtures	$228,193	$16,732	$0	$244,925	$30,764	$7,731	$0	$38,495	$206,430
13	1910	Leasehold Improvements	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	1915	Office Furniture & Equipment	$4,732	$19,288	$0	$24,021	$2,112	$1,394	$0	$3,506	$20,515
10	1920	Computer Equipment - Hardware	$19,759	$0	$0	$19,759	$14,353	$2,993	$0	$17,346	$2,413
45	1920	Computer Equip.-Hardware(Post Mar. 22/04)	$0	$0	$0	$0	$0	$0	$0	$0	$0
45.1	1920	Computer Equip.-Hardware(Post Mar. 19/07)	$0	$0	$0	$0	$0	$0	$0	$0	$0
10	1930	Transportation Equipment	$214,268	$61,484	-$25,381	$250,371	$119,466	$24,545	-$22,561	$121,450	$128,921
8	1935	Stores Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	1940	Tools, Shop & Garage Equipment	$24,621	$2,499	$0	$27,120	$11,472	$1,960	$0	$13,432	$13,688
8	1945	Measurement & Testing Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	1950	Power Operated Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	1955	Communications Equipment	$355	$0	$0	$355	$355	$0	$0	$355	$0
8	1955	Communication Equipment (Smart Meters)	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	1960	Miscellaneous Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1970	Load Management Controls Customer	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1975	Load Management Controls Utility Premises	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1980	System Supervisor Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1985	Miscellaneous Fixed Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0
47	1990	Other Tangible Property	$0	$0	$0	$0	$0	$0	$0	$0	$0
	2440	Deferred Revenues	-$62,492	-$29,510	$0	-$92,002	-$3,242	-$2,046	$0	-$5,287	-$86,714
			$0			$0	$0	$0	$0	$0	$0
		Sub-Total	**$2,178,808**	**$248,646**	**-$25,799**	**$2,401,656**	**$811,900**	**$120,695**	**-$22,646**	**$909,949**	**$1,491,706**
		Less Socialized Renewable Energy Generation Investments (Input as negative)Less Socialized Renewable Energy Generation Investments (Input as negative)				$0				$0	$0
		Less Other Non Rate-Regulated Utility Assets *(Input as negative)Less Other Non Rate-Regulated Utility Assets (Input as negative)*				$0				$0	$0
		Total PP&E	**$2,178,808**	**$248,646**	**-$25,799**	**$2,401,656**	**$811,900**	**$120,695**	**-$22,646**	**$909,949**	**$1,491,706**
		Depreciation Expense adj. from gain or loss on the retirement of assets (pool of like assets)									
		Total								**$120,695**	

10		Transportation
8		Stores Equipment
8		Tools, Shop
8		Meas/Testing
8		Communication

Less: *Fully Allocated Depreciation*	
Transportation	
Stores Equipment	
Tools, Shop	
Meas/Testin	
Communication	
Net Depreciation	$120,695

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Year 2019 IFRS

CCA Class	OEB	Description	Cost: Opening Balance	Cost: Additions	Cost: Disposals	Cost: Closing Balance	2.1.7	Accumulated Depreciation: Opening Balance	Accumulated Depreciation: Additions	Accumulated Depreciation: Disposals	Accumulated Depreciation: Closing Balance	Net Book Value
12	1611	Computer Software (Formally known as Account 1925)	$ 131,543	$ -	$ -	$ 131,543	131,543	$ 129,893	$ 1,091	$ -	$ 130,984	$ 559
CEC	1612	Land Rights (Formally known as Account 1906 and 1806)	$ 4,232	$ -	$ -	$ 4,232	4,232	$ 4,232	$ -	$ -	$ 4,232	$ -
N/A	1805	Land	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -
47	1808	Buildings	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -
13	1810	Leasehold Improvements	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -
47	1815	Transformer Station Equipment >50 kV	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -
47	1820	Distribution Station Equipment <50 kV	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -
47	1825	Storage Battery Equipment	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -
47	1830	Poles, Towers & Fixtures	$ 521,559	$ 91,129	-$ 89	$ 612,599	612,599	$ 36,865	$ 13,855	-$ 56	$ 50,665	$ 561,935
47	1835	Overhead Conductors & Devices	$ 263,852	$ 4,802	$ -	$ 268,654	268,654	$ 87,766	$ 6,857	$ -	$ 94,623	$ 174,031
47	1840	Underground Conduit	$ 5,377	$ -	$ -	$ 5,377	5,377	$ 1,513	$ 370	$ -	$ 1,884	$ 3,493
47	1845	Underground Conductors & Devices	$ 55,464	$ -	$ -	$ 55,464	55,464	$ 11,354	$ 2,271	$ -	$ 13,625	$ 41,840
47	1850	Line Transformers	$ 175,755	$ 13,909	-$ 15	$ 189,649	189,649	$ 19,147	$ 5,819	-$ 8	$ 24,959	$ 164,690
47	1855	Services (Overhead & Underground)	$ 36,803	$ 13,345	-$ 740	$ 49,408	49,408	$ 5,202	$ 1,860	-$ 44	$ 7,018	$ 42,389
47	1860	Meters	$ 41,776	$ -	$ -	$ 41,776	724,921	$ 32,835	$ 1,010	$ -	$ 33,844	$ 7,932
47	1860	Meters (Smart Meters)	$ 683,146	$ -	$ -	$ 683,146	0	$ 391,845	$ 45,543	$ -	$ 437,388	$ 245,758
N/A	1905	Land	$ 7,600	$ -	$ -	$ 7,600	7,600	$ -	$ -	$ -	$ -	$ 7,600
47	1908	Buildings & Fixtures	$ 244,925	$ -	$ -	$ 244,925	244,925	$ 38,495	$ 8,570	$ -	$ 47,066	$ 197,859
13	1910	Leasehold Improvements	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -
8	1915	Office Furniture & Equipment	$ 24,021	$ -	-$ 553	$ 23,467	23,467	$ 3,506	$ 2,358	-$ 553	$ 5,310	$ 18,157
10	1920	Computer Equipment - Hardware	$ 19,759	$ 7,346	$ -	$ 27,105	27,105	$ 17,346	$ 2,325	$ -	$ 19,671	$ 7,434
45	1920	Computer Equip.-Hardware(Post Mar. 22/04)	$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -
45.1	1920	Computer Equip.-Hardware(Post Mar. 19/07)	$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -
10	1930	Transportation Equipment	$ 250,371	$ 3,454	-$ 1,070	$ 252,756	252,756	$ 121,450	$ 20,001	-$ 1,070	$ 140,381	$ 112,375
8	1935	Stores Equipment	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -
8	1940	Tools, Shop & Garage Equipment	$ 27,120	$ 45,459	$ -	$ 72,579	72,579	$ 13,432	$ 1,368	$ -	$ 14,800	$ 57,779
8	1945	Measurement & Testing Equipment	$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -
8	1950	Power Operated Equipment	$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -
8	1955	Communications Equipment	$ 355	$ -	$ -	$ 355		$ 355	$ -	$ -	$ 355	$ -
8	1955	Communication Equipment (Smart Meters)	$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -
8	1960	Miscellaneous Equipment	$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -
47	1970	Load Management Controls Customer Premises	$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -
47	1975	Load Management Controls Utility Premises	$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -
47	1980	System Supervisor Equipment	$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -
47	1985	Miscellaneous Fixed Assets	$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -
47	1990	Other Tangible Property	$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -
	2440	Deferred Revenues	-$ 92,002	-$ 10,454	$ -	-$ 102,455		-$ 5,287	-$ 2,682	$ -	-$ 7,969	-$ 94,486
	etc.		$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -
			$ -			$ -		$ -	$ -	$ -	$ -	$ -
		Sub-Total	$ 2,401,656	$ 168,991	-$ 2,468	$ 2,568,179	2,670,279	$ 909,949	$ 110,616	-$ 1,731	$ 1,018,834	$ 1,549,344
		Less Socialized Renewable Energy Generation Investments (input as negative)Less Socialized Renewable Energy Generation Investments (input as negative)				$ -					$ -	$ -
		Less Other Non Rate-Regulated Utility Assets (input as negative)Less Other Non Rate-Regulated Utility Assets (input as negative)				$ -					$ -	$ -
		Total PP&E	$ 2,401,656	$ 168,991	-$ 2,468	$ 2,568,179		$ 909,949	$ 110,616	-$ 1,731	$ 1,018,834	$ 1,549,344
		Depreciation Expense adj. from gain or loss on the retirement of assets (pool of like assets)										
		Total							$ 110,616			

RRR 2.1.5

10		Transportation
8		Stores Equipment
8		Tools, Shop
8		Meas/Testing
8		Communication

Less: *Fully Allocated Depreciation*	
Transportation	
Stores Equipment	
Tools, Shop	
Meas/Testing	
Communication	
Net Depreciation	$ 110,616

Year 2020 IFRS

CCA Class	OEB	Description	Cost: Opening Balance	Cost: Additions	Cost: Disposals	Cost: Closing Balance	Accumulated Depreciation: Opening Balance	Accumulated Depreciation: Additions	Accumulated Depreciation: Disposals	Closing Balance	Net Book Value
12	1611	Computer Software (Formally known as Account 1925)	$ 131,543	$ -	$ -	$ 131,543	$ 130,984	$ 223	$ -	$ 131,207	$ 336
CEC	1612	Land Rights (Formally known as Account 1906 and 1806)	$ 4,232	$ -	$ -	$ 4,232	$ 4,232	$ -	$ -	$ 4,232	$ -
N/A	1805	Land	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1808	Buildings	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13	1810	Leasehold Improvements	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1815	Transformer Station Equipment >50 kV	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1820	Distribution Station Equipment <50 kV	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1825	Storage Battery Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1830	Poles, Towers & Fixtures	$ 612,599	$ 121,000	$ -	$ 733,599	$ 50,665	$ 16,269	$ -	$ 66,934	$ 666,665
47	1835	Overhead Conductors & Devices	$ 268,654	$ 5,000	$ -	$ 273,654	$ 94,623	$ 9,555	$ -	$ 104,178	$ 169,475
47	1840	Underground Conduit	$ 5,377	$ -	$ -	$ 5,377	$ 1,884	$ 334	$ -	$ 2,218	$ 3,159
47	1845	Underground Conductors & Devices	$ 55,464	$ -	$ -	$ 55,464	$ 13,625	$ 2,155	$ -	$ 15,780	$ 39,685
47	1850	Line Transformers	$ 189,649	$ 25,000	$ -	$ 214,649	$ 24,959	$ 6,193	$ -	$ 31,152	$ 183,497
47	1855	Services (Overhead & Underground)	$ 49,408	$ 6,500	$ -	$ 55,908	$ 7,018	$ 2,142	$ -	$ 9,160	$ 46,747
47	1860	Meters	$ 41,776	$ -	$ -	$ 41,776	$ 33,844	$ 7,481	$ -	$ 41,325	$ 451
47	1860	Meters (Smart Meters)	$ 683,146	$ 5,000	$ -	$ 688,146	$ 437,388	$ 45,062	$ -	$ 482,450	$ 205,696
N/A	1905	Land	$ 7,600	$ -	$ -	$ 7,600	$ -	$ -	$ -	$ -	$ 7,600
47	1908	Buildings & Fixtures	$ 244,925	$ 25,000	$ -	$ 269,925	$ 47,066	$ 8,981	$ -	$ 56,046	$ 213,878
13	1910	Leasehold Improvements	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	1915	Office Furniture & Equipment	$ 23,467	$ 2,500	$ -	$ 25,967	$ 5,310	$ 2,301	$ -	$ 7,611	$ 18,356
10	1920	Computer Equipment - Hardware	$ 27,105	$ -	$ -	$ 27,105	$ 19,671	$ 1,862	$ -	$ 21,533	$ 5,572
45	1920	Computer Equip.-Hardware(Post Mar. 22/04)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45.1	1920	Computer Equip.-Hardware(Post Mar. 19/07)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	1930	Transportation Equipment	$ 252,756	$ -	$ -	$ 252,756	$ 140,381	$ 25,241	$ -	$ 165,622	$ 87,134
8	1935	Stores Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	1940	Tools, Shop & Garage Equipment	$ 72,579	$ 5,000	$ -	$ 77,579	$ 14,800	$ 7,006	$ -	$ 21,805	$ 55,774
8	1945	Measurement & Testing Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	1950	Power Operated Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	1955	Communications Equipment	$ 355	$ -	$ -	$ 355	$ 355	$ -	$ -	$ 355	$ -
8	1955	Communication Equipment (Smart Meters)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	1960	Miscellaneous Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1970	Load Management Controls Customer Premises	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1975	Load Management Controls Utility Premises	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1980	System Supervisor Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1985	Miscellaneous Fixed Assets	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1990	Other Tangible Property	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	2440	Deferred Revenues	-$ 102,455	-$ 15,000	$ -	-$ 117,455	-$ 7,969	-$ 3,055	$ -	-$ 11,024	-$ 106,431
	etc.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Sub-Total	$ 2,568,179	$ 180,000	$ -	$ 2,748,179	$ 1,018,834	$ 131,750	$ -	$ 1,150,584	$ 1,597,594
		Less Socialized Renewable Energy Generation Investments (input as negative)Less Socialized Renewable Energy Generation Investments (input as negative)				$ -				$ -	$ -
		Less Other Non Rate-Regulated Utility Assets (input as negative)Less Other Non Rate-Regulated Utility Assets (input as negative)				$ -				$ -	$ -
		Total PP&E	$ 2,568,179	$ 180,000	$ -	$ 2,748,179	$ 1,018,834	$ 131,750	$ -	$ 1,150,584	$ 1,597,594
		Depreciation Expense adj. from gain or loss on the retirement of assets (pool of like assets)									
		Total						$ 131,750			

10		Transportation
8		Stores Equipment
8		Tools, Shop
8		Meas/Testing
8		Communication

Less: *Fully Allocated Depreciation*	
Transportation	
Stores Equipment	
Tools, Shop	
Meas/Testing	
Communication	
Net Depreciation	$ 131,750

Year 2021 **IFRS**

CCA Class	OEB	Description	Cost: Opening Balance	Cost: Additions	Cost: Disposals	Cost: Closing Balance	Accumulated Depreciation: Opening Balance	Accumulated Depreciation: Additions	Accumulated Depreciation: Disposals	Accumulated Depreciation: Closing Balance	Net Book Value
12	1611	Computer Software (Formally known as Account 1925)	$ 131,543	$ -	$ -	$ 131,543	$ 131,207	$ 220	$ -	$ 131,427	$ 116
CEC	1612	Land Rights (Formally known as Account 1906 and 1806)	$ 4,232	$ -	$ -	$ 4,232	$ 4,232	$ -	$ -	$ 4,232	$ -
N/A	1805	Land	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1808	Buildings	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13	1810	Leasehold Improvements	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1815	Transformer Station Equipment >50 kV	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1820	Distribution Station Equipment <50 kV	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1825	Storage Battery Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1830	Poles, Towers & Fixtures	$ 733,599	$ 111,000	$ -	$ 844,599	$ 66,934	$ 16,000	$ -	$ 82,934	$ 761,665
47	1835	Overhead Conductors & Devices	$ 273,654	$ 5,000	$ -	$ 278,654	$ 104,178	$ 7,000	$ -	$ 111,178	$ 167,475
47	1840	Underground Conduit	$ 5,377	$ -	$ -	$ 5,377	$ 2,218	$ 370	$ -	$ 2,589	$ 2,789
47	1845	Underground Conductors & Devices	$ 55,464	$ -	$ -	$ 55,464	$ 15,780	$ 2,000	$ -	$ 17,780	$ 37,685
47	1850	Line Transformers	$ 214,649	$ 15,000	$ -	$ 229,649	$ 31,152	$ 6,530	$ -	$ 37,682	$ 191,967
47	1855	Services (Overhead & Underground)	$ 55,908	$ 6,500	$ -	$ 62,408	$ 9,160	$ 2,000	$ -	$ 11,160	$ 51,247
47	1860	Meters	$ 41,776	$ -	$ -	$ 41,776	$ 41,325	$ 100	$ -	$ 41,425	$ 351
47	1860	Meters (Smart Meters)	$ 688,146	$ -	$ -	$ 688,146	$ 482,450	$ 45,900	$ -	$ 528,350	$ 159,796
N/A	1905	Land	$ 7,600	$ -	$ -	$ 7,600	$ -	$ -	$ -	$ -	$ 7,600
47	1908	Buildings & Fixtures	$ 269,925	$ -	$ -	$ 269,925	$ 56,046	$ 9,000	$ -	$ 65,046	$ 204,878
13	1910	Leasehold Improvements	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	1915	Office Furniture & Equipment (10 years)	$ 25,967	$ -	$ -	$ 25,967	$ 7,611	$ 2,600	$ -	$ 10,211	$ 15,756
10	1920	Computer Equipment - Hardware	$ 27,105	$ -	$ -	$ 27,105	$ 21,533	$ 1,100	$ -	$ 22,633	$ 4,472
45	1920	Computer Equip.-Hardware(Post Mar. 22/04)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45.1	1920	Computer Equip.-Hardware(Post Mar. 19/07)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	1930	Transportation Equipment	$ 252,756	$ 265,000	$ -	$ 517,756	$ 165,622	$ 46,200	$ -	$ 211,822	$ 305,934
8	1935	Stores Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	1940	Tools, Shop & Garage Equipment	$ 77,579	$ -	$ -	$ 77,579	$ 21,805	$ 4,900	$ -	$ 26,705	$ 50,874
8	1945	Measurement & Testing Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	1950	Power Operated Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	1955	Communications Equipment	$ 355	$ -	$ -	$ 355	$ 355	$ -	$ -	$ 355	$ -
8	1955	Communication Equipment (Smart Meters)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	1960	Miscellaneous Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1970	Load Management Controls Customer Premises	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1975	Load Management Controls Utility Premises	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1980	System Supervisor Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1985	Miscellaneous Fixed Assets	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	1990	Other Tangible Property	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	2440	Deferred Revenues	-$ 117,455	-$ 15,000	$ -	-$ 132,455	-$ 11,024	-$ 3,485	$ -	-$ 14,509	-$ 117,946
	etc.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	etc.		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Sub-Total	$ 2,748,179	$ 387,500	$ -	$ 3,135,679	$ 1,150,584	$ 140,435	$ -	$ 1,291,020	$ 1,844,659
		Less Socialized Renewable Energy Generation Investments (input as negative)Less Socialized Renewable Energy Generation Investments (input as negative)				$ -				$ -	$ -
		Less Other Non Rate-Regulated Utility Assets (input as negative)Less Other Non Rate-Regulated Utility Assets (input as negative)				$ -				$ -	$ -
		Total PP&E	$ 2,748,179	$ 387,500	$ -	$ 3,135,679	$ 1,150,584	$ 140,435	$ -	$ 1,291,020	$ 1,844,659
		Depreciation Expense adj. from gain or loss on the retirement of assets (pool of like assets)									
		Total						$ 140,435			

10		Transportation
8		Stores Equipment
8		Tools, Shop
8		Meas/Testing
8		Communication

Less: *Fully Allocated Depreciation*	
Transportation	
Stores Equipment	
Tools, Shop	
Meas/Testing	
Communication	
Net Depreciation	$ 140,435

2.2 GROSS ASSETS

2.2.1 GROSS ASSET VARIANCE ANALYSIS

Table 18 - OEB Appendix 2-AB Capital Expenditures is presented below as well as in the DSP. The section which follows Table 2-AB presents a breakdown of capital investments by RRFE functions; System Access (Table 8), System Renewal (Table 9), System Services (Table 10) and General Plant (11). That said, in order to comply with the filing requirements, the utility is also presenting a Breakdown of the utility's Gross Assets by function (distribution plant, general plant, etc.) at Table 2.13

Table 18 - OEB Appendix 2-AB Capital Expenditures

CATEGORY	2015			2016			2017		
	Plan	**Actual**	**Var**	**Plan**	**Actual**	**Var**	**Plan**	**Actual**	**Var**
	$ '000		**%**	**$ '000**		**%**	**$ '000**		**%**
System Access	11	0	-100%	10	0	-100.0%	13	14	7.7%
System Renewal	81	143	77%	86	79	-8.0%	96	136	41.9%
System Service	24	27	13%	18	9	-50.3%	12	26	119.3%
General Plant	32	19	-41%	44	30	-31.6%	40	4	-89.2%
TOTAL EXPENDITURE	148	189	27%	158	118	-25.2%	161	181	12.4%
Capital Contributions	0	0		-10	-29	190.0%	-13	-14	7.7%
Net Capital Expenditures	148	189	27%	148	89	-39.7%	148	167	12.8%
System O&M	511	598	17%	443	411	-7.2%	425	438	3.1%

(Cont'd)

	2018			2019			2020		
	Plan	**Actual**	**Var**	**Plan**	**Actual**	**Var**	**Plan**	**Actual**	**Var**
	$ '000		**%**	**$ '000**		**%**	**$ '000**		**%**
System Access	10	30	200.0%	15	13	-13.3%	15	0	-100.0%
System Renewal	107	95	-11.1%	115	102	-10.9%	135	145	7.4%
System Service	35	54	53.1%	33	8	-76.7%	13	15	15.4%
General Plant	56	100	78.6%	11	56	411.4%	33	27	-18.2%
TOTAL EXPENDITURE	208	279	34.0%	174	179	3.1%	196	187	-4.6%
Capital Contributions	-10	-30	200.0%	-15	-13	-13.3%	-15	0	-100.0%
Net Capital Expenditures	198	249	25.6%	159	166	4.6%	181	187	3.3%
System O&M	432	483	11.8%	435	475	9.2%	522	486	-6.9%

(Cont'd)

	Forecast Period (planned)				
	2021	2022	2023	2024	2025
System Access	15	15	15	15	15
System Renewal	115	147	150	153	158
System Service	8	18	19	20	20
General Plant	265	30	25	28	25
TOTAL EXPENDITURE	403	210	209	216	218
Capital Contributions	-15	-15	-15	-15	-15
Net Capital Expenditures	388	195	194	201	203
System O&M	543	564	587	583	600

Accounting treatment of the cost of funds for construction work-in-progress

All of HPDCL's capital work is planned to be completed within the same fiscal year. In the event that a project does span over multiple years, HPDCL will follow the OEB's accounting processes and use account 2055-Work In Progress.

Table 19 – OEB Appendix 2-AA System Access Project Table to Table 22 - OEB Appendix 2-AA General Plant Variances at the next pages shows the year over year capital projects in System Access, System Service, System Renewal and General Plan.

SYSTEM ACCESS

Table 19 – OEB Appendix 2-AA System Access Project Table

Reporting Basis	BA	Actual	Actual	Actual	Actual	Actual	Proj.	Proj.
Projects	**2015**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
	BA	**Actual**	**Actual**	**Actual**	**Actual**	**Actual**	**Projection**	**Projection**
System Access								
New construction/service	**$11,000**	**$0**	**$0**	**$13,751**	**$29,510**	**$10,454**	**$15,000**	**$15,000**
Sub-Total System Access	**$11,000**	**$0**	**$0**	**$13,751**	**$29,510**	**$10,454**	**$15,000**	**$15,000**
Contributed Capital				**-13,751**	**-$29,510**	**-10,454**	**-15,000**	**-15,000**
Sub-Total System Access - Contributed Capital	**0**	**0**	**0**	**-13,751**	**-$29,510**	**-10,454**	**-15,000**	**-15,000**
Total System Access	**11,000**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

2015 – 2021 System Access investments are modifications or relocations a distributor is obligated to perform in order to provide customer access to electricity services. HPDCL does not have much growth in its service area therefore the investment in System Access tends to be low. Should there be growth in the Residential or General Service, HPDCL will continue to accommodate the requests for new load connections and for service upgrades during the forecast period. HPDCL does not project any significant load growth in the next five years nor any project that are above the materiality threshold.

Although the growth in the service area is marginal, HPDCL deems it prudent to forecast for at least one expansion or customer request per year at $15,000 which is considered to be an average. As shown in the table above, the year 2018 demonstrates higher than usual system access investments which was due to an increase in new hydro service connections as well as distribution system modifications related to a Fiber-to-the-Home deployment.

SYSTEM RENEWAL

Table 20 - OEB Appendix 2-AA System Renewal Variances

	BA	Actual	Actual	Actual	Actual	Actual	Proj.	Proj.
System Renewal	**2015**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
1830 - Distribution Overhead - Replace Poles	$70,000	$110,636	$69,251	$96,783	$82,842	$91,129	$110,000	$100,000
1840 - Underground Conduits		$104						
1845 - U/G conductors and devices	$5,431	$231		$706	$489	$0	$0	$0
1850 - Line Transformers - Replace transformer	$6,017	$31,144	$9,880	$26,128	$11,776	$13,909	$25,000	$15,000
Sub-Total SystemRenewal	**$81,448**	**$142,115**	**$79,130**	**$123,617**	**$95,107**	**$105,039**	**$135,000**	**$115,000**
Contributed Capital			-$27,435					
Sub-Total System Renewal - Contributed Capital	**0**	**0**	**-27,435**	**0**	**0**	**0**	**0**	**0**
Sub-Total System Renewal	**81,448**	**142,115**	**51,696**	**123,617**	**95,107**	**105,039**	**135,000**	**115,000**

2015 – 2021 System Renewal investments involve replacing and/or refurbishing system assets to extend the original service life of the assets and thereby maintain the ability of the distributor's distribution system to provide customers with electricity services.

The year 2016 is different than other years due to a significant amount of vehicle collisions with distribution poles in HPDCL's franchise area, with replacement costs are being refunded by insurance companies resulting in atypical Contributed Capital in 2016.

Distribution Overhead - Replace Poles

This is part of an ongoing asset replacement program that started in 2016. There are more than 700 poles that were installed in the 1950's in HPDCL's distribution system. The poles need to be replaced as they are 60 to 70 years old now. They are being replaced based on condition assessments. This DSP covers a 5-year period in which some 200 to 223 poles are scheduled to be replaced.

No risks are anticipated. However, given the Covid-19 outbreak some planning assumptions can be threatened but these will need to be addressed by a larger context than the pole replacement program. To date HPDC has been able to complete its work in the field successfully while also following the Health guidelines. HPDC line staff are well positioned to complete the

work because there are already special rules and procedures they need to follow to do their work safely such as live-line procedures; the Covid-19 environment is not that different, it is simply another layer of safety procedure that needs to be part of the job.

Line Transformers - Replace transformer

This represent the cost for replacing transformers for which no replacement program was put in place for the period of 2015 to 2020. Transformers replacement is determined by a "run to failure" practice, therefore they are being replaced on an as-needed basis.

As set out in the DSP at section 2.4 starting in the year 2022, HPDCL plans to start proactively replacing 5 to 10 transformers per year based on age and condition assessments, in order to renew these assets and not require a significant number of replacement in one year.

Same as with Distribution Pole, no risks are anticipated.

SYSTEM SERVICE

Table 21 - OEB Appendix 2-AA System Service Variances

	BA	Actual	Actual	Actual	Actual	Actual	Proj.	Proj.
System Service	***2015***	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***
1855 - Services				***$351***	***$6,931***	***$2,891***	***$2,500***	***$2,500***
1860 - Meters - New meters	***$2,625***	***$792***			***$24,429***	***$0***	***$5,000***	***$0***
1835 - Overhead Conductors & Devices - OH devices, Replace porcelain surge arrestors, new solid blade switch	***$21,000***	***$26,604***	***$8,940***	***$24,849***	***$22,176***	***$4,802***	***$5,000***	***$5,000***
Sub-Total System Service	***$23,625***	***$27,396***	***$8,940***	***$25,201***	***$53,537***	***$7,692***	***$12,500***	***$7,500***
Contributed Capital								
			-$1,816			***-$2,598***		
Sub-Total System Service - Contributed Capital	***0***	***0***	***-1,816***	***0***	***0***	***-2,598***	***0***	***0***
Sub-Total System Service	***23,625***	***27,396***	***7,124***	***25,201***	***53,537***	***5,094***	***12,500***	***7,500***

U/H conductors and devices

As described in the Distribution System Plan, HPDCL has implemented a "Solid blade switch" program which is not material but addresses the flexibility of the system to be able to restore parts of a locked-out feeder. HPDC will be installing one switch per year to achieve this added flexibility. This is a low-cost way to ensure the system reliability measures are maintained. The driver has been the objective to maintaining the SAIDI and CAIDI statistic in every year while replacing more poles.

Meters

Since smart meters have a life expectancy of 10 years once resealed and HPDCL meters were resealed in 2018-2019 HPDCL the large majority of HPDCL's smart meters are expected to remain in service until at least 2027. HPDCL keeps a low inventory of meters to save costs and storage space. In order to comply with sampling requirements, HPDCL purchased enough meters in 2017 and 2018 to sample its Residential meters in a timely manner. HPDCL plans to continue to purchase meters yearly in small batches to keep up with defective meters, new service requests and for extra units to reseal the different types of meters which are used within HPDCL service territory (ie: bi-directional meters).

Since HPDCL received seal extension up to 2027 for the majority of meters, no material projects meter replacement projects included in this rate application.

GENERAL PLANT

Table 22 - OEB Appendix 2-AA General Plant Variances

	BA	Actual	Actual	Actual	Actual	Actual	Proj.	Proj.
General Plant	**2015**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
1611 - Computer Software	$5,000			$1,116			$0	$0
1908 - Building & Fixtures - New natural gas furnace + Bulding sign	$7,500	$10,574						
1908 - Building & Fixtures - Warehouse interior renovations (Interior flooring, walls & doors)			$24,635					
1908 - Building & Fixtures - Electric Vehicle Charging Stations					$13,879			
1908 - Building & Fixtures					$2,853		$25,000	
1915 - Office Furniture Equipment	$2,500				$19,288		$2,500	
1920 - Computer Equipment Hardware	$10,000	$1,440						
1920 - Computer Hardware				$1,363		$7,346		
1930 - Transportation - New Burcket truck								$265,000
1930 - Transportation - New Pickup					$61,484	$3,454		
1940 - Tools & Equipment - New tools	$7,000	$7,353	$5,467	$1,850	$2,499	$5,787	$5,000	
1940 - Tools & Equipment - Trencher						$23,300		
1940 - Tools & Equipment - Wood chipper						$16,372		
Sub-Total System Access	**$32,000**	**$19,367**	**$30,102**	**$4,329**	**$100,003**	**$56,259**	**$32,500**	**$265,000**

2015 – 2021 General Plant investments are modifications, replacements, or additions to a distributor's assets that are not part of its distribution system, including land and buildings; tools and equipment; rolling stock and electronic devices and software used to support day to day business and operations activities.

1908 - Building & Fixtures - Warehouse interior renovations (Interior flooring, walls & doors) 2016 - $24,635

The offices, bathrooms and lunchroom at the warehouse did not have any floor covering prior to 2016 as it was only painted concrete. Painted concrete is not the safest type of flooring in winter season due to its higher potential risk for slip and falls. HPDLC decided to install non-slip ceramic tiles throughout these Powerlinemen workspaces since they have to wear wear work safety boots and this will greatly decrease the dangers of slip and falls. Since the area needed to be emptied for the contractor to install the flooring, HPDCL deemed that it was opportunistic to paint the walls in these areas before the flooring replacement started since the existing paint was fairly old. Therefore the offices, bathrooms and lunchroom walls were painted.

Two entrances doors had significant wear and tear and thus required change in 2016 as well.

1908 - Building & Fixtures - Electric Vehicle Charging Stations 2018 - $13,879

In 2018, HPDCL had planned to purchased electric vehicles (EV) to add to their fleet. EV are viewed as the future of this industry and with the increasing amount of EV cars in Hearst, HPDCL looked at the the opportunity to slowly move towards this direction. 2 EV chargers were installed as a starting point to support future company EV purchases. HPDCL submitted a request for pricing on EV vehicles to local dealerships but none were able to get any in stock due to high demand. Later in 2018 the new Provincial government terminated the $14,000 EV grants per vehicle; therefore, HPDCL decided to wait for future developments and EV availability prior to making the actual vehicle purchase.

1908 - Building & Fixtures 2020-$25,000

In preparation for the arrival of a new bucket truck in 2021, an overhead door is required to be enlarged for the new unit to fit. In 2020, HPDCL tendered out the work to enlarge and replace this overhead door.

1915 - Office Furniture Equipment 2018 - $19,288

HPDCL completes in-house billing and in order for the near 2,500 invoices to go out every month, a folder inserter and a stamp machine are necessary. HPDCL owned a 2002 folding machine and a 2005 stamp machine. HPDCL was advised that the stamp machine was no longer compatible with new Canada Post requirement and it was clear that both equipment had significant wear and tear. Pitney Bowes, the supplier for such equipment completed the replacement for both in 2018.

1930 - Transportation - New Bucket truck 2021 - $265,000

The total expected capital cost for HPDCL's new bucket truck is $265,000. This is for the replacement of a 25-year-old cab and chassis fitted with a 42 ft aerial device which is also 25 years old. Once the new vehicle and aerial device are received the old unit will be retired.

- No capital contributions are applicable to this capital purchase.
- Neither customer attachments nor loads are applicable to this purchase.
- Purchase is for early 2021 delivery.

- There are no risks that HPDC can plan for.
- This is an equipment purchase that was purchased based on competitive bids.

1930 - Transportation - New Pickup 2018 - $61,484

HPDCL owns a fleet with 2 pickup trucks. In 2018, one pickup truck was planned to be replaced. In the same year a no-fault accident with the other pickup truck occurred and the damages were so extensive that it needed to be replaced. The result was that the two pickup trucks replacement caused a material expenditure of $61,484.

1940 - Tools & Equipment – Trencher 2019 - $23,300

In 2019, the Town of Hearst received funding and decided to perform some road work in an area of the town that is supplied by underground distribution plant. HPDCL did not anticipate any problems with the work to be done by the Town but customers called in over time complaining that that they had intermittent power. In the process of fixing services that, it turned out, had been damaged by the road work a trencher was required. In the past, HPDCL has rented this device when it needed to use one but there was not one available in the timeframe it needed to respond in this instance. Other alternatives were considered such as a backhoe, but that would have resulted in substantial landscape restoration costs. HPDCL decided that the purchase of the unit was warranted since it was the lowest cost alternative. A trailer was also purchased in order to be able to move the trencher to and from the jobsite.

1940 - Tools & Equipment - Wood chipper 2019 - $16,372

The woodchipper purchase came about because the dumping charges at the Town dump were being increased substantially. Upon investigation HPDCL became aware that most other utilities use chippers for similar reasons. HPDCL now has an arrangement with the Town that the resulting wood chips can dumped at playgrounds in the Town in the play areas so there is additional safety for the children when playing. HPDCL also has the Town's approval to dump wood chips in dedicated parks areas (ie: under trees) saving on dumping costs and at the same time makes tree trimming operations more efficient.

In compliance with the filing requirements, the capital additions are presented by traditional functions in Table 16 – Yearly investments by Traditional Functions below.

HPDCL notes that the description of HPDCL's spending relating to Poles Towers and Fixtures, (29% of the Test Year spending), Line Transformers (4% of the Test Year spending), and the bucket truck (68% of the Test Year spending), is explained in several sections of the application and the Distribution System Plan.

Table 23 – Yearly investments by Traditional Functions

OEB	Description	Opening Balance	2015 Additions	2016 Additions	2017 Additions	2018 Additions	2019 Additions	2020 Additions	2021 Additions	7 year average	Avg % of spending	2021 % of spending
1611	*Computer Software*	*$130,427*	*$0*	*$0*	*$1,116*	*$0*	*$0*	*$0*	*$0*	*$159*	*0.08%*	*0.00%*
1612	*Land Rights*	*$4,232*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*0.00%*	*0.00%*
1830	*Poles, Towers & Fixtures*	*$707,005*	*$110,636*	*$69,251*	*$101,232*	*$100,286*	*$91,129*	*$121,000*	*$111,000*	*$100,648*	*49.84%*	*28.65%*
1835	*Overhead Conductors & Devices*	*$981,152*	*$26,604*	*$8,940*	*$24,849*	*$22,176*	*$4,802*	*$5,000*	*$5,000*	*$13,910*	*6.89%*	*1.29%*
1840	*Underground Conduit*	*$7,681*	*$104*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$15*	*0.01%*	*0.00%*
1845	*Underground Conductors & Devices*	*$438,182*	*$231*	*$0*	*$706*	*$489*	*$0*	*$0*	*$0*	*$204*	*0.10%*	*0.00%*
1850	*Line Transformers*	*$571,797*	*$31,144*	*$9,880*	*$34,314*	*$17,030*	*$13,909*	*$25,000*	*$15,000*	*$20,897*	*10.35%*	*3.87%*
1855	*Services (Overhead & Underground)*	*$25,416*	*$0*	*$0*	*$1,468*	*$13,743*	*$13,345*	*$6,500*	*$6,500*	*$5,936*	*2.94%*	*1.68%*
1860	*Meters*	*$146,988*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*0.00%*	*0.00%*
1860	*Meters (Smart Meters)*	*$661,252*	*$792*	*$0*	*$0*	*$24,429*	*$0*	*$5,000*	*$0*	*$4,317*	*2.14%*	*0.00%*
1905	*Land*	*$7,600*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*0.00%*	*0.00%*
1908	*Buildings & Fixtures*	*$289,759*	*$10,574*	*$24,635*	*$0*	*$16,732*	*$0*	*$25,000*	*$0*	*$10,992*	*5.44%*	*0.00%*
1910	*Leasehold Improvements*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*0.00%*	*0.00%*
1915	*Office Furniture & Equipment*	*$45,274*	*$0*	*$0*	*$0*	*$19,288*	*$0*	*$2,500*	*$0*	*$3,113*	*1.54%*	*0.00%*
1920	*Computer Equipment - Hardware*	*$118,909*	*$1,440*	*$0*	*$1,363*	*$0*	*$7,346*	*$0*	*$0*	*$1,450*	*0.72%*	*0.00%*
1930	*Transportation Equipment*	*$732,199*	*$0*	*$0*	*$0*	*$61,484*	*$3,454*	*$0*	*$265,000*	*$47,134*	*23.34%*	*68.39%*
1935	*Stores Equipment*	*$1,855*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*0.00%*	*0.00%*
1940	*Tools, Shop & Garage Equipment*	*$102,728*	*$7,353*	*$5,467*	*$1,850*	*$2,499*	*$45,459*	*$5,000*	*$0*	*$9,661*	*4.78%*	*0.00%*
1955	*Communications Equipment*	*$3,546*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*	*0.00%*	*0.00%*
2440	*2440-Deferred Revenues*	*-$19,489*	*$0*	*-$29,251*	*-$13,751*	*-$29,510*	*-$13,052*	*-$15,000*	*-$15,000*	*-$16,509*	*-8.18%*	*-3.87%*
	Sub-Total	*$4,956,513*	*$188,878*	*$88,921*	*$153,147*	*$248,646*	*$166,392*	*$180,000*	*$387,500*	*$201,926*	*100.00%*	*100.00%*

2.2.2 ACCUMULATED DEPRECIATION

HPDCL has adopted depreciation rates based on the Kinectrics Asset Depreciation Study, which can be found at this link. [https://www.oeb.ca/oeb/_Documents/EB-2010-0178/Kinetrics-418033-OEB%20Asset%20Amortization-%20Final%20Rep.pdf]. The rates used, which all fall within the Kinectrics proposed ranges for useful life, are presented below, and the Continuity Schedules of the Accumulated Depreciation are presented in the table below. HPDCL's capitalization policy and methodology are provided on the next page. The depreciation expenses continuity schedules are presented in Exhibit 4.

Table 17 below provides HPDCL's depreciable lives by asset class.

Table 24 - Depreciation Rates

Service Life Comparison

Table F-1 from Kinetrics Report1

		Asset Details			Useful Life			USoA Account Number	USoA Account Description	Current		Proposed	
Parent*	#	Category| Component | Type			MIN UL	TUL	MAX UL			Years	Rate	Years	Rate
OH	1	Fully Dressed Wood Poles	Overall		35	45	75	1830	Poles, Towers and Fixtures	25	4%	40	3%
			Cross Arm	Wood	20	40	55	1830	Poles, Towers and Fixtures	25	4%	40	3%
				Steel	30	70	95	1830	Poles, Towers and Fixtures	25	4%	40	3%
	2	Fully Dressed Concrete Poles	Overall		50	60	80	1830	Poles, Towers and Fixtures	25	4%	40	3%
			Cross Arm	Wood	20	40	55	1830	Poles, Towers and Fixtures	25	4%	40	3%
				Steel	30	70	95	1830	Poles, Towers and Fixtures	25	4%	40	3%
	3	Fully Dressed Steel Poles	Overall		60	60	80	N/A					
			Cross Arm	Wood	20	40	55	N/A					
				Steel	30	70	95	N/A					
	4	OH Line Switch			30	45	55	1835	Overhead Conductors & Devices	25	4%	40	3%
	5	OH Line Switch Motor			15	25	25	1835	Overhead Conductors & Devices	25	4%	20	5%
	6	OH Line Switch RTU			15	20	20	1835	Overhead Conductors & Devices	25	4%	20	5%
	7	OH Integral Switches			35	45	60	1835	Overhead Conductors & Devices	25	4%	40	3%
	8	OH Conductors			50	60	75	1835	Overhead Conductors & Devices	25	4%	60	2%
	9	OH Transformers & Voltage Regulators			30	40	60	1850	Line Transformers	25	4%	40	3%
	10	OH Shunt Capacitor Banks			25	30	40	N/A					
	11	Reclosers			25	40	55	N/A					
TS & MS	12	Power Transformers	Overall		30	45	60	1850	Line Transformers	25	4%	40	3%
			Bushing		10	20	30						
			Tap Changer		20	30	60						
	13	Station Service Transformer			30	45	55						
	14	Station Grounding Transformer			30	40	40						
	15	Station DC System	Overall		10	20	30						
			Battery Bank		10	15	15	1820	Distribution Station Equipment	30	3%	20	5%
			Charger		20	20	30	1820	Distribution Station Equipment	30	3%	20	5%
	16	Station Metal Clad Switchgear	Overall		30	40	60	1820	Distribution Station Equipment	25	4%	40	3%
			Removable Breake		25	40	60						
	17	Station Independent Breakers			35	45	65						
	18	Station Switch			30	50	60						
	19	Electromechanical Relays			25	35	50						
	20	Solid State Relays			10	30	45	1820	Distribution Station Equipment	25	4%	30	3%
	21	Digital & Numeric Relays			15	20	20						
	22	Rigid Busbars			30	55	60						
	23	Steel Structure			35	50	90						
UG	24	Primary Paper Insulated Lead Covered (PILC) Cable			60	65	75	N/A					
	25	Primary Ethylene-Propylene Rubber (EPR) Cables			20	25	25	1845	Underground Conductors & Devices	25	4%	40	3%
	26	Primary Non-Tree Retardant (TR) Cross Linked			20	25	30	1845	Underground Conductors & Devices	25	4%	40	3%
	27	Primary Non-TR XLPE Cables in Duct			20	25	30	1845	Underground Conductors & Devices	25	4%	40	3%
	28	Primary TR XLPE Cables Direct Buried			25	30	35	1845	Underground Conductors & Devices	25	4%	40	3%
	29	Primary TR XLPE Cables in Duct			35	40	55	1845	Underground Conductors & Devices	25	4%	40	3%
	30	Secondary PILC Cables			70	75	80	N/A					
	31	Secondary Cables Direct Buried			25	35	40	1855	Services	25	4%	60	2%
	32	Secondary Cables in Duct			35	40	60	1855	Services	25	4%	60	2%
	33	Network Tranformers	Overall		20	35	50	N/A					
			Protector		20	35	40	N/A					
	34	Pad-Mounted Transformers			25	40	45	1850	Line Transformers	25	4%	40	3%
	35	Submersible/Vault Transformers			25	35	45	1850	Line Transformers	25	4%	40	3%
	36	UG Foundation			35	55	70	1840	Underground Conduit	25	4%	60	2%
	37	UG Vaults	Overall		40	60	80	N/A					
			Roof		20	30	45	N/A					
	38	UG Vault Switches			20	35	50	1845	Underground Conductors & Devices	25	4%	30	3%
	39	Pad-Mounted Switchgear			20	30	45	1845	Underground Conductors & Devices	25	4%	30	3%
	40	Ducts			30	50	85	1840	Underground Conduit	25	4%	60	2%
	41	Concrete Encased Duct Banks			35	55	80	1840	Underground Conduit	25	4%	60	2%
	42	Cable Chambers			50	60	80	1840	Underground Conduit	25	4%	60	2%
S	43	Remote SCADA			15	20	30						

#	Asset Details		Useful Life Range	USoA Account Number	USoA Account Description	Current		Proposed	
	Category| Component | Type					Years	Rate	Years	Rate
1	Office Equipment		5-15	1915	Office Furniture & Equipment	10	10%	10	10%
2	Vehicles	Trucks & Buckets	5-15	1930	Transportation Equipment	8	13%	15	7%
		Trailers	5-20	1930	Transportation Equipment	8	13%	20	5%
		Vans	5-10	1930	Transportation Equipment	5	20%	12	8%
3	Administrative Buildings		50-75	200/201	Building & Fixtures	May-50	0%	May-50	0%
4	Leasehold Improvements		Lease dependent	N/A		0		0	
5	Station Buildings	Station Buildings	50-75	1808	Building & Fixtures	50	2%	50	2%
		Parking	25-30	1808	Building & Fixtures	30	3%	30	3%
		Fence	25-60	1808	Building & Fixtures	25	4%	25	4%
		Roof	20-30	1808	Building & Fixtures	20	5%	20	5%
6	Computer Equipment	Hardware	3-5	1920	Computer Equipment - Hardware	5	20%	5	20%
		Software	2-5	1925	Computer Equipment - Software	5	20%	5	20%
7	Equipment	Power Operated	5-10	N/A					
		Stores	5-10	1935	Stores Equipment	10	10%	10	10%
		Tools, Shop, Garag	5-10	1940	Tools, Shops Garage Equipment	10	10%	10	10%
		Measurement & Tes	5-10	1945	Measurement and Testing Equipment	10	10%	10	10%
8	Communication	Towers	60-70	1955	Communication Equipment	10	10%	10	10%
		Wireless	2-10	1955	Communication Equipment	10	10%	10	10%
9	Residential Energy Meters		25-35	1860	Meters	25	4%	15	7%
10	Industrial/Commercial Energy Meters		25-35	1860	Meters			20	5%
11	Wholesale Energy Meters		15-30	N/A					
12	Current & Potential Transformer (CT & PT)		35-50	1860	Meters			45	2%
13	Smart Meters		5-15	1860	Meters	15	7%	15	7%
14	Repeaters - Smart Metering		10-15	1915	Office Furniture & Equipment	5	20%	5	20%
15	Data Collectors - Smart Metering		15-20	1915	Office Furniture & Equipment	5	20%	5	20%

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2.2.3 CAPITALIZATION POLICY

HPDCL's capitalization policy has not changed since its last Cost of Service in 2015. HPDCL confirms that it records capital assets at cost in accordance with MIFRS accounting principles as well as guidelines set out by the Ontario Energy Board, where applicable.

All expenditures by the Corporation are classified as either capital or operating expenses. The intention of these classifications is to allocate costs across accounting periods in a manner that appropriately matches those costs with the related current and future economic benefits. The amount to be capitalized is the cost to acquire or construct a capital asset, including any ancillary costs incurred to place a capital asset into its intended state of operation. HPDCL does not currently capitalize interest on funds used for construction.

HPDCL's adherence to the capitalization policy can be described as follows;

CAPITALIZATION POLICY UNDER IFRS

The Cost of an item of property, plant and equipment (PP&E) is recognized as an asset if and only if:

a) It is probable that future economic benefits will flow to the company; and
b) The cost of the item can be measured reliably

The cost of an item of PP&E includes any costs that are directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating the manner intended by management. All costs shall be documented, recorded historically, including methods and sources used to establish any estimated costs.

Certain costs are explicitly prohibited from inclusion as costs of an item of PP&E:

a) Costs of opening a new facility;
b) Costs of introducing a new product or service (including advertising and promotion);

c) Costs of conducting business in a new location or with a new class of customer (including costs of staff training)
d) Administration and other general overhead costs; and
e) Day-to-day servicing costs.

IAS 16 does not indicate what constitutes an item of PP&E. Judgment is required when applying the core principle.

Directly attributable

The term "directly attributable" is not defined in IAS 16. The specific facts and circumstances surrounding the cost and the ability to demonstrate that the cost is directly attributable to an item of PP&E is critical to establishing whether the cost should be capitalized. The cost must be attributed to a specific item of PP&E at the time it is incurred. The incurrence of that cost should aid directly in the construction effort making the asset more capable of being used than if the cost had not been incurred.

General Policy for Capitalization and Depreciation

Hearst Power Distribution's capital assets, and their designated service life, should be categorized as follow:

USoA Account Number	USoA Account Description	Service life
1830	Poles, Towers & Fixtures	45
1835	OH Conductor and devices	45
1850	Line Transformers	40
1845	UG conductor and devices	25
1840	UG Conduit and Foundations	50
1860	Meters	15
1860	Smart meters	15
1905	Land	N/A
1908	**Building**	
1908	Building - Structure	70
1908	Building Outside / Fence	30
1908	Interior	20
1908	Roof	25
1915	Office Furniture / Equipment	10
1920	Computer Equipment	5
1930	**Vehicles**	
1930	Boom Truck and Heavy trucks	10
1930	Trailers	10
1930	Pick up	5
1935	Store Equipment	10
1940	Tools, Shop and Garage equipment	10
1955	Communication Equipment	10

In addition to the direct cost, Hearst Power Distribution applies the labour and vehicle burdens for these direct costs. These burden costs are described further below. The minimum threshold for capitalizing is $1,000 for all capital project or expense. It is implied that a number of expenditures can be grouped together under a specified capital project in order to reach the minimum threshold and be recorded as capital asset.

Account 1830 to 1860 – Poles, OH Conductors, Transformers, UG Conduit, Meters, etc.

The capitalized expenditures for these accounts include:

- Material and supplies direct costs
- Labour direct cost
- Labour burden
- Vehicle and equipment burden

Material and supplies direct costs

The material and supplies direct cost is comprised of all the eligible material that is used on a capital project, including its freight to destination. No storage, stockroom expenses or administrative charges are added.

Labour Direct Cost

The labour direct cost consists of all the eligible salaries for staff as well of their supervisors on a capital project.

Labour Burden

The Labour Burden is comprised of employee benefits including:

- Employment Insurance Premiums (Employer portion)
- Canada Pension Plan Premiums (Employer portion)
- Employer Health Tax Premiums
- OMERS (Employer portion)
- Medical and Health Benefits
- Life Insurance
- WSIB
- Clothing and Safety Footwear Allocation
- Vacations
- Statutory Holidays
- Bereavement
- On-call / stand-by costs

The Labour Burden allocated to each capital, operation and maintenance accounts is determined by obtaining the percentage ratio for each account, then multiplying the total

of overhead costs and benefits paid during the year by this ratio. The Labour Burden is allocated to capital based upon the Labour Direct Cost charged to capital.

In 2019, the labor burden capitalized was $22,197.41.

Vehicle and Equipment Burden

A vehicle burden rate is calculated for each class of vehicle based on the budgeted costs of operating each vehicle and the budgeted hours of usage for each class. The hourly rate is based on the total expenses, divided by the number of hours used. This hourly rate is allocated to capital based on the time that the vehicle is used on the job-site, thus establishing the fact that the use of the vehicle is directly attributable to an item of PP&E. The expenses below are included in the operating costs:

- Depreciation
- Vehicle Maintenance
- Fuel
- Insurance

Account 1905 - Land Acquisition

The recorded cost of land includes:

- The purchase price;
- Costs of closing the transaction and obtaining title, which includes but are not limited to legal fees, survey costs and land transfer taxes
- The cost for preparing the land for its particular use such as clearing and grading. If the land is purchased for the purpose of constructing a building, all costs incurred up to the excavation for the new building should be considered land costs. Removal of an old building, clearing, grading and filling are considered land costs because they are necessary to get the land in condition for its intended purpose. Any proceeds obtained in the process of getting the land ready for its intended use, such as salvage receipts on the demolition of the old building or the sale of cleared timber, are treated as reductions in the price of the land.

Expenditures for land acquisition usually do not deteriorate with use or passage of time, therefore the cost of land is generally not exhaustible, and therefore not depreciable.

Account 1908 – Building

Capitalization of Building costs include, but are not limited to, the following:

- Original contract price of asset;
- Expenses for remodeling, repairing or changing a purchased building to make it available for the purpose for which it was acquired;
- Interest charges until building acquisition, renovation project, improvement or alteration is complete;
- Architects and engineers fees for design as well as expenses for the preparation of plans, specifications, blueprints, etc.;
- Cost of building permits.

Each building is divided into 4 major building components. The components are as follows:

1. Building Structure
2. Building Outside / Fence
3. Interior Construction
4. Roof

The total cost of the building or additional square footage is then allocated among the 4 major building components.

Building Renovations/Rehabilitation

A building renovation is defined as enhancements made to a previously existing building component. The total expenditure capitalized is based on the invoice or contract price. No administrative charges are added.

Building Outside / Fence improvements

Building Outside / Fence improvements include items such as landscaping, driveways, sidewalks, parking lots, fencing, outdoor lighting, and other non-building improvements. Please note that Land improvements can be further categorized as non-exhaustible under account 1905 – Land acquisitions. The total project cost must meet the set minimum threshold and shall be recorded as capital based on the invoice or contract price. No administrative charges are added.

Account 1915 to 1955 – Office Furniture, Computer, Vehicles, Tools and Other Equipment

For capitalization of expenditures with a service life of more than one year, the total invoice or contract price is used, including its freight to destination. No storage, stockroom expenses or administrative charges are added.

Indirect overhead costs, such as general and administration costs that are not directly attributable to an asset, are not capitalized.

HPDCL's use of depreciation rates fell within the range of the Kinectrics Report.

Asset Retirement Policy

HPDCL generally retires capital assets from its balance sheet when these assets are no longer in service.

HPDCL's assets are primarily related to overhead/underground poles, service vehicles and its supporting devices as well as office related equipment. HPDCL does not own a transformer station as it is connected the Hydro One Hearst TS to feed its distribution system.

Indirect overhead costs, such as general and administrative costs that are not directly attributable to an asset, are not, nor have they ever been capitalized.

2.3 ALLOWANCE FOR WORKING CAPITAL

2.3.1 DERIVATION OF WORKING CAPITAL

HPDCL has used the 7.5% Allowance Approach for the purpose of calculating its Allowance for Working Capital. This was done in accordance with the letter issued by the Board on June 3, 2016, establishing a rate of 7.5% of the sum of Cost of Power and controllable expenses (i.e., Operations, Maintenance, Billing and Collecting, Community Relations, Administration and General). HPDCL attests that the Cost of Power is determined by the split between RPP and non-RPP customers based on actual data, using most current RPP price, using current UTR. Table 25 - Allowance for Working Capital presented below show HPDCL's calculations in determining its Allowance for Working Capital.

Table 25 - Allowance for Working Capital

Particulars	Last Board Approved	2015	2016	2017	2018	2019	2020	2021
Capital Assets in Service:								
Avg Gross Fixed Assets	4,980,312	3,449,975	1,987,300	2,104,986	2,290,232	2,484,917	2,658,179	2,941,929
Avg Accumulated Depreciation	- 3,632,943	- 1,973,751	- 614,231	- 745,275	- 860,925	- 964,392	- 1,084,709	- 1,220,802
Average Balance	1,347,369	1,476,223	1,373,069	1,359,710	1,429,307	1,520,525	1,573,469	1,721,127
Working Capital Allowance	828,703	832,036	882,513	804,916	736,848	760,822	693,555	693,730
Total Rate Base	**2,176,072**	**2,308,259**	**2,255,582**	**2,164,627**	**2,166,156**	**2,281,348**	**2,267,024**	**2,414,857**

Expenses for Working Capital	**Last Board Approved**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Eligible Distribution Expenses:								
3500-Distribution Expenses - Operation	145,860	175,120	129,461	180,412	165,467	169,073	212,350	181,784
3550-Distribution Expenses - Maintenance	322,700	422,733	282,006	257,745	317,482	305,687	274,000	310,458
3650-Billing and Collecting	282,250	304,232	287,594	311,125	289,861	303,101	320,550	328,564
3700-Community Relations	8,000	15,068	9,089	6,063	9,048	3,895	5,000	5,063
3800-Administrative and General Expenses	260,414	296,831	339,676	337,252	339,857	319,991	392,950	381,580
6105-Taxes other than Income Taxes	-	-	-	-	-	-	-	-
Total Eligible Distribution Expenses	1,019,224	1,213,984	1,047,826	1,092,597	1,121,716	1,101,747	1,204,850	1,207,448
3350-Power Supply Expenses	10,030,148	9,879,823	10,719,015	9,639,620	8,702,931	9,042,549	8,042,551	8,042,286
Total Expenses for Working Capital	11,049,372	11,093,807	11,766,841	10,732,216	9,824,646	10,144,297	9,247,401	9,249,733
Working Capital factor	7.5%	7.5%	7.5%	7.5%	7.5%	7.5%	7.5%	7.5%
Total Working Capital	**828,703**	**832,036**	**882,513**	**804,916**	**736,848**	**760,822**	**693,555**	**693,730**

2.3.2 LEAD LAG STUDY

HPDCL is not proposing to use a lead-lag study in order to determine its Working Capital Allowance and has chosen to follow the Board's June 3, 2016 letter which provided two options for the calculation of the allowance for working capital:

(1) The 7.5% allowance approach; or
(2) The filing of a lead/lag study.

HPDCL notes that it has not previously been directed by the Board to undertake a lead/lag study.

2.3.3 CALCULATION OF COST OF POWER

HPDCL calculated the cost of power for the 2020 Bridge Year and the 2021 Test Year based on the results of the load forecast discussed in detail in Exhibit 3. The methodology in calculating the Cost of Power was provided by the OEB. Should the Board publish a revised Regulated Price Plan Report or methodology prior to the Board's Decision in the application, HPDCL will update the electricity prices in the forecast.

The sale of energy is a flow-through revenue, and the cost of power is a flow through to expense. Energy sales and the cost of power expense are presented in detail in Exhibit 8 and 9. For ease of reference, HPDCL has duplicated the summary table below. Please refer to Exhibit 8 or 9 for the determination of each component of the Cost of Power.

HPDCL records no profit or loss resulting from the flow through energy revenues and expenses. Any temporary variances are included in the RSVA account balances.

The components of HPDCL's cost of power are summarized in Table 26 – Summary of Cost of Power below and detailed in Table 27 - Calculation of Commodity.

Table 26 – Summary of Cost of Power

2021 Test Year - Cop	*Cop*

4705 -Power Purchased	***$4,986,963***
4707- Global Adjustment	***$3,549,866***
4708-Charges-WMS	***$281,150***
4714-Charges-NW	***$529,988***
4716-Charges-CN	***$467,160***
4730-RRRP	***$41,346***
4750-Charges-LV	***$145,352***
4751-IESO SME	***$18,603***
Misc A/R or A/P	***-$1,978,287***
TOTAL	***$8,042,141***

Table 27 - Calculation of Commodity

			2021 Test Year	*RPP*			*2021 Test Year*	*non-RPP*		*Total*
Electricity Commodity	***Units***		***Volume***	***Rate***	***$***		***Volume***	***Rate***	***$***	***$***
Class per Load Forecast					-					
Residential	***kWh***		***22,772,207***		***2,916,037***		-		-	***2,916,037***
General Service < 50 kW	***kWh***		***10,422,280***		***1,334,599***		-		-	***1,334,599***
General Service > 50 to 4999 kW	***kWh***		***3,791,772***		***485,546***		***12,403,576***		***249,232***	***734,777***
Intermediate	***kWh***		-		-		-		-	-
Sentinel	***kWh***		***9,744***		***1,248***		-		-	***1,248***
Street Lighting	***kWh***		-		-		***15,062***		***303***	***303***
other			-		-		-		-	-
SUB-TOTAL			***36,996,003***		***4,737,429***		***12,418,638***		***249,534***	***$ 4,986,963***

1 - Regulated Price Plan Price Report November 1, 2020 to October 31, 2021 Ontario Energy Board October 22, 2020.

Table 28 - RPP Supply Cost Summary

2021 Forecasted Commodity Prices

Forecasted Commodity Prices	Table 1: Average RPP Supply Cost Summary*	non-RPP	RPP
HOEP ($/MWh)	Load-Weighted Price for RPP Consumers	$20.09	$20.09
Global Adjustment ($/MWh)	Impact of the Global Adjustment	$106.94	$106.94
Adjustments ($/MWh)			$1.00
TOTAL ($/MWh)	Average Supply Cost for RPP Consumers		**$128.03**

Commodity Expense

(volumes for the bridge and test year are loss adjusted)

Commodity					2021 Test Year					
Customer		**Revenue**	**Expense**							
Class Name	UoM	USA #	USA #	Class A Non-RPP Volume**		Class B Non-RPP Volume**	Class B RPP Volume**	Average HOEP	Average RPP Rate	Amount
Residential	kWh	4006	4705				22,772,959	$0.0201	$0.1280	$2,915,622
General Service < 50 kW	kWh	4010	4705				10,422,624	$0.0201	$0.1280	$1,334,409
General Service > 50 to 4999 kW	kWh	4035	4705	8,291,438		12,403,985	3,791,897	$0.0201	$0.1280	$901,248
Intermediate	kWh	4010	4705	20,767,073				$0.0201	$0.1280	$417,210
Sentinel	kWh	4025	4705				9,744	$0.0201	$0.1280	$1,248
Street Lighting	kWh	4025	4705			15,063		$0.0201	$0.1280	$303
other	kWh	4025	4705					$0.0201	$0.1280	$0
other	kWh	4025	4705					$0.0201	$0.1280	$0
other	kWh	4025	4705					$0.0201	$0.1280	$0
TOTAL				**29,058,511**		**12,419,048**	**36,997,224**			**$5,570,039**
							78,474,783			

Class A - non-RPP Global Adjustment					2021 Test Year			
Customer		**Revenue**	**Expense**		**kWh Volume**		**Hist. Avg GA/kWh *****	**Amount**
General Service > 50 to 4999 kW		4035	4707		8,291,438		$0.08639	$716,334
Intermediate		4010	4707		20,767,073		$0.07257	$1,507,167
		4010	4707					$0
					29,058,511			**$2,223,501**

Class B - non-RPP Global Adjustment					2021 Test Year					
Customer		**Revenue**	**Expense**							Amount
Class Name	UoM	USA #	USA #			Class B Non-RPP Volume			GA Rate/kWh	
Residential	kWh	4006	4707			0			$0.1069	$0
General Service < 50 kW	kWh	4010	4707			0			$0.1069	$0
General Service > 50 to 4999 kW	kWh	4035	4707			12,403,985			$0.1069	$1,326,482
Intermediate	kWh	4010	4707			0			$0.1069	$0
Sentinel	kWh	4025	4707			0			$0.1069	$0
Street Lighting	kWh	4025	4707			15,063			$0.1069	$1,611
other	kWh	4025	4707			0			$0.1069	$0
other	kWh	4025	4707			0			$0.1069	$0
Total Volume						**12,419,048**				
TOTAL										**$1,328,093**

The utility uses the split between the RPP and Non-RPP to determine the weighted average price. The weighted average price is applied to the projected 2021 Load Forecast to determine the commodity to be included in the Cost of Power. The commodity cost for 2021 is projected at $5,570,039 for Power Purchased and $1,328,093 for Global Adjustment.

Other components of the Cost of Power calculations include the following;

		2021 Test Year	RPP	
Electricity Commodity	**Units**	Volume	Rate	$
Class per Load Forecast				-
Residential	kWh	22,772,959		2,916,037
General Service < 50 kW	kWh	10,422,624		1,334,599
General Service > 50 to 4999 kW	kWh	3,791,897		485,546
Intermediate	kWh	-		-
Sentinel	kWh	9,744		1,248
Street Lighting	kWh	-		-
other		-		-
other		-		-
other		-		-
SUB-TOTAL		36,997,224		4,737,429

		Volume	Rate	$
Global Adjustment non-RPP	**Units**			
Class per Load Forecast				
Residential	kWh			0
General Service < 50 kW	kWh			0
General Service > 50 to 4999 kW	kWh			0
Intermediate	kWh			0
Sentinel	kWh			0
Street Lighting	kWh			0
other				0
other				0
other				0
SUB-TOTAL		0		0

		Volume	Rate	$
Transmission - Network	**Units**			
Class per Load Forecast				
Residential	kWh	24,924,065	0.0062	154,006
General Service < 50 kW	kWh	11,582,402	0.0058	67,164
General Service > 50 to 4999 kW	kW	65,172	2.3665	154,227
Intermediate	kW	57,468	2.6468	152,106
Sentinel	kW	27	1.7938	48
Street Lighting	kW	1,373	1.7847	2,451
other				-
other				-
other				-
				-
SUB-TOTAL				530,002

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Transmission - Connection	Units	Volume	Rate	$
Class per Load Forecast				
Residential	kWh	24,924,065	0.0056	140,320
General Service < 50 kW	kWh	11,582,402	0.0050	57,471
General Service > 50 to 4999 kW	kW	65,172	2.0099	130,987
Intermediate	kW	57,468	2.3707	136,237
Sentinel	kW	27	1.5720	42
Street Lighting	kW	1,373	1.5397	2,114
other				-
other				-
other				-
SUB-TOTAL				467,172

Wholesale Market Service	Units	Volume	Rate	$
Class per Load Forecast				
Residential	kWh	24,924,065	0.0030	74,772
General Service < 50 kW	kWh	11,582,402	0.0030	34,747
General Service > 50 to 4999 kW	kWh	24,656,344	0.0030	73,969
Intermediate	kWh	21,042,708	0.0030	63,128
Sentinel	kWh	10,247	0.0030	31
Street Lighting	kWh	478,092	0.0030	1,434
other				-
other				-
other				-
SUB-TOTAL				248,082

Class A CBR	Units	Volume	Rate	$
Class per Load Forecast				
Residential	kWh			-
General Service < 50 kW	kWh			-
General Service > 50 to 4999 kW	kWh			-
Intermediate	kWh			-
Sentinel	kWh			-
Street Lighting	kWh			-
other				-
other				-
other				-
SUB-TOTAL				-

Class B CBR	Units	Volume	Rate	$
Class per Load Forecast				
Residential	kWh	24,924,065	0.0004	9,970
General Service < 50 kW	kWh	11,582,402	0.0004	4,633
General Service > 50 to 4999 kW	kWh	24,656,344	0.0004	9,863
Intermediate	kWh	21,042,708	0.0004	8,417
Sentinel	kWh	10,247	0.0004	4
Street Lighting	kWh	478,092	0.0004	191
other				-
other				-
other				-
SUB-TOTAL				33,078

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RRRP	Units	Volume	Rate	$
Class per Load Forecast				
Residential	kWh	24,924,065	0.0005	12,462
General Service < 50 kW	kWh	11,582,402	0.0005	5,791
General Service > 50 to 4999 kW	kWh	24,656,344	0.0005	12,328
Intermediate	kWh	21,042,708	0.0005	10,521
Sentinel	kWh	10,247	0.0005	5
Street Lighting	kWh	478,092	0.0005	239
other				-
other				-
other				-
SUB-TOTAL				41,347

Low Voltage - No TLF adjustment	Units	Volume	Rate	$
Class per Load Forecast				
Residential	kWh	24,924,065	0.0018	44,863
General Service < 50 kW	kWh	11,582,402	0.0016	18,532
General Service > 50 to 4999 kW	kW	65,172	0.6115	39,853
Intermediate	kW	57,468	0.7213	41,452
Sentinel	kW	27	0.4783	13
Street Lighting	kW	1,373	0.4685	643
other				-
other				-
other				-
SUB-TOTAL				145,356

Smart Meter Entity Charge		Customers	Rate	$
Class per Load Forecast				
Residential		2,250	0.57	15,388
General Service < 50 kW		470	0.57	3,215
				-
SUB-TOTAL				18,603
SUB- TOTAL				6,221,068
OER CREDIT[3]	######			(1,978,300)
TOTAL				**4,242,768**

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Transmission Network

The Transmission Network charges are calculated in the OEB's RTSR model. The Rates are applied to the 2021 Load Forecast to determine the amount to be included in the Cost of Power. The RTSR model is filed in conjunction with this application. The transmission network charges included in the Cost of Power for 2021 is projected at $530,002.

Transmission Connection

The Transmission Connection charges are also calculated in the OEB's RTSR model. The Rates are applied to the 2021 Load Forecast to determine the amount to be included in the Cost of Power. The RTSR model is filed in conjunction with this application. The transmission connection charges included in the Cost of Power for 2021 is projected at $467,172.

Wholesale Market

On December 15, 2018, the OEB released Decision and Order for the Wholesale Market Service (WMS) effective January 1, 2019]. The Board's decision is summarized as follows:

- The WMS rate used by rate-regulated distributors to bill their customers shall be $0.0032 per kilowatt-hour, effective January 1, 2019. For Class B customers, a CBR component of $0.0004 per kilowatt-hour shall be added to the WMS rate for a total of $0.0036 per kilowatt-hour. For Class A customers, distributors shall bill the actual CBR costs to Class A customers in proportion to their contribution to peak.

In compliance with this order, HPDCL has applied the Board Approved $0.0036/kWh to its 2021 Load Forecast to include $248,082 in its Cost of Power.

Rural Rate Protection

In compliance with this order, HPDCL has applied the Board Approved $0.0005/kWh to its 2021 Load Forecast to include $41,347 in its Cost of Power.

Smart Meter Entity

In compliance with this order, HPDCL has applied the Board Approved $0.57/kWh to its 2021 Customer Forecast to include $18,603 in its Cost of Power.

Low Voltage Charges

The table below presents the derivation of proposed retail rates for Low Voltage ("LV") service. The 2021 estimates of total LV charges were calculated based on an average of the last 4 years. HPDCL opted to drop 2015 as it was found to be unusually low. The projections were allocated to customer classes, according to each class' share of projected Transmission-Connection revenue, in accordance with Board policy. The resulting allocated LV charges for each class were divided by the applicable 2021 volumes from the load forecast, as presented in Exhibit 3. Current LV revenues are recovered through a separate rate adder and therefore are not embedded within the approved Distribution Volumetric rate. 2021 LV rates appear on a distinct line item on the proposed schedule of rates. The Low Voltage charges included in the Cost of Power for 2021 is projected at $142,121.

Table 29 – LV Historical Charges and Projections

	2015	2016	2017	2018	2019	5 year avg	4 year avg
4075-Billed - LV	***$55,473***	***$53,546***	***$52,873***	***$52,936***	***$53,858***	*$53,737*	***$53,303***
4750-Charges - LV	***$109,233***	***$135,225***	***$137,568***	***$153,633***	***$142,130***	*$135,558*	***$142,139***
1551 LV Charges	*$54,118*	*$136,799*	*$167,728*	*$187,703*	*$193,161*		

Low Voltage Charges - Allocation of LV Charges based on Transmission Connection Revenues

(volumes are not loss adjusted)

		ALLOCATON BASED ON TRANSMISSION-CONNECTION REVENUE			
Customer Class Name		**RTSR Rate**	**Uplifted Volumes**	**Revenue**	**% Alloc**
Residential	kWh	**$0.0056**	24,924,065	$140,320	30.04%
General Service < 50 kW	kWh	**$0.0050**	11,582,402	$57,471	12.30%
General Service > 50 to 4999 kW	kW	**$2.0099**	65,172	$130,987	28.04%
Intermediate	kW	**$2.3707**	57,468	$136,237	29.16%
Sentinel	kW	**$1.5720**	27	$42	0.01%
Street Lighting	kW	**$1.5397**	1,373	$2,114	0.45%
other	0	**$0.0000**	1	$0	0.00%
other	0	**$0.0000**	1	$0	0.00%
other	0	**$0.0000**	1	$0	0.00%
TOTAL			**36,630,510**	**$467,172**	**100.00%**

Low Voltage Charges Rate Rider Calculations

(volumes are not loss adjusted)

	PROPOSED LOW VOLTAGE CHARGES & RATES				
Customer Class Name	**% Allocation**	**Charges**	**Not Uplifted**	**Rate**	**per**
Residential	30.04%	42,693	23,652,429	$0.0018	kWh
General Service < 50 kW	12.30%	17,486	10,991,463	$0.0016	kWh
General Service > 50 to 4999 kW	28.04%	39,853	65,172	$0.6115	kW
Intermediate	29.16%	41,451	57,468	$0.7213	kW
Sentinel	0.01%	13	27	$0.4783	kW
Street Lighting	0.45%	643	1,373	$0.4685	kW
other	0.00%	0	1	$0.0000	0
other	0.00%	0	1	$0.0000	0
other	0.00%	0	1	$0.0000	0
TOTAL	**100.00%**	**142,139**	**34,767,935**		

Low Voltage Charges to be added to power supply expense for bridge and test year.

(volumes are not loss adjusted)

Customer		**Revenue**	**Expense**	2020			**2021**		
Class Name		USA #	USA #	Volume	Rate	Amount	Volume	Rate	Amount
Residential	kWh	4075	4750	23,652,429	$0.0007	$16,557	23,652,429	$0.0018	$42,574
General Service < 50 kW	kWh	4075	4750	10,991,463	$0.0006	$6,595	10,991,463	$0.0016	$17,586
General Service > 50 to 4999 kW	kW	4075	4750	65,172	$0.2296	$14,963	65,172	$0.6115	$39,853
Intermediate	kW	4075	4750	57,468	$0.2708	$15,562	57,468	$0.7213	$41,452
Sentinel	kW	4075	4750	27	$0.1795	$5	27	$0.4783	$13
Street Lighting	kW	4075	4750	1,366	$0.1759	$240	1,373	$0.4685	$643
other	0	4075	4750	1		$0	1	$0.0000	$0
other	0	4075	4750	1		$0	1	$0.0000	$0
other	0	4075	4750	1		$0	1	$0.0000	$0
TOTAL		**0**	**0**	34,767,927		$53,922	**34,767,935**		**$142,121**

2.4 CAPITAL EXPENDITURES

2.4.1 PLANNING

HPDCL's distribution system strategy is the set of policies, rules, guidelines, etc. that HPDCL utilizes to transition its current system into its desired future system. The approach, as described in this Distribution System Plan, provides the rationale for the capital expenditures and supporting activities planned for the 2021-2025 period.

HPDCL has relied on AESI who in turn relied on the OEB's filing requirements Chapter 5 to guide its presentation of its policies, practices, and decision-making processes. OEB appendices related to capital investments are shown on the next page. The Distribution System Plan follows in Section 2.4.2.

2.4.2 DISTRIBUTION SYSTEM PLAN

HPDCL is pleased to present its Distribution System Plan on the next page.

Hearst Power Distribution Company Limited

DISTRIBUTION SYSTEM PLAN

November 11, 2020

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5.2 Distribution System Plan

5.2.1 Distribution Plan Overview

a) Key Elements

HPDC is the local distribution company that is responsible for the distribution of electricity to the Town of Hearst. The distribution service territory has an area of 98.67 square kilometers.

HPDC is incorporated under the Ontario Business Corporations Act and is 100% owned by the Town of Hearst. HPDC is managed by a Board of Directors appointed by the Town of Hearst. HPDLC has 7 employees; a General Manager, a Senior Administrator and a Billing/Customer Service clerk in the office, a Lead Hand and three linemen to address the outside plant matters. The current General Manager was hired in May 2014. The experience and background of the General Manager has been in both business management and construction project management. Consequently, most of the operational and technical input comes from the Lead hand.

HPDC receives power from Hydro One Networks Inc. ("Hydro One") and the IESO. HPDC delivers power to its customers via three feeders, two of which are owned by Hydro One. These feeders supply part of HPDC's customers and then they feed Hydro One's customers outside of the HPDC service territory. The third feeder is owned by HPDC and feeds only its customers. A high voltage transformer station, which is owned by Hydro One supplies to power for all three feeders. Revenue is earned by HPDC by delivering electric power to the homes and businesses in the service territory. The rates charged for this and the performance standards that the energy delivery system must meet are regulated by the Ontario Energy Board.

Located in Northeastern Ontario, the Town of Hearst has a population of approximately 5,600 people, of which 85% are francophone.

Hearst is home to three major forestry productions that are significant contributors to the local economy; two of these are located within HPDC's service area. This last decade, the forestry industry was challenged with cost pressures and turmoil in the US housing market (an important consumer of the region's forestry products), which adversely affected employment in that sector, thereby resulting in a decrease in population and a shortage of skilled workers. The Town of Hearst is focused on attracting industry workers and their families to its community.

The principal economic driver of the local economy is the forest industry but the Town of Hearst also provides business activities and employment opportunities in sectors such as

telecommunication, fishing & hunting, educational services, health care, hospitality, manufacturing, transportation & warehousing, construction, bio-economy, etc…

The Town of Hearst is considered the centre for post-secondary education in Northeastern Ontario. The Université de Hearst and Collège Boréal provides a wide range of general programs and are distinguished for their astonishing success rates.

Located near the James Bay lowlands and the "Ring of Fire" (one of the largest potential mineral reserves in Ontario), the Town of Hearst anticipates that someday, this project will create job opportunities and generate growth and long-term prosperity for the community.

HPDC expects the status quo for the business conditions over the planning horizon of this report; no growth and no shrinkage. There are no known expansion plans for industrial, commercial, or residential segments of the economy nor are there any known planned closures in the industrial or commercial segments of the economy. The primary business in the area is the production of forest products. This involves timber cutting, hauling, processing, and shipping to market as well as reforestation. The lack of change in the economy means that there is no growth-based capital work proposed by HPDC.

Much of overhead plant is old (more than 40 years in service) and the most recent assessment of the condition of the wood poles was carried out in 2019. This resulted in the pole replacement program which will replace over 220 deteriorated poles over a 5-year period (2020 to 2024). This is the only "material" project that is proposed to be undertaken.

b) Overview of How Customers Preferences are Addressed

Customers have indicated that the cost of power is a particularly important impact on their financial well-being. They also indicate a high degree of satisfaction with the reliability and service HPDC provides. Consequently, HPDC takes care smooth out required capital programs, usually over 5 years to minimize rate impacts as much as possible. HPDC also does what it can to maintain reliability at current levels for the things that are under its control. It needs to be recognized that HPDC is supplied by a singe TS which is at the end of a radial transmission line and two of the three feeders supplying HPDC customers feed other Hydro One customers outside HPDC service territory, so this is little flexibility to optimize the customers per feeder. One feeder supplies approximately 1900 of the approximately 2700 system customers. So events on this feeder dominate the reliability performance in a major way.

c) Sources of Cost Savings

HPDC is being proactive in identifying its end of life pole assets. There is a large quantity of poles (about 700) that were installed in the 1950's. Without a program to identify and replace these poles that are defective as well as other vintage poles that are structurally unsound, these replacements are more likely to be discovered during storms and replaced at overtime rates and causing long outages. The failures during storms also increases the likelihood of grouped failures during a weather event due to the higher mechanical stresses (wind) which would overrun the HPDC line crew's capability since in general they can only respond to one event at a time. Hence, the timely replacement of these end of life poles lowers overall cost and improves outage performance.

d) Period Covered by DSP

The DSP covers 2016 to 2019 as 4 years of history, 2020 is the current year or bridge year, 2021 is the test year and 2022 to 2025 are the future years.

e) Vintage of Information

The information is as of June 30, 2020. The 2020 actual financial figures are based on October 31, 2020 actuals. Notes on Table 6 of Appendix C provide indications of the probable year end position relative to budget.

f) Summary of Changes to Asset Management Process

HPDC has done an additional survey of its pole assets. There was missing information before the last DSP and groupings of plant by age cluster were done to provide an assessment of the asset condition by age. This missing data has been researched more closely and the accuracy improved. This accounts for slight changes in the number of poles by decade installed. It has not made any change to the overall requirement to execute a pole replacement program at a reasonable rate or expect to be overwhelmed by pole failures in future.

g) Aspects of the DSP Dependant on Future Outcomes

There is a Regional Planning Process that scheduled to be initiated in the next two years. HPDC will be participating in this process. Long Term Load Transfer decision has been made and HPDC has already made the transition.

h) Projects related to Grid Modernization, Distributed Energy Resources and Climate Change Adaptation.

HPDC does not have any projects in these categories. It does not have a SCADA system or any grid automation currently. This coupled with the limited ability to reconfigure the system due to Hydro One's customers outside the HPDC service territory and the radial feed reality of supply means that grid automation is not likely in the near term.

Distributed energy resources typically address capacity constraints and are a possible solution to overcome them. HPDC does not have any capacity constraints currently. So, no distributed energy resources are being considered. HPDC is also suppled by Hearst TS which is constrained from accepting additional REG connections.

There are no current climate change projects contemplated.

5.2.2 Coordinated Planning with Third Parties

a) Description of Consultations

IESO

On November 1st, 2019 Hydro One Inc. issued a "Regional Planning Process – Annual Status Report 2019". This report notes the following for the Region – "North / East Sudbury" which includes HPDCI.

"The geographical area of the North/East of Sudbury Region is the area roughly bordered by Moosonee on the North, Hearst on the North-West, Ferris South and Kirkland Lake on the East. Hydro One developed and published a RIP in April 2017. The Study Team at the time determined that no further regional coordination was required."

The second cycle of Regional Planning for this region is currently anticipated to commence in Q1 2021.

HPDCI looks forward to participating in this study as appropriate.

Town of Hearst

HPDC coordinates with the capital programs undertaken by the Town of Hearst. HPDC monitors the plans of the Town, the scope of work and the impact on existing plant as well as the timing proposed by the Town for their programs. HPDC responds in a timely manner when the projects are committed by the Town. Currently, there are no known projects that impact HPDC.

MTO

HPDC monitors the plans of the MTO that it is aware of and responds to any requirements and obligations it has with respect to its plant on Provincial Public Rights of Way. Currently, there are no known projects that impact HPDC.

HPDC does not have a SCADA system or other smart grid capability currently. They do not expect to install such devices or capability in the foreseeable future. They continue using additional fuses and switching points to be able to prevent larger power interruption events and to restore power to customers more quickly using sectionalizing capability.

There are no new regional studies that HPDC has been part of and thus there are no deliverables and plans to be incorporated.

b) Deliverables

Based on the information provided in (a) above, there are none.

c) Relevant Material Documents

Based on the information provided in (a) above, there are none.

d) Comment Letter from IESO

This is provided in Appendix A.

5.2.3 Performance Measurement for Continuous Improvement

a) Monitoring System Planning Process Performance

HPDC uses the items measured on the OEB Scorecard and the definitions used for the scorecard.

HPDC pays attention to the customer-oriented performance. Being a small utility and living in the community means that customer concerns are communicated quite easily just by interaction. The most recent customer survey was initiated in late 2019 and the number of customer responses was quite acceptable, more specifically 503 customers responded on 2,652 total residential and business accounts, which represents a ratio of 19%. The results of the survey are included in this rate filing at Exhibit 1. Overall, the customer satisfaction ratio increased to a 98.2% customer satisfaction rate ("good" or "better").

HPDC monitors the reliability performance of its system. While no one wants to have power interruptions, these are sometimes required to complete pole changes and the customers have not raised any special concerns in this area of performance. The other interruptions are not planned and reflect the effects on the system of such factors as weather, supply, maintenance, other parties, or the condition of the physical distribution plant.

Power quality is not and has not been an issue raised by the public in the HPDC service area.

The 2019 Residential Customer survey also had the following results:

The overall performance in serving customers is rated High (98.2% good or excellent) as is the overall reliability of electrical services (99% good or excellent).

The 75% of customers reported that electricity pricing caused strain (high or some strain) on the customer's budget.

There is support for renewable energy generation in concept but 57% are not prepared to support extra costs for this while 13% are prepared to pay up to a 5% premium and 3% are prepared to pay up to a 10% premium.

HPDC is a respected company in the community as indicated by 100% of the respondents.

In summary, the respondents are happy with the service they receive and the system reliability.

Customer testimonials and comments shared in the survey included very positive feedback:

"*I think that it is wonderful to have a local company caring for our energy needs. The employees are members of our community that understand our needs as they too live and work here."* – M-L. Groleau

"*I always received a very good service from them. When I need, they have encouraged and educated me to enroll in programs that were available for me."* – G. Picard

"*Je n'ai pas de témoignage... sauf que je suis satisfaite et je nous trouve chanceux à Hearst! "* - G. Paul

"I have been with Hearst Power Distribution for almost a year now since my move to Hearst. The power network is very reliable and affordable. I'm very happy with HPDC and they have made paying for their service very easy." - Philip

These results demonstrate that HPDC is paying attention to customer-oriented performance and is meeting the customer's expected performance very well.

From the Scorecard information HPDC has maintained a Cost Control Efficiency Assessment of 2 from 2015 to 2018 per the latest data available on the OEB website at this time. This indicates the HPDC completes the projects it has planned and does this between 10% and 25 % under budget.

In the Asset or system operations performance the HPDC system incurs about 3.79% losses in its power distribution which is reasonable in the industry. HPDC also completes its maintenance programs on an annual basis.

b) Unit Cost Metrics for Capital expenditures and O&M

Table 1: Unit Metrics

(Reference Appendix 5-A filing requirements)			
Metrics			
Metric Category	Metric	Measures	
		1 Year	5 Year Average
Cost	Total Cost per Customer1	232.25	238.16
	Total Cost per km of Line2	6594.65	6777.78
	Total Cost per MW3	48209.99	49997.08
CAPEX	Total CAPEX per Customer	60.14	64.28
	Total CAPEX per km of Line	1707.82	1829.22
O&M	Total O&M per Customer	172.10	173.88
	Total O&M per km of Line	4886.83	4948.56
Notes to the Table:			
1 The Total Cost per Customer is the sum of a distributor's capital and O&M costs divided by the total number of customers that the distributor serves.			
2 The Total Cost per km of Line is the sum of a distributor's capital and O&M costs divided by the total number of kilometers of line that the distributor operates to serve its customers.			
3 The Total Cost per MW is the sum of the distributor's capital and O&M costs divided by the total peak MW that the distributor serves.			

This information is sourced from the Yearbook information published by the OEB.

c) Summary of Performance for Historical Period

Outage Performance

The outage incidents that have occurred on the HPDC system are detailed in Appendix B.

The summary information for the power system reliability is presented in the tables below.

Table 2: Customer - Hours by Cause

		Year				
Category	**Category Description**	**2015**	**2016**	**2017**	**2018**	**2019**
0	Unknown	16.87	148.63	2195.92	38.46	0.00
1	Scheduled	3484.73	2133.26	8184.52	2898.48	5036.37
2	Loss of Supply	119097.96	2998.59	25047.10	5263.74	23508.14
3	Trees	18.30	10.96	17.38	0.00	0.00
4	Lightning	0.00	25.40	23.47	141.65	0.00
5	Defective Equipment	283.08	663.87	224.67	3635.84	1529.14
6	Adverse Weather	0.00	120.63	7.36	0.00	0.00
7	Adverse Environment	0.00	37.44	0.00	144	0.00
8	Human Element	0.00	0.00	1116.91	219.14	0.00
9	Foreign Interference	1728.71	2931.22	179.80	325.88	292.96
	Totals- All interruptions	124629	9070	36997	12667	30367
	Total excluding "loss of supply"	5531	6071	11950	7403	6858
	Total excluding "loss of supply" and "Scheduled"	2046.31	3938.15	3765.38	4504.78	1822.49

Table 3: System Interruptions by Cause

		Year				
Category	**Category Description**	**2015**	**2016**	**2017**	**2018**	**2019**
0	Unknown	2	7	3	2	0
1	Scheduled	29	28	19	38	18
2	Loss of Supply	10	3	4	3	5
3	Trees	1	2	1	0	0
4	Lightning	0	2	2	2	0
5	Defective Equipment	12	12	9	15	9
6	Adverse Weather	0	2	2	0	0
7	Adverse Environment	0	2	0	1	0
8	Human Element	0	0	2	2	0
9	Foreign Interference	16	26	12	11	11
	Totals- All interruptions	70	84	54	74	43
	Totals –excluding " loss of supply"	60	81	50	71	38
	Totals –excluding "loss of supply" and "Scheduled"	31	53	31	33	20

Table 4: Customer Interruptions by Cause

		Year				
Category	**Category Description**	**2015**	**2016**	**2017**	**2018**	**2019**
0	Unknown	15	367	1819	4	0
1	Scheduled	924	1150	2114	2123	1213
2	Loss of Supply	17098	1271	8550	5930	8656
3	Trees	3	11	1	0	0
4	Lightning	0	15	6	210	0
5	Defective Equipment	219	707	172	2921	1970
6	Adverse Weather	0	17	4	0	0
7	Adverse Environment	0	25	0	90	0
8	Human Element	0	0	664	354	0
9	Foreign Interference	809	1227	107	96	65
	Totals- All interruptions	19068	4790	13437	11728	11904
	Totals -not loss of supply	1970	3519	4887	5798	3248
	Totals -not (loss of supply and Scheduled)	1046	2369	2773	3675	2035

Table 5: Customers by Year

	Customers By Year				
Year	2015	2016	2017	2018	2019
Customers	2771	2768	2763	2768	2760

Table 6: CAIDI by Year

Cause & Description	2015	2016	2017	2018	2019
0-Unknown	1.12	0.40	1.21	9.62	
1-Scheduled	3.77	1.86	3.87	1.37	4.15
2-Loss of Supply	6.97	2.36	2.93	0.89	2.72
3-Trees	6.10	1.00	17.38		
4-Lightning		1.69	3.91	0.67	
5-Defective Equipment	1.29	0.94	1.31	1.24	0.78
6-Adverse Weather		7.10	1.84		
7-Adverse Environment		1.50		1.60	
8-Human Element			1.68	0.62	
9-Foreign Interference	2.14	2.39	1.68	3.39	4.51
Annual –All Interruptions	6.54	1.89	2.75	1.08	2.55
Annual -excluding "loss of supply"	2.81	1.73	2.45	1.28	2.11
Annual -excluding "loss of supply" and "Scheduled"	1.96	1.66	1.36	1.23	0.90

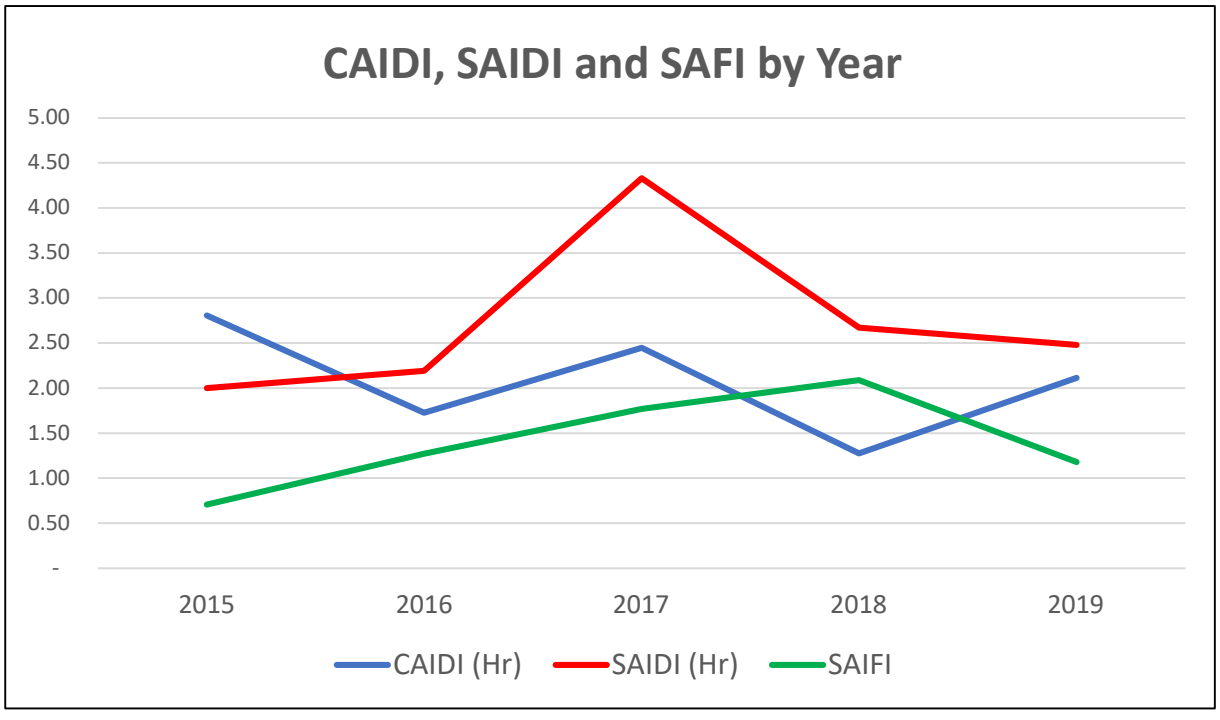
Table 7: SAIDI by Year

Cause & Description	2015	2016	2017	2018	2019
0-Unknown	0.01	0.05	0.79	0.01	0.00
1-Scheduled	1.26	0.77	2.96	1.05	1.82
2-Loss of Supply	42.98	1.08	9.07	1.90	8.52
3-Trees	0.01	0.00	0.01	0.00	0.00
4-Lightning	0.00	0.01	0.01	0.05	0.00
5-Defective Equipment	0.10	0.24	0.08	1.31	0.55
6-Adverse Weather	0.00	0.04	0.00	0.00	0.00
7-Adverse Environment	0.00	0.01	0.00	0.05	0.00
8-Human Element	0.00	0.00	0.40	0.08	0.00
9-Foreign Interference	0.62	1.06	0.07	0.12	0.11
Annual -All	44.98	3.28	13.39	4.58	11.00
Annual-excluding "loss of supply"	2.00	2.19	4.33	2.67	2.48
Annual-excluding "loss of supply" and "Scheduled"	0.74	1.42	1.36	1.63	0.66

Table 8: SAIFI by Year

Cause & Description	2015	2016	2017	2018	2019
0-Unknown	0.01	0.13	0.66	0.00	0.00
1-Scheduled	0.33	0.42	0.77	0.77	0.44
2-Loss of Supply	6.17	0.46	3.09	2.14	3.14
3-Trees	0.00	0.00	0.00	0.00	0.00
4-Lightning	0.00	0.01	0.00	0.08	0.00
5-Defective Equipment	0.08	0.26	0.06	1.06	0.71
6-Adverse Weather	0.00	0.01	0.00	0.00	0.00
7-Adverse Environment	0.00	0.01	0.00	0.03	0.00
8-Human Element	0.00	0.00	0.24	0.13	0.00
9-Foreign Interference	0.29	0.44	0.04	0.03	0.02
Annual -All	6.88	1.73	4.86	4.24	4.31
Annual - Excluding "loss of supply"	0.71	1.27	1.77	2.09	1.18
Annual - Excluding "loss of supply" and "Scheduled"	0.38	0.86	1.00	1.33	0.74

Graph 1: Reliability Indices by Year Excluding Loss of Supply Outages



The graph above shows that the CAIDI performance, after removing the loss of supply incidents, is alternating between a slight decrease and a slight increase from 2015 to 2019, but overall shows a downtrend.

All above data is noted as of the meter cut-off time, not as per the time where notification is received. HPDC started this practice on January 1, 2018 since it was a more accurate way to identify when the interruption started. Prior to this date the outage was logged to start when the first customer no power report was received or in the case of a Loss of Supply when the Hydro One SCADA system reported a loss of incoming supply or a breaker trip. This new process allowed HPDC to use the capability of the Smart Meter to provide accurate outage start information.

As a result of the more accurate outage start time determination, some CAIDI performance ratios may seem very high, more specifically CAIDI of 17.38, in 2017, which was caused by "Trees", where this is a result of one single incident of a tree that fell on a vacated property which tripped out a fuse and didn't affect any customers other than this single vacant residence. Similarly, in 2016, the CAIDI performance ratio is showing 7.1 Hr for Adverse Weather which accounts for 2 outages on the same day caused by a rain/ice storm. HPDC had only one line crew and could only repair a single outage at a time, therefore this single incident caused the CAIDI ratio to be very high.

The year 2015 was marked by a 27-hour outage due to loss of supply from the F1E 115 kV Hydro One transmission line in July. The Hydro One Transmission crew was dispatched from Sudbury (6.5 hr away) to make the repairs. Although HPDC had no control over this incident, negotiation with Hydro One took place and resulted in a unique mutual assistance agreement between both LDCs.

The 2016 figures include an unusual amount of animal (i.e. crows, squirrels) causing outages as well as 6 different vehicle collisions with the HPDC distribution system. Due to much higher vehicle collision rate, HPDC installed new barriers near high risk poles and developed an electricity safety awareness training for First Responders to make sure no further damage/injuries occur after any vehicle collisions. Following the local presentation of this electricity awareness survey, a request for regional training was brought forward by First Responders and HPDC fulfilled such request later that same year. In this way HPDC made use of the opportunity to enhance its public safety awareness and reduce the potential for incidents involving the general public as required to manage our scorecard safety performance.

The 2017 figures include a higher than average SAIFI ratio. This was mainly caused by the replacement of a pole where a complete feeder needed to be turned off for safety. During this interruption, 1,099 customers were affected for 5.9 hrs which totaled as a 6,465

customer hours interruption. This pole replacement was required to increased public and distribution plant safety.

HPDC's 5-year average SAIDI is 2.73 and its' 5-year average SAIFI is 1.40 not including Loss of Supply interruptions. These ratios have increased when compared to the last submitted DSP mainly due to scheduled maintenance interruptions, which account for 58% of the SAIDI average and 35% of the SAIFI average. HPDC works to maintain, and possibly decrease, these levels as indicated in the following section.

HPDC has also performed worst performing feeder analysis. The tables 9 to 13 below indicate the annual results from 2015 to 2019.

Table 9 Worst Performing Feeder 2015

2015 Customer-Hours by Cause and by Feeder										
	0 - Unknown	3 - Tree Contact	4 - Lightn'g	5 - Def. Equip.	6 - Adv. Weath.	7 - Adverse Environ.	8- Human Element	9 - Foreign Interf.	Total	% Feeder
M1				156.4				71.9	228.3	11.15%
M2	15.9	18.3		117.2				1649.8	1801.2	87.99%
M3	1.0			9.5				7.0	17.5	0.85%
Total	16.9	18.3	0.0	283.1	0.0	0.0	0.0	1728.7		
% Cause	0.82%	0.89%	0.00%	13.83%	0.00%	0.00%	0.00%	84.45%		

Table 10 Worst Performing Feeder 2016

2016 Customer-Hours by Cause and by Feeder										
	0 - Unknown	3 - Tree Contact	4 - Lightn'g	5 - Def. Equip.	6 - Adv. Weath.	7 - Adverse Environ.	8- Human Element	9 - Foreign Interf.	Total	% Feeder
M1	14.9	11.0		155.8				31.2	212.8	5.40%
M2	85.2		25.4	147.2	120.6	3.1		2745.1	3126.6	79.39%
M3	48.6			360.9		34.3		155.0	598.8	15.21%
Total	148.7	11.0	25.4	663.8	120.6	37.4	0.0	2931.3		
% Cause	3.77%	0.28%	0.64%	16.86%	3.06%	0.95%	0.00%	74.43%		

Table 11 Worst Performing Feeder 2017

2017 Customer-Hours by Cause and by Feeder										
	0 - Unknown	3 - Tree Contact	4 - Lightn'g	5 - Def. Equip.	6 - Adv. Weath.	7 - Adverse Environ.	8- Human Element	9 - Foreign Interf.	Total	% Feeder
M1		17.4		41.7				9.2	68.3	1.81%
M2	2196.1		23.5	164.3	7.4		1116.9	147.2	3655.3	97.07%
M3				18.7				23.5	42.2	1.12%
Total	2196.1	17.4	23.5	224.7	7.4	0.0	1116.9	179.8		
% Cause	58.32%	0.46%	0.62%	5.97%	0.20%	0.00%	29.66%	4.77%		

Table 12 Worst Performing Feeder 2018

2018 Customer-Hours by Cause and by Feeder										
	0 - Unknown	3 - Tree Contact	4 - Lightn'g	5 - Def. Equip.	6 - Adv. Weath.	7 - Adverse Environ.	8- Human Element	9 - Foreign Interf.	Total	% Feeder
M1	4.2			869.8				50.7	924.8	20.53%
M2	34.2		141.7	2758.8			32.0	255.0	3221.6	71.51%
M3				7.3		144.0	187.2	20.1	358.6	7.96%
Total	38.5	0.0	141.7	3635.8	0.0	144.0	219.1	325.9		
% Cause	0.85%	0.00%	3.14%	80.71%	0.00%	3.20%	4.86%	7.23%		

Table 13 Worst Performing Feeder 2019

2019 Customer-Hours by Cause and by Feeder										
	0 - Unknown	3 - Tree Contact	4 - Lightn'g	5 - Def. Equip.	6 - Adv. Weath.	7 - Adverse Environ.	8- Human Element	9 - Foreign Interf.	Total	% Feeder
M1				284.8				41.5	326.3	17.91%
M2				1150.0				251.4	1401.4	76.91%
M3				94.4					94.4	5.18%
Total	0.0	0.0	0.0	1529.2	0.0	0.0	0.0	293.0		
% Cause	0.00%	0.00%	0.00%	83.92%	0.00%	0.00%	0.00%	16.08%		

d) How Historical Performance Has Affected DSP

Hearst TS is in the HPDC service territory. HPDC is supplied by three feeders from Hearst TS, however two feeders also supply HONI customers outside the HDPC service territory. Hence HPDC has limited capability to change the feeder loads and the transfer capability between

feeders due to the downstream load. So HPDC looks for ways it can improve its system performance without causing downstream supply issues like overloads or voltage variations outside CSA limits. This limits a major factor, namely the customers per feeder. For HPDC one feeder has about 1900 customers connected and the remaining two feeders have about 800 customers combined. The ideal would be to have about 900 customers per feeder (1/3 of the total system customers but this is not possible. This fact is also evident when reviewing the worst performing feeder analysis. Clearly the M2 feeder which has the most customers connected and is the longest feeder performs more poorly than the others. HPDC has taken steps since the last DSP to address this by improving sectionalizing capability in the event of an outage as well as end of life pole replacement.

In this DSP, the basic historical feeder configuration still exists and is not likely to change based on load, and general economic realities. There are no new developments so no new feeders can be justified.

As a result, HPDC is continuing to make modest incremental changes to cost effectively improve system capability and maintain reliability. Specifically, HPDC is installing one switch annually to improve the sectionalizing capability when an outage is experienced. Also, where possible and where this can be done cost effectively loop feeds or alternate feeds allowing load transfer from one feeder to another are being built to be able to restore power more quickly. Pole replacement is carried out to reduce the failure of end of life structures particularly during storms where multiple events would overwhelm staff capability to restore power quickly if repairs were required. HPDC has one line crew. As a result of a main feeder lightning arrestor failure causing a total feeder outage, HPDC is planning to replace all main feeder rural porcelain lightning arrestor locations that could cause total feeder outages in the next 5 years. Rural lightning arrestors that are downstream from a lateral fuse are not part of this program. Also, all porcelain lightning arrestors located in higher traffic urban areas have been replaced since being identified in the last DSP. It was also observed that there was an increase in the failures of porcelain insulated cutouts. Problems with this type of switch/fuse are well documented in the industry in the mid-1990's. Appendix F shows some of this material. HPDC plans to replace all porcelain cutouts directly connected to main feeders over the next 5 years beginning with the M2 feeder because of the customer impact. The plan is to replace all porcelain cutouts on the system. The timing will depend on budget availability and manpower availability.

5.2.4 Realized Efficiencies Due to Smart Meters

In addition to the gathering of meter data for billing, the use of the last gasp capability to accurately determine the time an outage started is helpful and is used to improve the accuracy of the outage statistics. This data started to be used on January 1, 2018. HPDC does not have SCADA or OMS so near real time use of the "last gasp" information can not be used to alert staff of an outage in near real time.

HPDC has incorporated access to Smart meter data through the Customer Portal of their customer system. This is one of several functionalities provided.

5.3 Asset Management Process

5.3.1 Asset Management Process Overview

a) Asset Lifecycle Optimization Policies and Practices

HPDC's Corporate goals are:

- To deliver electrical power to the customers that meet the customers requirements.
    - Reliably
    - Affordably
- To remain financially capable of continuing delivering power to customers.

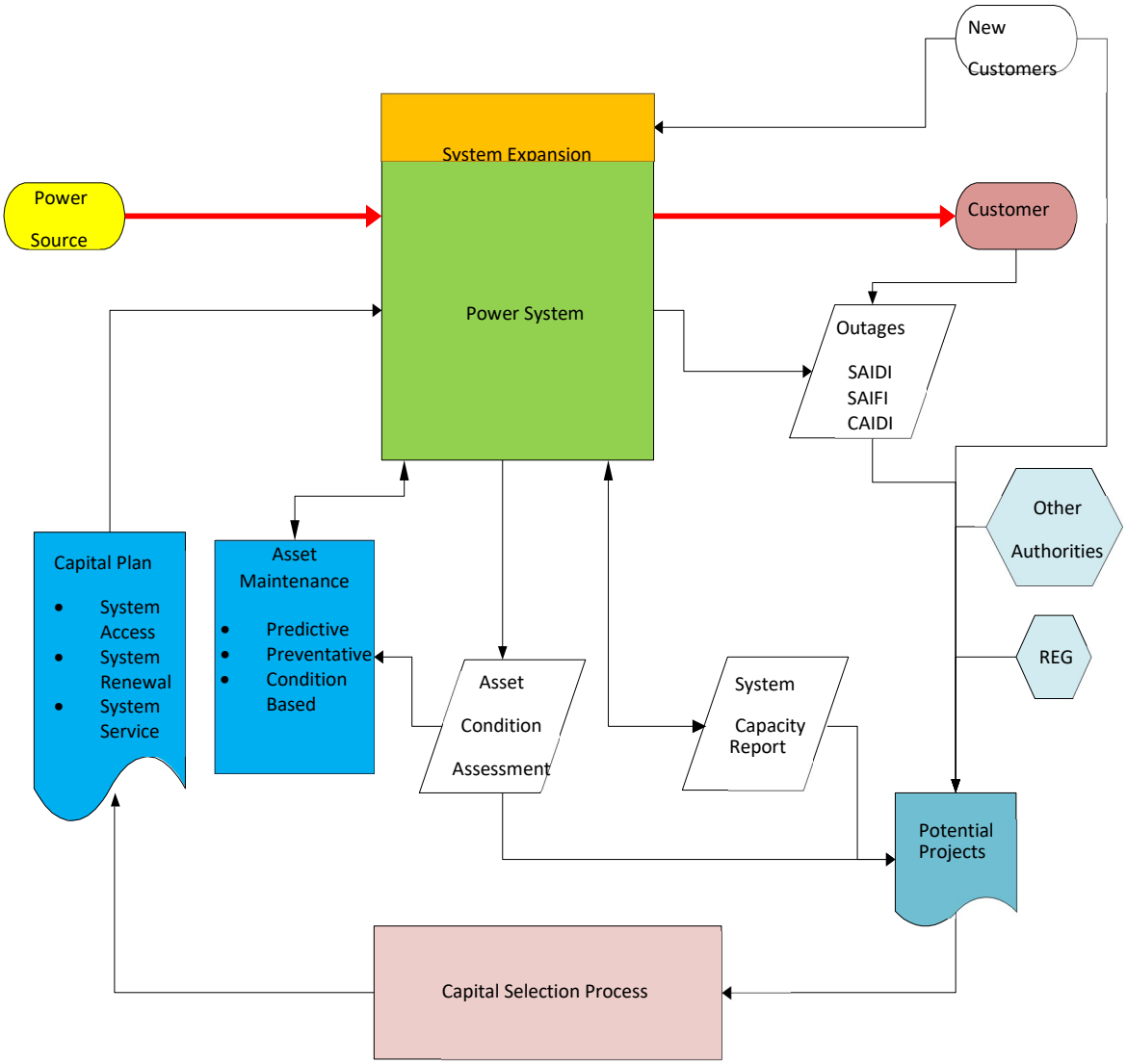
The Asset management objective is to achieve a low owning cost but maintaining safety and reliable performance that meets power delivery standards.

This is done by looking at the best long-term decision choosing between a repair or extend asset life action compared to replacement. The decision criteria is cost per year over the expected period of time the action is expected to be effective or if replaced the expected life of the asset as well as the impact on asset longevity, safety and reliability.

b) Below is the basic process HPDC is using with the asset management process.

Graph 2

Asset Management Process Overview



As can be seen from the flow chart, potential projects can be initiated externally by new customers, by other authorities and by new REG installations. For Hearst at this time none of these external drivers have generated any potential projects.

Internal potential project sources are the reliability performance of the system, the capacity of the system to supply load and the asset condition assessment.

For HPDC the system capacity does not generate any potential projects. However, the age of the pole assets, as recorded in the asset registry, has caused HPDC to do a more detailed assessment of the condition of a subset of all its poles. This has generated 23 locations to be replaced immediately and another 200 during the 5-year forecast of the DSP.

Also, when reviewing the reliability performance of the system the increase in defective equipment, that was not pole related, stood out. Two types of equipment were a cause for concern. In the last DSP Porcelain lightning arrestors were flagged as potential safety hazards and were scheduled for replacement in the higher traffic urban areas. This work was completed. However, a total feeder outage was incurred on the feeder with the most HPDC customers and for a significant duration caused by porcelain type lightning arrestor in a rural area. HPDC will check for and replace all porcelain type lightening arrestors connected directly to the main feeders capable of causing a feeder outage starting with the M2 feeder and then completing the remaining two feeders all within the next 5 years. In addition, there were several failures of porcelain insulated cutouts that failed in service and caused outages of various sizes. This is a reliability issue but also a safety issue since the cutout can fail by breaking apart spontaneously without human intervention (e.g. cracks in the porcelain glaze allow water to infiltrate and with freezing crack the porcelain more until it breaks apart) or because of cracks the insulator is weakened and breaks when opened or closed manually. HPDC will be addressing this issue by replacing as much as possible porcelain insulated cutouts connected directly to the main feeder with polymer insulated cutouts during the 5-year forecast period of this DSP. It should be noted that a power interruption is required to replace lightning arrestors, cutouts, and switches, therefore it would create a significant negative impact on customers and power outage statistics if this program is undertaken too vigorously in any one year.

The general inspection as required by the Distribution System Code also impacts the condition-based maintenance activities and may change the preventative maintenance program. Also, some potential capital projects may be initiated. Neither of these have been the case currently in preparing this DSP.

HPDC engages an outside third party to conduct its ESA Safety Audit. A copy of the latest report is included in Appendix G.

The potential projects are reviewed before including them in the approved capital plan. The first process is to determine if the project is necessary and what the scope and cost is. Here the first determination is to see if it is discretionary or non-discretionary work.

Customer work, REG work and work from other authorities are non-discretionary. As indicated elsewhere HPDC has no potential projects from these sources except for minor customer service work hence their capital program is almost exclusively discretionary.

The next process is to determine what the justification is for the project, the scope and magnitude and if the project can logically and cost effectively be completed in a staged manner over two or more years. The major criteria for justification are safety for the public but also for HPDC staff working on the lines. Next is addressing the reliability impact for the customers. It is not the intent to improve the reliability on an ongoing basis but to prevent the degradation of reliability or restore it to desired levels if it has degraded. Also ensuring that adequate capacity and flexibility exists in the power system to supply its' customers not just from a prime load perspective but also in first contingency situations. System capacity is adequate, but some improvement is required in the system flexibility to be able to restore customers quickly. This is addressed in the capital plan.

Power quality has not been a problem for HPDC.

5.3.2 Overview of Assets Managed

a) Distribution Service Area Characteristics

HPDC distributes power at 25kV which is a 3 phase - 4 wire grounded Y system. The power is supplied from Hearst TS which is a Hydro One owned and operated facility. HPDC is supplied by three feeders from Hearst TS. Two of the feeders are owned by Hydro One [poles and structures and primary conductor] since they supply power to Hydro One's customers outside the HPDC service territory. Only the "main feeder" elements of the feeders required to deliver power beyond the HPDC service territory are owned by Hydro One. All distribution equipment such as transformers and secondary conductors that are mounted on the Hydro One owned Poles are owned by HPDC. All laterals and the "non main feeder" elements are owned by HPDC. The third feeder from Hearst TS is owned by HPDC. For the two feeders owned by Hydro One, there are primary metering units at entry and exit points of the feeders so that the HPDC load is accurately recorded.

The area serviced by HPDC is 98.67 square km. this area is a mixture of urban – the Town of Hearst and rural in the area immediately outside the Town centre and the built-up residential area. The weather conditions are typical of northern Ontario with cold winters and significant snowfall and the potential for short hot summers.

The distribution system is mostly overhead with some underground that was installed mostly in the 1970's to the 1990's.

The economy is mainly driven by the forest products industry. Other businesses support this primary industry or provide services to the people employed in forest products. The economy in the area has slowed when one of three operating mills was shut down in 2008. The load has not recovered from this event, but it has remained steady at the lower value subject to variations due to weather. HPDC does not anticipate any major economic changes over the forecast period. Hence, no growth is anticipated, and this is reflected in the forecast activities.

b) Summary of Distribution System Characteristics

HPDC has the following distribution assets:

Table 14: Primary and Secondary Lines Information

Primary circuits (25kv)		
Overhead	3 phase	23.3 km
Overhead	1 and 2 Phase	40.3 km
Underground	3 phase	1 km
Underground	1 and 2 phase	6.4 km
Secondary circuits		
Overhead		17.2 km
Underground		9 km

Table 15: Pole Information

Poles	
Pole height	**Quantity**
25	26
30	111
35	612
40	548
45	226
50	13
55	9
Total	**1545**

Table 16: Transformer Information

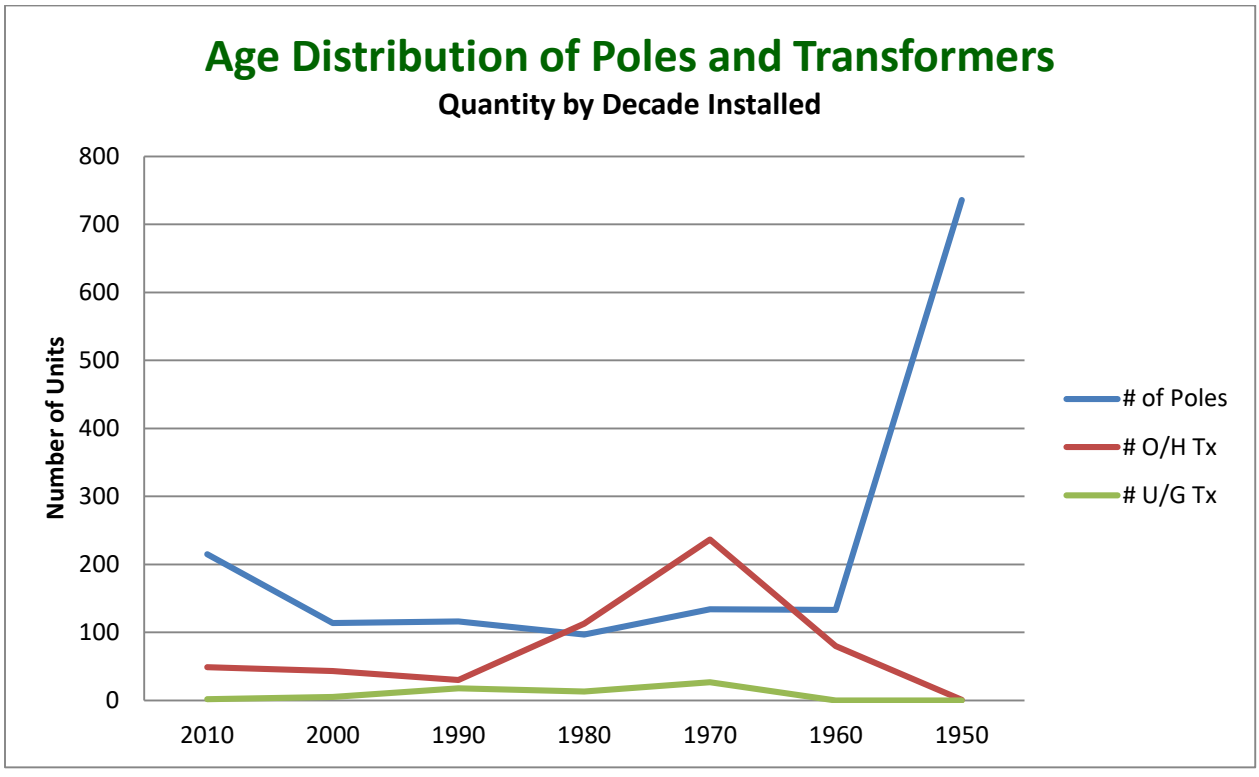
Transformers *	
Overhead	
Size (KVA)	Quantity
5	13
10	44
15	9
25	264
37.5	10

50	164
75	43
100	5
150	1
Total	553
Underground *	
Size (KVA)	Quantity
25	2
50	27
75	30
100	6
Total	65

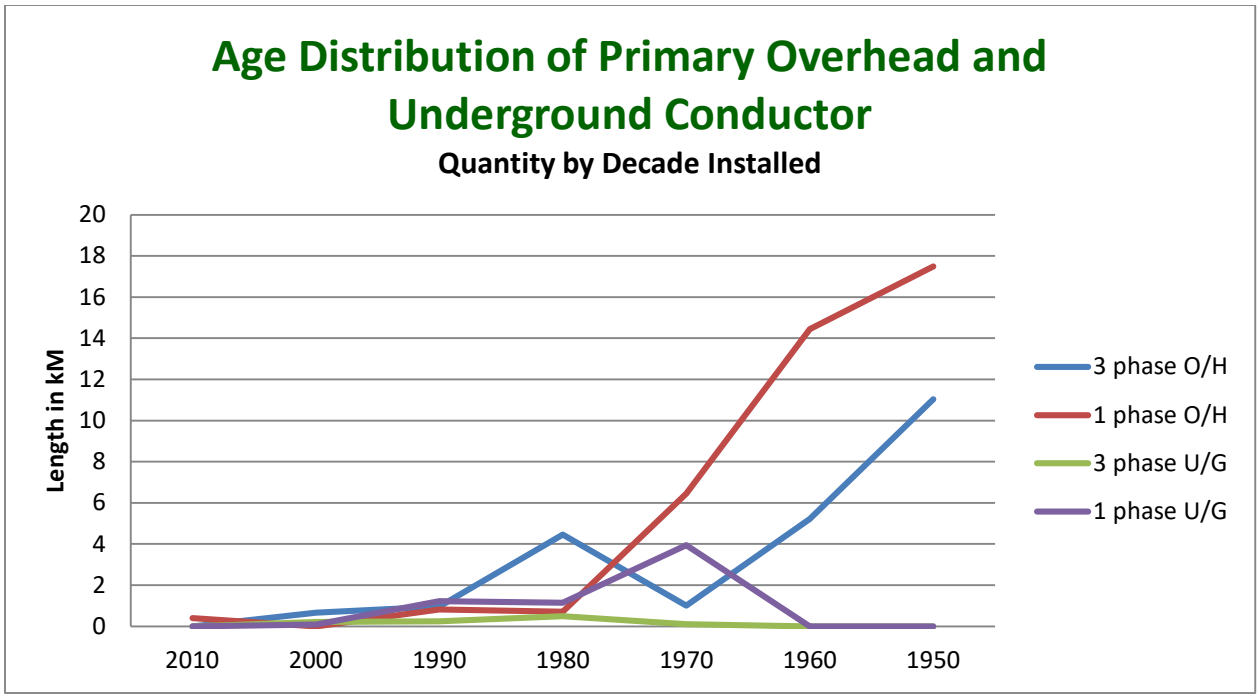
* excludes customer owned transformers

c) Information by Asset Type

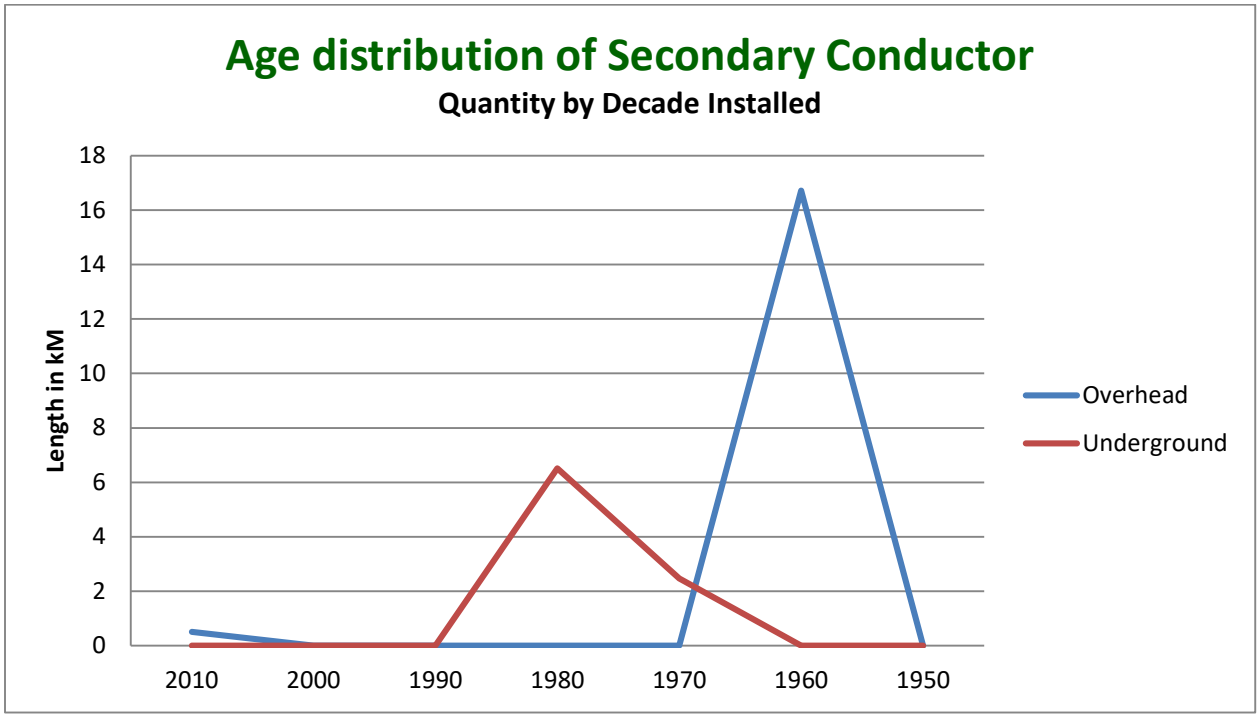
The following graphs show the quantity of the assets in service by the decade they were installed.



Graph 3: Age Distribution of Poles and Transformers



Graph 4: Age Distribution of Primary Overhead and Underground Conductor



Graph 5: Age Distribution of Secondary Conductor

The information in the tables and graphs is current as of June 30, 2020.

The graphs show that significant fractions of the installed plant particularly the overhead plant are 40, 50 and 60 years old. This is a concern and inspections are carried out to

identify deteriorated plant that needs to be replaced. An inspection was carried out in 2009 and this inspection identified the assets that needed to be replaced. This plan has been completed in 2010 to the 2014. In 2014, an inspection of the oldest pole assets [installed in the 1970's and earlier so 35 years and older] was conducted. In 2019, an asset survey was completed for all distribution asset no matter the age. The details of the latest inspection can be found in Appendix E. This inspection measured seven factors to determine an overall rating for the pole condition. This process identified 23 poles that had significant deterioration and 200 poles that are in below average condition; this is the driver for the pole replacements which is part of the Capital program - system renewal.

d) Assessment of Existing Asset Capacity Utilization Relative to Planning Criteria

The capacity of the power system is adequate to supply the existing loads. The current load is in the order of 13 MW which is a drop of about 5 MW from about 2008. The closure of a forest products plant in about 2008 caused the drop in load. The current system can provide prime load. There is backup capability to perform load transfers to allow planned work to proceed as well as sectionalizing to restore power in outages. Voltage levels are maintained throughout the system to the required standards. Hence there are no requirements to expand the capability of the system at this time or in the foreseeable future given the current economy and economic outlook.

5.3.3 Asset Lifecycle Optimization Policies and Practices

a) Description of Asset lifecycle Optimization Policies and Practices

The distribution assets of HPDC do not include any Municipal Station or Transformer Station equipment which is high cost, long lead time delivery items. Consequently, the current practice typically is to run assets to failure except where doing so results in safety issues for either the public or the line staff in normal operation or the system reliability is adversely affected.

HPDC follows the requirements of the DSC for plant inspection and the ESA safety requirements. This means the HPDC inspects all its distribution plant on a 3-year cycle and corrects deficiencies promptly. See Appendix G for the latest ESA Safety Audit dated May 21, 2020.

In addition, poles are inspected every 5 years and this inspection is the main driver for the pole replacement program.

Load interrupter switches are maintained to the manufacturer's recommendations because these devices need to be operable to reconfigure the power system when power failures occur to restore power to as many customers as possible.

HPDC carries out the following routine maintenance activities:

- Predictive Maintenance:
    - Routine inspections as required by the Distribution System Code. Deficiencies are logged and completed as Condition Based Maintenance.
    - Complete primary and secondary overhead distribution line patrolled at minimum once per year and recorded.
    - Regular cyclical physical inspection of all transformers, recorded and coded. Infrared transformer inspections are completed yearly.
    - Condition assessment of poles. The program is documented in Appendix E.
- Preventative Maintenance:
    - Regular vegetation management. Based on a regular cyclical (3-year) geographically based schedule as well as input from the routine inspections.
    - Pad mounted transformer snow removal as required during winter season.
    - Load interrupter switch maintenance (3-year cycle)
- Condition based Maintenance:
    - Repair of all deficiencies noted in the routine inspections and any items discovered when operating the system.

b) Description of Asset Lifecycle Risk Management Policies and Practices

Risk is managed by being aware of the failures that occur on the power system and being aware of any safety consequences that are likely to accompany the failure. For example, when a porcelain, air gap type of lightning arrestor fails, typically the porcelain

shatters into various sized sharp fragments and these are propelled at high speed in all directions. This clearly presents a safety hazard for any person in the immediate vicinity of the device when it fails catastrophically. The replacements of these lightning arrestors have been completed in the period of 2015 to 2016 for the locations where people are most likely to be in the vicinity if a failure occurs and the remaining ones to be replaced are those in a light traffic areas and rural setting.

With the reliability analysis for this DSP it was observed that on at least one occasion a rural lightning arrestor failure caused an outage on a whole feeder. This feeder has the most HPDC customers connected and was for a longer duration. Hence HPDC is planning a program to locate and replace the porcelain lightning arrestors directly connected to main feeders. They will further prioritize this to begin with the worst performing feeder which is also the one with the most connected HPDC customers. This will also improve the reliability of the HONI customers downstream from HPDC connected to this feeder.

Similarly pole replacement is scheduled to take place at a steady pace beginning with the poles in the worst condition. The condition is determined by an assessment process which is detailed in Appendix E.

Pole replacement is done before they fail in service in order to manage the workload and the cost since multiple failures could happen in adverse weather and this would result in long restoration times since HPDC only has one 4-man powerline crew.

With over 700 poles installed in the 1950's the rate at which these poles will need to be replaced is expected to accelerate due to condition. As a result, HPDC is ramping up its capability to do pole replacement and in this DSP will be scheduling up to 50 replacements per year, increasing from the previous 30 per year. Pole replacement is the single largest plant capital project and will extend well into the future. Also, the number of poles to be changed per year will need to increase since even at 50 per year it would take 14 years to complete the 700 poles installed in the 1950's. In order to improve the construction efficiency HPDC will do the urgent, imminent failure poles first but also factor in a grouping of poles to be replaced within the 5 year forecast of this DSP to achieve construction efficiencies by replacing contiguous poles scheduled to be replaced in the 5 year forecast at the same time.

Capital expenditure selection is based on the following in priority order:

- Regulatory requirement or obligation
- The safety impact on the public and staff
- Reliability impact

- Outage causes and frequency
- Restoration capability
- Power quality

Timing and pace are determined by:

- Manpower capability to complete the work
- The financial ability to pay for the work
- Completing the expenditures that provide the greatest benefit
    - For example, the lightning arrestor replacements in the urban area were completed in a two-year timeframe because of the safety concerns while the pole replacement takes place over a five-year timeframe because of a lower safety impact.

HPDC's main distribution assets are poles, overhead wire, transformers, switches, and switch fuses as well as underground primary cable, transformers, and secondary cable.

All the distribution plant is inspected as a minimum on a three-year cycle in accordance with the Distribution System Code requirements.

In addition, poles are surveyed in detail every 5 years and a condition assessment is carried out on them. The assessment was completed in 2019 and Appendix E contains the details of what the assessment entails. HPDC has 1545 poles that are in service and owned by Hearst Power. These were tested and 23 were identified as needing to be replaced within the next year and 200 as "below average", needing to be replaced within the next 5 years. These replacements are included in the capital program for 2021 and beyond. The oldest poles (installed in the 1950's) were fully treated when installed and they have given excellent service as can be seen by the 70% of those still in service which were rated average or above average values during the 2019 inspections therefore are not considered for replacement for another 5 years.

Both the primary and secondary overhead wire are maintained minimally on a planned basis. There is a visual inspection as part of the Distribution System Code inspections. Situations requiring repair are noted and follow-up is initiated and carried out. There is a Thermographic scan of connections to identify if the connections are overheating and vegetation is managed to ensure there is adequate clearance between the lines and any trees or other vegetation that could interfere with the operation of the power system.

Overhead transformers are inspected visually as part of the Distribution System Code requirements and identified problems are corrected. Approximately 86% of the transformers are 50kva or smaller and the strategy is run to failure for existing units. If

there is an activity such as a new service connection the transformer size will be reviewed and upgraded as required.

Overhead switches are inspected per the Distribution System Code requirements and are maintained per the manufacturer's recommendations.

Overhead Switch/fuses (cutouts) are inspected per the Distribution System Code requirements and are inspected when they are operated manually by a crew or after they operate automatically when the fuse protection operates. Damaged cutouts are replaced.

Underground transformers are inspected per the Distribution System Code requirements. The inspection includes looking for rust which is cleaned off and painted at a later time, and checking the concrete base for cracks etc. that create public safety and transformer stability issues. These are identified and replacements are done as part of the capital program.

Underground primary cables have not failed in HPDC's system. Cable terminations are inspected visually in pad mounted switching units and in transformers. Unless problems are discovered they are run to failure.

Underground secondary cable terminations are visually inspected at the transformer when the transformer inspection is carried out.

For HPDC, end of life pole replacement is the only material system renewal spending item currently and for the foreseeable future.

The pole condition assessment process followed by HPDC is documented in Appendix E. The result of the process is that based on the condition assessment carried out between 35 and 45 poles are replaced each year in 2020 and beyond beginning with the most at-risk poles. In 2024 a new survey of the condition of the poles will be carried out on the poles. Based on this survey, a new rate of pole replacement will be identified, and this will be reflected in the capital program.

The regular maintenance that is carried out on the overhead circuits is the vegetation clearing and visual inspections as required by the Distribution System Code.

5.3.4 System Capacity Assessment for Renewable Energy Generation

a) Applications from Renewable Generator over 10 kW

Since the last DSP, no changes have been made to Hearst TS and it remains constrained, unable to accept new REG connections.

b) Number and Capacity of Anticipated New Generation

Due to the changes in Regulations for long term load transfers, 4 microgenerators are no longer HPDCL customers, so the total MicroFit solar generators (10kW each) has changed from 52 to 48. The 10 MW generator remains connected to the HPDCL system.

There are no outstanding active applications for any REG projects currently. Hence HPDCL has no requirement for REG enabling projects currently. If the transmission constraints are resolved and rescinded, then there may be a need, but this is not likely in the foreseeable future. Hence no system access projects for REG are included in the budget forecast.

c) Capacity to Connect New Renewable Generation

There is no capacity to connect new REG.

d) Constraints to Connecting New Generation

Hearst TS remains constrained. This is the sole grid power source for HPDC so no new REG load can be connected

5.4 Capital Expenditure Plan

a) Customer Engagement Overview

HPDC has completed a residential customer survey in 2019. While the responses were positive about HPDC's performance as a service company and as a corporate citizen, the survey also indicated that the customers have a high sensitivity to the retail cost of power. HPDC has used this input to be frugal with its' capital expenditures and has spread work to be done over several years to minimize the customer bill impact.

Customer engagement is formally done for the residential and business customers by way of an opinion survey that has been completed bi-annually since 2014-2015 and which latest survey was completed in 2019. The survey and the results can be Exhibit 1. The Survey indicates that HPDC performs well and is regarded highly as a corporate citizen. The customers did indicate that many of them have concerns for the size of their power bills. HPDC takes this into account as it plans its' programs and budgets.

b) System Development Overview

HPDC expects its load and its customer base to be essentially static over the next five years. It does not anticipate any requirements to make expenditures for REG or Smart Grid projects currently.

5.4.1 Capital Expenditure Planning Process Overview

a) Detailed Description of Analytical Tools and Methods used for Risk Management and its Impact on the Capital Expenditure Plan.

HPDC planning objectives can be summarized as "Deliver safe, reliable power to its customers at a reasonable cost, in a long-term sustainable manner".

Having said that, much of what HPDC is doing is simple. As shown in section 5.3.1 there are only a very few proposed capital projects because at this time there are no outside drivers for system capital work including REG related projects and it is only safety, reliability and end of asset life concerns that result in any proposed capital projects. These specific projects are not influenced by any maintenance programs. Maintenance would be considered if it could be effective to prevent capital spending or extend the life of an asset economically.

There is no system capacity issue currently in HPDC's service territory.

HPDC has a very modest capital plan that has a relatively small impact on the customer's power bill. However, HPDC is sensitive to this impact and attempts to do only what is necessary to be done and smooth the capital expenditures over time.

To do this the projects are reviewed if they can be completed economically over the course of two or more years and what the impact of this smoothing will be. The result may be the same total cost or a higher total cost because of this smoothing. Also, the benefits are only achieved to the extent that the work is completed. This was considered when implementing the installation of line switching equipment, which has been implemented by installing one (1) new switch per year in order to continually achieve a safety and outage reduction benefit but not causing a noticeable increase in capital spending.

There are no REG investments planned at this time because there are no known REG projects and there are no requests for connection.

b) Development of the Capital plan and Considerations utilized

HPDC develops its capital plan using the inputs illustrated diagrammatically in 5.3.1. The possible inputs to the capital plan are New Customer Requirements, Reliability including CAIDI, SAIDI, SAIFI and worst performing feeder analysis, Other Authorities such as Regional Planning, Town of Hearst, MTO, REG applications, System Capacity Planning and Asset Condition Assessment. The impact of these considerations can be addressed as follows:

- New Customers – There are no large developments, only a small handful of customers potentially
- Reliability – is being monitored. Some concerns about porcelain cutouts and lightning arrestors are being addressed by capital activities. HPDC will be monitoring truck interference with power system (poles). When these events occur, they are investigated and addressed. For example, in late 2015 and early 2016 when there were several outages caused by trucks interfering with poles. The trucking company was spoken to and an electrical safety education session was initiated. As well the poles exposed to possible damage were protected with robust permanent barriers to prevent further occurrences. The capital program to install one switch per year to improve system flexibility to restore power also helps in this situation.
- Other Authorities – The Regional Planning project is expected to start within the next few years. There is no current capital program impact. There are no other Town or MTO known impacts at this time.
- REG- None. Transmission constrained.
- System Capacity Planning- One of three forest product plants closed prior to 2010 with the loss of 5 MW. This load has not recovered. There are no capacity issues that require capital expenditure.
- Asset Condition Assessment- the only asset that is currently at end of life is certain specific poles that have been identified by an onsite survey or inspection. These are included in the capital program and this is a material project. The project uses smoothing to minimise the customer bill impact.

c) Method and Criteria used to Prioritize REG Investments

There are no REG projects so, no prioritization is required. Hearst TS. is transmission constrained. Unless this constraint is removed no further REG load will be connected.

d) Approach to Assessing Non-Distribution System Alternatives

There are no capacity or operational constraints currently, so this is not a consideration. The installation of switches to create the flexibility and feeder segments with smaller numbers of customers is something not applicable to non-distribution system alternatives. If this becomes applicable in the Regional Planning study HPDC is open to considering and evaluating the specific alternative.

e) Strategy to Take Advantage of Opportunities that Arise During System Planning

If there are requirements to upgrade or replace systems like the Customer Billing System HPDC would investigate enhanced capability for customer access in addition to the capability it has now through its Customer Portal. There are no plans currently to do upgrades to the current system beyond routine maintenance.

Similarly, behind the meter services have not been requested by any customers yet but real-time data access is available since 2018 to customer via the new online Customer Portal. Integration of distributed generation would be a consideration for the Regional Planning Study to be launched within the next few years. In all these matters HPDC is open to considering them but no opportunity or need for them has come forward yet,

f) Consideration of Distribution Rate funded Conservation and Demand Management Programs

Not applicable. See below.

5.4.1.1 Rate-Funded Activities to Defer Distribution Infrastructure

HPDC has no projects that qualify for this program since it has no peak demand constraints on the system now or in the foreseeable future nor does it need any energy storage programs to address its peak load.

5.4.2 Capital Expenditure Summary

The Historical Capital Expenditures and the Forecast Capital Expenditures are shown below.

Table 17 - Historical Capital Expenditure Summary 2016 to 2020															
CATEGORY	2016			2017			2018			2019			2020		
	Plan	Actual	Var	Plan	Actual	Var	Plan	Actual	Var	Plan	Actual	Var	Plan	Actual 6 Mo	Var
	$ '000	$ '000	%	$ '000	$ '000	%	$ '000	$ '000	%	$ '000	$ '000	%	$ '000	$ '000	%
System Access	10	0	-100.0%	13	14	7.7%	10	30	200.0%	15	13	-13.3%	15	0	-100.0%
System Renewal	86	79	-8.0%	96	136	41.9%	107	95	-11.1%	115	102	-10.9%	135	145	7.4%
System Service	18	9	-50.3%	12	26	119.3%	35	54	53.1%	33	8	-76.7%	13	15	15.4%
General Plant	44	30	-31.6%	40	4	-89.2%	56	100	78.6%	11	56	411.4%	33	27	-18.2%
TOTAL EXPENDITURE	158	118	-25.2%	161	181	12.4%	208	279	34.0%	174	179	3.1%	196	187	-4.6%
Capital Contributions	-10	-29	190.0%	-13	-14	7.7%	-10	-30	200.0%	-15	-13	-13.3%	-15	0	-100.0%
Net Capital Expenditures	148	89	-39.7%	148	167	12.8%	198	249	25.6%	159	166	4.6%	181	187	3.3%
System O&M	443	411	-7.2%	425	438	3.1%	432	483	11.8%	435	475	9.2%	522	486	-6.9%

Note: For 2020 Actuals the amount shown is for 6 month (June 30) actual expenditures plus the forecast for the remaining 6 months.

Table 18 - Forecast Capital Expenditure Summary
2021 to 2025

	Forecast Period (planned)				
	2021	2022	2023	2024	2025
CATEGORY	$ '000	$ '000	$ '000	$ '000	$ '000
System Access	15	15	15	15	15
System Renewal	115	147	150	153	158
System Service	8	18	19	20	20
General Plant	265	30	25	28	25
TOTAL EXPENDITURE	403	210	209	216	218
Capital Contributions	-15	-15	-15	-15	-15
Net Capital Expenditures	388	195	194	201	203
System O&M	543	564	587	583	600

HPDC has concentrated almost exclusively on System Renewal, the pole replacement program for the historical period as well as for the forecast period of this DSP. It is a material project each year and it addresses the most significant issue confronting the utility currently. The other projects of note are in the General Plant category for the replacement of end of life vehicles and tools that impact on the ability of HPDC staff to complete the capital program, do maintenance and respond to system power interruptions. These were addressed, in 2018, two new pickup trucks, in 2019, a new trailer, trencher and woodchipper, and is being addressed in 2021, a new 47-foot bucket truck. In 2022 a System Service project will be starting namely the meter replacement program. This is not a material project but is worth of note since there is an increase in the System Service forecast because of this program.

In general, HPDC completes its Capital and Maintenance programs as planned. The deviations from budget while may seem large on a percentage basis, they are small in dollar magnitude. When an expenditure is higher in one area attempts are made to reduce expenditures in other areas to minimize cost increases to the customers power bills in future.

There are no expenditures for non-distribution activities in HPDC's budgets.

5.4.3 Justifying Capital Expenditures

5.4.3.1 Overall Plan

The comparative expenditures made by HPDC in the capital categories are shown below:

Table 19; Capital Expenditure Summary

	Historical (Actual)					Forecast (planned)				
	Test-5	Test-4	Test-3	Test-2	Test-1	Test	Test +1	Test +2	Test +3	Test +4
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
	Actual	Actual	Actual	Actual	Actual	Plan	Plan	Plan	Plan	Plan
Category	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000
System Access	0	14	30	13	0	15	15	15	15	15
System Renewal	79	136	95	102	145	115	147	150	153	158
System Service	9	26	54	8	15	8	18	19	20	20
General Plant	30	4	100	56	27	265	30	25	28	25
Capital Contributions	-29	-14	-30	-13	0	-15	-15	-15	-15	-15
Change in WIP										
Total	89	167	249	166	187	388	195	194	201	203
System O&M	411	438	483	475	486	543	564	587	583	600

It should be noted that the future costs include the estimated effect of cost increases of material and the human resource requirements over time related to inflation. The descriptions for the projects are provided in Appendix C. As can be seen in Appendix C the work in the System renewal project is identical for 2021 to 2025 but there is an adjustment to project real expected costs in each year.

The capital program for system renewal will, in the case of the pole replacement program, prevent an increase in operating cost due to end of life deteriorated poles failing in service. The pole replacement program will not increase nor decrease the current operation and maintenance cost.

There is no material System Access related material work because there are no drivers at this time as indicated in section 5.3.1. Any work in System Access is customer driven and no project

has been put forward as of October 2020 for future years. The amounts shown are based on previous years 2017 and 2019 which can be considered typical years.

There is one System Renewal project that HPDC intends to complete starting in 2020. These are the pole replacement program as identified in sections 5.3.1, 5.3.2, and 5.3.3. The driver is the deteriorating condition of aging plant. This will not improve going forward and the only solution is to replace the poles. The project is a strict one for one replacement complete with reattachments of existing devices and foreign plant. The replacement is on a condition basis and no street rebuilds are completed if all the poles do not need replacement.

There no system service projects HPDC intends to complete starting in the test year, although meter replacements will need to increase over time, starting in 2022 in order to prevent a mass meter change requirement during the same period and causing a significant increase in cost.

The second project is not material but addresses the flexibility of the system to be able to restore parts of a locked-out feeder. HPDC will be installing one switch per year for the test year and the forecast period (2022 to 2025) to achieve this added flexibility. This is a low-cost way to ensure the system reliability measures are maintained. The driver has been the objective of maintaining the SAIDI and CAIDI statistic in every year.

There is one material General Plant project planned for 2021. It is the replacement of a 1995 Versalift bucket truck which has reached end-of-life. Justification for the 1995 Bucket truck can be found in Appendix D. HPDC operates and maintains 2 Bucket Trucks, 1 Derrick Digger, and 2 pickup trucks in their fleet. In 2018 a new truck was purchased to replaced, the oldest pickup at end of life and shortly after that, the second pickup was scrapped due to a non-at-fault vehicle collision, therefore a second pickup (new) was purchased.

5.4.3.2 Material Investments

The materiality threshold for HPDC is $50,000. There are two projects in the 2020 to 2021 period that reaches the materiality threshold including the pole replacement program and bucket truck replacement. The expected costs for this period are shown below:

Table 20: Material Investments

System Renewal	**2021**	**2022**	**2023**	**2024**	**2025**
1830 - Distribution Overhead - Replace Poles	$100,000	$112,200	$114,500	$116,800	$119,100
General Plant					
1930 - Transportation – Bucket Truck	$265,000	$0	$0	$0	$0
Total	$365,000	$112,200	$114,500	$116,800	$119,100

The pole replacement project is planned to start in the spring of 2020 and proceed at a rate of about 40-45 poles per year to the end of 2025. The start in 2020 of the next 5-year segment of the plan is due to the pole survey which was conducted in 2019. The next pole condition survey

is planned for 2024. There are no known risks to the completion of the project neither currently nor for the complete period.

a) General Information on the project / program

System Renewal – Pole replacement

- The pole replacement program has the costs per year as shown in Table 20 above for 2021 to 2025 the total estimated cost in this period is $562,600. There are no additional O&M costs for this asset replacement that need to be recovered in rates.
- There are no capital contributions made or forecast to be made and there are no true-up dates or payments.
- There are no customer attachments and there are no changes in the load as a result of these replacements.
- This is part of an ongoing asset replacement program that started in 2016. There are more than 700 poles that were installed in the 1950's. these will need to be replaced in the future as they are 60 to 70 years old now. They are being replaced based on end of life. This DSP covers a 5-year period in which some 200 to 223 poles are scheduled to be replaced. So, this is not the end of the program.
- This is a routine project for HPDC and as such no risks are anticipated. Clearly, given the Covid-19 outbreak some planning assumptions can be threatened but these will need to be addressed by a larger context than the pole replacement program. To date HPDC has been able to complete its work in the field successfully while also following the Health guidelines. In part HPDC line staff are well positioned to complete the work because there are special rules and procedures, they need to follow to do their work safely such as live-line procedures. In part the Covid-19 environment is not that different. It is another layer of safety procedure that needs to be part of the job.
- The expenditure information provided is comparative.

General Plant- Bucket Truck

- The total expected capital cost is $265,000. This is for the replacement of a 25-year-old cab and chassis fitted with a 42 ft aerial device also 25 years old. Once the new vehicle and aerial device are received the old unit will be retired. O&M costs are expected to remain close to the same for regular operation and maintenance. In 2019 there was a $10k repair on the old vehicle and aerial device to allow it to pass the annual safety inspection and in 2020 repairs were carried out on a leaking radiator. These kinds of repairs will not be required for some time in the future.
- No capital contributions are applicable to this capital purchase.
- Neither customer attachments nor loads are applicable to this purchase.
- Purchase is for early 2021 delivery.
- There are no risks that HPDC can plan for.
- This is an equipment purchase that was purchased based on competitive bids.
- This is not a REG expenditure. Not applicable.

b) Evaluation Criteria and Information Requirements for Each Project / Activity

Project -Pole Replacement

1. **Efficiency, Customer Value and Reliability**
    a. The main driver for the pole replacement program is the risk of plant failing in service and creating long outages for customers and added O&M costs for the utility. This is intensified if there are simultaneous failures if the failures are the result of weather stressors such as high winds. HPDC only has one line crew to respond to these situationsDemonstrate.
    b. The data in Section 5.3.2, particularly the age of plant together with the results of the pole assessment that was carried out, which is described and reported in Appendix E, support the pole replacement project.
    c. When there is only one material project it is difficult to respond to the nature of the prioritization process in anything beyond a trivial manner. The pace of the replacement program balances the impact on the customer's bills and the outage performance of the power system attributed to defective equipment. The key tool used to get the balance right is the 5-year pole assessment program identified in Appendix E. By replacing the most at-risk poles at a modest but consistent rate both balancing factors are in the acceptable range. HPDC will also work at improving the construction efficiency by identifying the poles to be replaced beyond the immediate replacements and grouping the planned replacements geographically to take advantage of synergies of two or more contiguous pole replacements at the same time on the same street.
    d. There have not been any alternatives considered. The issue being addressed is end of life plant, namely poles. These are one of the primary building blocks to an overhead distribution system. An overhead distribution system in rural and small-town setting is the lowest cost means of providing a power distribution system. The poles in question have been in service for many years, up to 70 years, for a significant portion of the distribution system. The poles being replaced are selected because they rated poorly in a condition inspection carried out every 5 years. In this way asset utilization is maximized and reliability risks are managed to reasonable levels. The customer benefit is stable power bills and no deterioration in reliability of power delivery.
2. **Safety**

There are some safety benefits to doing the pole replacement project. First, is the reduction of the possibility of poles falling in adverse weather and causing accidents or damage to property. Second, is the safety related to the potential loss of power during extreme cold weather and the loss of heat for an extended period of time

3. **Cyber Security, Privacy**

   Not applicable.

4. **Co-ordination, Interoperability**

   The new poles are 5 feet longer than the old poles. This allows pole space for joint-use attachments for various wire/cable-based communication companies. The old pole standards were very limited in making provision for communication company attachments.

5. **Environmental Benefits**

   Not applicable

6. **Conservation and Demand Management**

   Not applicable

Project -Bucket Truck Replacement

1. **Efficiency, Customer Value and Reliability**
    a. The main driver for the replacement of the bucket truck is the maintenance cost to keep it roadworthy and the difficulty in obtaining spare parts. The cab and chassis as well as the aerial device were purchased in 1995 and are now 25 years old. The aerial device is also not well suited for material handling due to its limited lifting capacity. This makes completing the pole replacement program more challenging if the aerial is not able to lift the equipment as needs to be done.
    b. In many utilities the replacement schedule for bucket trucks is, 7 years for the cab and chassis and 14 years for the aerial device. So, the equipment has lasted well beyond the general utility norm. Further, in 2019 $10,000 in repairs were carried out to keep the unit roadworthy and in 2020 the radiator of the truck was custom repaired (temporary) because no replacement radiator was available from the manufacturer or any third-party parts supplier. This vehicle is an essential part of HPDC's tools to perform maintenance as well as capital line work and needs to be reliable and available. A complete replacement of the hydraulic hoses will be required soon as well as hydraulic cylinder overhaul.
    c. This bucket truck replacement is a large expenditure for HPDC. It has been putting off the decision to replace it for some time. However, considering incurred maintenance costs and the prospect of more and substantial costs, HPDC concluded that now was the appropriate time to replace the unit.
    d. There are no alternatives to replacement. HPDC has demonstrated that it maintains its vehicles and tools well, so they last a long time. A new vehicle is expected to give many years of excellent service.
2. **Safety**
    There are safety benefits with the replacement of the 1995 bucket truck which is reaching end-of-life after 26 years in service. Since there is considerable wear and tear on the unit, the chances of equipment failure during use are increasing, therefore possibly creating dangerous situations particularly with the aerial device. Also, with the shorter reach of the old aerial device it was sometimes necessary to take risky positions to complete some of the work. The longer reach new aerial device will prevent this from happening.
3. **Cyber Security, Privacy**
    Not applicable.
4. **Co-ordination, Interoperability**
    Not applicable

5. **Environmental Benefits**

   Not applicable

6. **Conservation and Demand Management**

   Not applicable

c) Category-Specific Requirements for each Project / Activity.

a) System Access

There is no material System Assess project.

b) System Renewal

Most of the poles planned to be replaced (94%) were originally installed in the 1950's and 1960's. The remainder are deteriorated poles from the 1970's to the 1990's. All the poles from the 1950's and 1960's are part of the original electrification carried out by the then Ontario Hydro. These poles have provided excellent service namely in the order of 50 to 70 plus years. The 5-year replacement program represents about 24% of the total number of poles in this age bracket (more than 50 years of service). HPDC does not do maintenance on the poles. The poles in question have strength and mechanical integrity issues that cannot be addressed by pole treatments or other maintenance activities. Replacement is the only option and HPDC has decided to replace like for like except that the poles will be of a higher class and thus stronger and they will be 5 feet longer to provide adequate road clearance and joint-use capability. This is the lowest cost approach, and it meets the needs of the customers (keep costs low) and the utility (restore the poles structures to the required strength).

Customers are connected to all three feeders. Each feeder has a mixture of residential, commercial and industrial load. The deteriorated poles affect each feeder. Therefore, all the customers have a risk of power interruptions due to pole failures. This risk will grow if no planned replacement project is initiated. Also, in service failures will increase the O&M costs because of emergency replacements and repairs.

As demonstrated in section 5.2.3 the system reliability due to the Equipment Failure category has shown some causes for action, the failures have not been due to pole failures but other equipment such as porcelain lightning arrestors and porcelain switches. This confirms that the HPDC approach as outlined in 5.3.3 is prudent in its expenditures and effective in its reliability results when replacing poles.

c) System Service

There are no material system service projects.

d) General Plant

HPDC parks all its vehicles in an enclosed heated warehouse overnight and regularly does maintenance on every vehicle to keep the equipment in best condition as possible. This is demonstrated by the 26 years of service for the bucket truck to be replaced. The previous bucket truck replacement was completed in 2012 and was for a unit purchased in 1986, also with 26 years of service. Further justification information is in Appendix D.

HPDC has requested quotes on a bucket truck with similar specifications to the current in-

service bucket trucks. The lowest quotes received was used to budget costs for 2021.
With this bucket truck replacement, HPDC will have the following equipment in its fleet:
2021 Versalift Bucket Truck
2012 Versalift Bucket Truck
2000 Derrick Digger Truck
2-2018 Pickup trucks.

Appendix

Appendix A

IESO Reply to Renewable Energy generation Report by Hearst Power Distribution Company Ltd.

IESO response to

Hearst Power Distribution Company Limited System Capability Assessment for Renewable Energy Generation

In accordance with the Ontario Energy Board's (OEB) Chapter 5 filing requirements to submit a Distribution System Plan (DSP) with its Cost of Service application, on September 14, 2020, Hearst Power Distribution Company Limited (HPDC) sent its System Capability Assessment for Renewable Energy Generation (REG), as part of its DSP, to the Independent Electricity System Operator (IESO) for comment. The IESO has reviewed HPDC's REG plan and notes that it contains no investments specific to connecting REG assets.

The IESO notes that HPDC's service territory is within the North/East of Sudbury Region, and confirms that HPDC is a participating member of the region's Working Group[1]. The status of regional planning activities is as follows:

North/East of Sudbury – the first cycle of regional planning concluded with the publication of Hydro One Networks Inc.'s (Hydro One) Regional Infrastructure Plan (RIP) on April 13, 2017[2]. The RIP acknowledged that no further regional coordination was required. It is expected that the next regional planning cycle will commence in Q1 2021.

HPDC's REG Plan, Section 5.3.4 System Capability Assessment for Renewable Energy Generation states: "Since the last Distribution System Plan (DSP), no changes have been made to Hearst TS and it remains constrained, unable to accept new REG connections." Further, [t]here are no outstanding active applications for any REG projects at this time. Hence HPDC has no requirement for REG enabling projects at this time. If the transmission constraints are resolved and rescinded, then there may be a need but this is not likely in the foreseeable future. Hence no system access projects for REG are included in the budget forecast."

The IESO submits that as HPDC has no REG investments during the 5-year Distribution System Plan period, no comment letter from the IESO is required to address the bullets points in the OEB's Filing Requirements for Electricity Distribution Rate Applications - Chapter 5, Section 5.2.2 Coordinated Planning with Third Parties [3].

The IESO appreciates having had the opportunity to review HPDC's REG Plan and looks forward to working together during the next regional planning cycle.

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[1] Working Group members along with the IESO and Hydro One (Distribution and Lead Transmitter): **North/East of Sudbury** – HPDC, North Bay Hydro Distribution Ltd., and Northern Ontario Wires Inc.

[2] Hydro One's RIP for North/East of Sudbury, April 13, 2017: https://www.hydroone.com/abouthydroone/CorporateInformation/regionalplans/northeastofsudbury/Documents/Regional%20Infrastructure%20P lan_North-East%20of%20Sudbury.pdf

[3] OEB's Filing Requirements for Electricity Distribution Rate Applications - Chapter 5, Section 5.2.2, page 10: https://www.oeb.ca/sites/default/files/Chapter-5-DSP-Filing-Requirements-20200514.pdf

Appendix B

System Outage Detailed Information
January 2015 to June 2020

Table 1: Outage Detail 2015

Date	Location	Code	Description	Cause	Customer Interrup. No. Customers affected	Duration (Hours)	Customer Hours
					A	B	A x B
January 17/15	21M1 feeder East of 583 N. to Mattice	2	Loss of Supply	Hydro One pole fire (Mattice)	312	0.6	171.6
January 28/15	519 George Street	9	Foreign Interference	Auto reclose on 21M3 breaker	14	0.5	7.0
Feb 02/15	St-Pie X East	5	Defective equipment	Primary termination let go	70	0.8	52.5
" "	" "	" "	Defective equipment	" "	34	1.1	38.4
" "	" "	" "	Defective equipment	" "	14	2.5	35.0
March 10/15	Customers on 21M1 feeder	2	Loss of Supply	Hydro - Permanent fault	424	4.3	1823.2
March 10/15	Customers on 21M2 feeder	2	Loss of Supply	Hydro - Permanent fault	2014	0.3	670.7
March 10/15	Customers on 21M3 feeder	2	Loss of Supply	Hydro - Permanent fault	349	1.0	337.5
March 11/15	Collin & Bosnick	1	Scheduled Outage	To replace pole on South side of tracks on Collin road	8	1.5	12.0
March 31/15	Tremblay & Fontaine streets	5	Defective equipment	Broken switch	19	0.5	9.5
April 06/15	1568 Hwy 11 West	5	Defective equipment	1-phase of a 3-phase system was out. Replace switch	1	1.0	1.0
April 13/15	208 Hwy 11 East	5	Defective equipment	1-phase broken in ground (1/2 power)	3	1.0	3.0
April 28/15	30 Collin Road	9	Foreign Interference	Crow	1	8.3	8.3
May 03/15	All	2	Loss of Supply	Main line FIE	2771	0.3	775.9
May 12/15	Tremblay street	9	Foreign Interference	Crow	46	0.5	23.0
May 20/15	Wyborn - Hwy 11 West	2	Loss of Supply	Hydro 1 cut out switch failed (field phase) switch #603	147	2.75	404.25
May 23/15	901 Halle Street	3	Tree Contact	Tree branch on triplex	3	6.1	18.3
May 24/15	2 Fontaine Drive	1	Scheduled Outage	Scheduled outage for pole replacement	330	4.0	1320.0
" "	" "	" "	Scheduled Outage	" "	4	5.5	22.0
May 27/15	All	2	Loss of Supply	Main 115kV line FIE tripped	2771	0.2	554.2
June 02/15	6th Street	1	Scheduled Outage	Pole replacement	6	1.2	7.3
June 03/15	6th Street	1	Scheduled Outage	Pole replacement	6	1.9	11.1
June 03/15	2 Girard Drive	9	Foreign Interference	Squirrel	1	10.9	10.9

Date	Location	Code	Description	Cause	Customer Interrup. No. Customers affected	Duration (Hours)	Customer Hours
June 07/15	73, 7th Street	5	Defective equipment	Broken fuse	9	1.7	15.4
June 12/15	Collin - Bosnick Rd	1	Scheduled Outage	Pole replacement	8	2.3	18.4
June 14/15	Cloutier Rd. North	1	Scheduled Outage	Pole replacement	27	4.8	130.0
June 14/15	McNee & Cloutier Rd. South	1	Scheduled Outage	Pole replacement	35	0.9	29.8
June 20/15	332 Tremblay Street	9	Foreign Interference	Crow	16	0.8	12.3
June 21/15	41 Gaspesie Road	9	Foreign Interference	Crow	2	4.3	8.6
June 25/15	1808 Hwy 11 West	1	Scheduled Outage	Transformer replacement	4	2.0	7.9
June 26/15	177 McNee Street	1	Scheduled Outage	Transformer replacement	1	2.0	2.0
June 29/15	149 McNeed Street	1	Scheduled Outage	Transformer replacement	2	1.9	3.9
June 30/15	8 Riverside Drive	1	Scheduled Outage	Transformer replacement	27	1.6	43.7
July 11/15	141 Gaspesie Road	5	Defective equipment	Defective transformer	2	8.7	17.3
July 17-18/15	All customers	2	Loss of Supply	115 KV Line F1E fault	2771	26.9	74539.9
July 22/15	Boucher, McManus & Houle	1	Scheduled Outage	Replace transformer base at 65 McManus Street	81	3.0	245.7
July 26/15	All customers	2	Loss of Supply	Hydro One planned outage	2771	5.8	16154.9
July 27/15	10 Cloutier Rd South	5	Defective equipment	Burnt transformer	4	11.1	44.2
July 29/15	9th Street	1	Scheduled Outage	Pole replacement	9	2.0	17.6
August 1/15	1222 Alexandra St.	5	Defective equipment	Cracked cutout switch	7	0.3	1.8
August 1/15	54 Morin Rd.	9	Foreign Interference	Owl	3	11.2	33.7
August 7/15	916 Alexandra Street	1	Scheduled Outage	Replace arrestors, switches, etc	1	0.8	0.8
August 7/15	908 Alexandra Street	1	Scheduled Outage	Replace arrestors, switches, etc	4	0.5	2.1
August 10/15	1220 Edward Street	1	Scheduled Outage	Replace arrestors, switches, etc	6	0.7	4.0
August 10/15	10th Street	1	Scheduled Outage	Replace arrestors, switches, etc	4	1.0	4.0
August 23/15	5 Vandette Street	1	Scheduled Outage	Pole replacement	6	3.8	22.8
August 23/15	5 Vandette Street	1	Scheduled Outage	Pole replacement	5	4.1	20.3
August 27/15	10th Street	1	Scheduled Outage	Pole replacement	1	2.7	2.7
August 28/15	1036 Edward Street	1	Scheduled Outage	Replaced 3 fuse switches	1	0.7	0.7
August 28/15	30- 9th Street	1	Scheduled Outage	Replaced 3 fuse switches	1	0.3	0.3
Sept 03/15	817 Prince Street	9	Foreign Interference	Blown fuse	16	1.1	17.3
Sept 09/15	64 MacManus Street	1	Scheduled Outage	Replaced transformer base	81	3.5	283.5
Sept 09/15	1314 Prince Street	9	Foreign Interference	Crow	1	0.3	0.3
Sept 13/15	9th Street	1	Scheduled Outage	Pole replacement	257	4.9	1254.2
Sept 14/15	Hwy 583 North	9	Foreign Interference	Crow	2	40.5	81.1

Date	Location	Code	Description	Cause	Customer Interrup. No. Customers affected	Duration (Hours)	Customer Hours
Sept 17/15	1015 Edward Street	1	Scheduled Outage	Replaced 3 switches & lightning arrestors	1	1.0	1.0
Sept 21/15	Hwy 583 North	9	Foreign Interference	Crow	2	19.8	39.7
Sept 21/15	9 Place Lambert	9	Foreign Interference	Wire was cut because of improper backfill	1	27.5	27.5
Sept 23/15	Gaspesie Road	1	Scheduled Outage	Pole replacement	3	2.8	8.4
Sept 23/15	403 Tremblay Street	9	Foreign Interference	Wire by excavator	2	0.5	0.9
October 11/15	511 Edward Street	9	Foreign Interference	Bird	10	0.9	8.8
October 14/15	3rd Street	1	Scheduled Outage	Pole replacement	2	1.0	1.9
October 15/15	3rd Street	1	Scheduled Outage	Pole & Tx replacement	2	2.1	4.2
October 19/15	708 Prince Street	9	Foreign Interference	Squirrel	29	0.5	13.1
October 23/15	17 Collin Road	1	Scheduled Outage	Pole replacement	1	2.1	2.1
Nov 4/15	15 Gaspesie Road	5	Defective equipment	Shorted transformer	1	1.3	1.3
Nov 4/15	14 Gaspesie Road	5	Defective equipment	Shorted transformer	2	4.5	8.9
Nov 8/15	All customers	2	Loss of Supply	Planned outage from H1	2768	8.6	23666.4
Nov 26/15	500 Hwy 11	0	Unknown	Blown fuse, no apparent cause	1	1.0	1.0
Dec. 16/15	40- 15th Street	5	Defective equipment	Blown elbow in transformer	43	1.2	51.6
Dec. 17/15	807 Front Street	5	Defective equipment	Switch & arrestor leaking	10	0.3	3.2
Dec. 24/15	1565 Hwy 11 West (part M2)	9	Foreign Interference	Pole was hit by a truck	663	2.2	1436.5
Dec. 31/15	Piper Street	0	Unknown	2 Blown fuses with no apparent reason	14	1.1	15.9
					19068	**290.6**	**124629**

Table 2: Outage Detail 2016

Date	Location	Code	Description	Cause	Customer Interrup. No. Customers affected	Duration (Hours)	Customer Hours
					A	B	A x B
January 11/16	3, 15th Street	9	Foreign Interference	Broken pole - hit by a truck	16	5.7166	91.47
January 11/16	1435 Front Street	9	Foreign Interference	Broken pole - hit by a truck	647	2.3	1488.10
January 12/16	1435 Front Street	5	Defective equipment	Burnt connector on triplex	1	19.35	19.35
January 26/16	1007 Edward Street	9	Foreign Interference	Broken pole - hit by a loader	392	1.73333	679.47
January 26/16	1007 Edward Street	9	Foreign Interference	Broken pole - hit by a loader	3	5.1	15.30
March 09/16	900 Front Street	6	Adverse Weather	Rain & ice	15	7.9	118.50
March 09/16	8 Fifteenth Street	6	Adverse Weather	Rain & ice	2	1.066	2.13
March 21/16	411 George Street	7	Adverse Environment	Top of pole broke off due to current leakage	24	1.43	34.32
March 22/16	67 Fontaine Drive	9	Foreign Interference	Heavy equipment broke primay & neutral	7	1.8	12.60
March 26/16	1645 Hwy 11	0	Unknown	No apparent cause	2	2.88	5.76
April 01/16	1200 Front Street	5	Defective equipment	Broken wedge grip on 4-plex. Wire then hit by truck, damaging connections to TX.	1	7	7.00
April 04/16	37 Gaspésie Road	0	Unknown	Unknown	3	4.96	14.88
May 1, 2016	1317 Alexandra	9	Foreign Interference	Blown fuse due to squirrel	11	0.53333	5.87
May 8, 2016	Hwy 11 East (OCWA lift station)	1	Scheduled Outage	Hydro pole replacement	1	5.316	5.32
May 8, 2016	Hwy 583 North	1	Scheduled Outage	Hydro pole replacement	6	2.366	14.20
May 10, 2016	31, 9th Street	7		Broken underground wires	1	3.12	3.12
May 11, 2016	15 Gasepesie Road	1	Scheduled Outage	Hydro pole replacement	3	2.716	8.15
May 12, 2016	149 McNee Street	9	Foreign Interference	Crow	2	2.3	4.60
May 18, 2016	530 Hwy 11 East	1	Scheduled Outage	Pole replacement	1	0.9	0.90
May 18, 2016	125 McNee Street	9	Foreign Interference	Vandalism	1	141.73	141.73
May 22, 2016	209 Hwy 583 N.	9	Foreign Interference	Crow	2	39.48	78.96
May 23, 2016	All of 21M1 feeder	2	Loss of Supply	Pole on fire in Val Côté	424	2.63333	1116.53
May 24, 2016	136 Hwy 583 South	0	Unknown	Unknown	3	3.5	10.50

Date	Location	Code	Description	Cause	Customer Interrup. No. Customers affected	Duration (Hours)	Customer Hours
May 25, 2016	1917 Hwy 11 West	5	Defective equipment	Broken switch	1	4.07	4.07
May 26, 2016	1713 Hwy 11 West	9	Foreign Interference	U/G wires were cut by contractor	1	0.65	0.65
May 29, 2016	500 Tremblay Street	1	Scheduled Outage	Pole replacement	289	1	289.00
May 29, 2016	500 Tremblay Street	1	Scheduled Outage	Pole replacement	66	4.7666	314.60
May 30, 2016	50 Eighth Street	1	Scheduled Outage	NorthernTel replaced a 35ft pole & we had a triplex to change-over to new pole	4	0.5333	2.13
May 31, 2016	Cloutier Rd. South	1	Scheduled Outage	Pole replacement	8	2.36666	18.93
May 31, 2016	500 Tremblay Street	1	Scheduled Outage	Pole change over & install LB switch	1	1.25	1.25
June 2, 2016	14 Gaspesie Road	9	Foreign Interference	Blown fuses caused by crow	3	2.033	6.10
June 2, 2016	136 Hwy 583 S.	9	Foreign Interference	Blown fuses caused by crow	3	5.083	15.25
June 3, 2016	631 George Street	1	Scheduled Outage	Upgrade triplex wire from #4 to #2	1	0.32	0.32
June 4, 2016	Collin & Bosnick Road	9	Foreign Interference	Blown fuses caused by squirrel	8	1	8.00
June 8, 2016	Fontaine Drive (Tembec scale)	9	Foreign Interference	Blown fuse caused by crow	1	2.833	2.83
June 9, 2016	Begin, Gaspesie Rd. & lagoon	1	Scheduled Outage	Pole replacement	10	4.25	42.50
June 9, 2016	1773 Hwy 11 W.	5	Defective equipment	Burnt connectors on triplex	2	0.53	1.06
June 10, 2016	205 Hwy 583 N.	9	Foreign Interference	Blown fuse caused by crow	2	0.43	0.86
June 14, 2016	Rousse Street	0	Unknown	Broken switch	9	0.9166	8.25
June 14, 2016	Part of 21M3	0	Unknown	Broken switch	346	0.11666	40.36
June 14, 2016	1007 Edward Street	5	Defective equipment	Blown transformer	1	17.93	17.93
June 16, 2016	Airport	1	Scheduled Outage	Maintenance (splice u/g for solar)	6	0.1833	1.10
June 20, 2016	2 Airport Rd.	5	Defective equipment	Broken wire on red phase at primary u/g ded-end	6	3.133	18.80
July 4, 2016	1852 Hwy 11 W.	9	Foreign Interference	Triplex was hit by a truck	1	2.22	2.22
July 6, 2016	106 Cloutier Rd. N.	9	Foreign Interference	Bird	1	10.5	10.50
July 7, 2016	20 Blais Rd.	9	Foreign Interference	Crow	1	12.67	12.67
July 10, 2016	Tremblay, Quirion & Picard St.	5	Defective equipment	Blown elbow in padmount transformer	73	0.2	14.60
July 10, 2016	Chalykoff St.	5	Defective equipment	Blown elbow in padmount transformer	16	3.283	52.53

Date	Location	Code	Description	Cause	Customer Interrup. No. Customers affected	Duration (Hours)	Customer Hours
July 10, 2016	Tremblay & Quirion St.	5	Defective equipment	Blown elbow in padmount transformer	34	1.556	52.90
July 13, 2016	1008 Edward St.	1	Scheduled Outage	Primary change over - damaged pole	3	6.716	20.15
July 17, 2016	45 Houle St.	0	Unknown	Blown fuse	2	5.58	11.16
July 20, 2016	411 George St.	1	Scheduled Outage	Pole replacement	21	2.5	52.50
July 25, 2016	15th, Houle, Powell & Aubin	1	Scheduled Outage	Leaking termination on primary wire	43	1.3667	58.77
August 1, 2016	186 McNee	9	Foreign Interference	Crow	1	29.4	29.40
August 2, 2016	205 Hwy 583 N.	0	Unknown	Unknown	2	28.87	57.74
August 4, 2016	Gaspesie Rd, Hwy 583S, Cemetary Ln.	4	Lightning	Lightning	13	1.6	20.80
August 4, 2016	213 & 217 Hwy 583S.	4	Lightning	Lightning	2	2.3	4.60
August 8, 2016	96 Fontaine Dr.	9	Foreign Interference	Crow	7	1.7828	12.48
August 14, 2016	512 Alexandra St.	9	Foreign Interference	Crow	6	4.26	25.56
August 15, 2016	12 Bégin Rd.	9	Foreign Interference	Crow	3	5.7	17.10
August 16, 2016	15 Wyborn St.	9	Foreign Interference	Crow	10	0.3666	3.67
August 21, 2016	All of 21M1 feeder	2	Loss of Supply	Defective equipment (H1 equipment)	417	1.8666	778.37
August 22, 2016	254 Hwy 583 S.	9	Foreign Interference	Bird	3	0.9166	2.75
August 25, 2016	1 Rousse Street	1	Scheduled Outage	Pole replacement	2	2.6666	5.33
Sept 1, 2016	Boucher, Houle & McManus St.	1	Scheduled Outage	Change transformer base	90	3.2	288.00
Sept 6, 2016	10 Fontaine Drive	5	Defective equipment	Burnt crossarm	355	1.01667	360.92
Sept 13, 2016	28, Fifth Street	5	Defective equipment	Broken lightning arrestor	9	0.95	8.55
Sept 13, 2016	Corner Front & Hwy 11	1	Scheduled Outage	Broken lightning arrestor	1	0.3	0.30
Sept 13, 2016	Edward, Alexandra, Prince, Fifth	5	Defective equipment	Broken lightning arrestor	192	0.3666	70.39
Sept14, 2016	Fontaine Drive	1	Scheduled Outage	Pole & crossarm change over	7	1.73333	12.13
Sept 16, 2016	Chalykoff Street	5	Defective equipment	Blown elbow in padmount transformer	16	2.2333	35.73
Sept21, 2016	Part of West, Houle, 15th, MacManus	1	Scheduled Outage	Padmount transformer leaking oil	159	1.7833	283.54
Sept 25, 2016	Part of Edward, Alexandra & Prince	1	Scheduled Outage	Pole replacement	108	4.5166	487.79

Date	Location	Code	Description	Cause	Customer Interrup. No. Customers affected	Duration (Hours)	Customer Hours
Sept 25, 2016	Part of Edward, Alexandra & Prince	1	Scheduled Outage	Pole replacement	259	0.716666	185.62
Sept 26, 2016	George Street (from 6th to 10th St.)	9	Foreign Interference	Broken pole caused by vehicle collision	56	2.03333	113.87
Sept 26, 2016	609 George Street	9	Foreign Interference	Broken pole caused by vehicle collision	9	3.1666	28.50
Sept 26, 2016	Seventh Street	9	Foreign Interference	Broken fuse	10	2.266	22.66
Sept 28, 2016	Edward Street (Daycare)	1	Scheduled Outage	Secondary change over	8	1.4833	11.87
Sept 29, 2016	1015 Edward Street	1	Scheduled Outage	Transfer primary u/g wire to new pole & remove old pole	1	4.67	4.67
October 3, 2016	205 Hwy 583 N.	9	Foreign Interference	Crow	2	43.65	87.30
October 4, 2016	1007 Edward St.	1	Scheduled Outage	Transformer change over to new pole	1	1.833	1.83
October 5, 2016	1009 Edward St.	1	Scheduled Outage	Extend secondary wires to transformer	1	1.03	1.03
Oct 19, 2016	1007 Edward St.	1	Scheduled Outage	Transformer & u/g wire change over to new pole	1	5.88	5.88
Oct 24, 2016	Cecile Trailer Park	1	Scheduled Outage	Broken tie on insulator on primary wire	31	0.13333	4.13
Oct 31, 2016	Kitchener St. - between 6th & 7th	1	Scheduled Outage	Lead on transformer heating up	14	0.4833	6.77
Nov 16, 2016	1849 Hwy 11 West	1	Scheduled Outage	Loose connections at transformer	4	1.1333	4.53
Nov 18, 2016	1425 Front Street	9	Foreign Interference	Blown fuse on transformer	18	0.6	10.80
Nov 19, 2016	Bosnick & Collin Rd.	3	Tree Contact	Freezing rain, trees on power lines	5	0.6333	3.17
Nov 22, 2016	Begin Road	3	Tree Contact	Trees touching power lines	6	1.3	7.80
Dec 14, 2016	All 21M1 feeder	2	Loss of Supply	Truck hit Hydro One pole	430	2.56666	1103.66
					4790	**535.23**	**9070**

Table 3: Outage Detail 2017

Date	Location	Code	Description	Cause	Customer Interrup. No. Customers affected	Duration (Hours)	Customer Hours
					A	B	A x B
Jan 26, 2017	3 Airport Rd.	1	Scheduled Outage	Pole replacement	6	3.02	18.12
Feb 16, 2017	1425 Front St.	8	Human Element	Logging truck hit fiber optic wire & broke pole	15	3.25	48.75
" "	" "	" "	Human Element	" "	639	1.6667	1065
March 7, 2017	205 Hwy 583 N.	6	Adverse Weather	Broken switch	2	2.83	5.66
March 7, 2017	1330 Front St.	6	Adverse Weather	Broken switch	2	0.85	1.7
March 18, 2017	10, Ninth St.	9	Foreign Interference	Crow	13	0.6	7.8
March 22/17	All 3 feeders	2	Loss of Supply	Loss of supply from Hydro One - F1E transmission line out	2763	0.433	1196.379
March 29/17	910 Prince St.	9	Foreign Interference	Crow	1	0.5	0.5
April 2/17	66 Samson Rd.	9	Foreign Interference	Crow	1	9.2	9.2
April 17/17	218 Hwy 11 East	5	Defective equipment	Center phase lead on HV broken	1	0.86	0.86
April 19/17	1899 Hwy 11 West	5	Defective equipment	Broken switch	2	12	24
April 24, 2017	1589 Hwy 11 W	9	Foreign Interference	Crow	1	0.83	0.83
April 25, 2017	Tenth Street	1	Scheduled Outage	Pole replacement	1	2.48	2.48
April 25, 2017	1020 Front St	1	Scheduled Outage	Pole replacement	1	2.33	2.33
May 2, 2017	705 Front Street	0	Unknown	2 broken poles	1737	1.11666	1939.6
May 2, 2017	900 Front Street	0	Unknown	2 broken poles (same as above)	18	5.9	106.2
May 2, 2017	705 Front Street	0	Unknown	2 broken poles (same as above)	4	8.25	33
May 2, 2017	720 Georges St	0	Unknown	2 broken poles (same as above)	1	16.25	16.25
May 2, 2017	715 Front Street	0	Unknown	2 broken poles (same as above)	1	23.93	23.93
May 8, 2017	1 Roy Road	1	Scheduled Outage	Pole replacement	1	2.83	2.83
May 14, 2017	314 Georges St	1	Scheduled Outage	Pole replacement	168	1.4166	238
May 14, 2017	533 Tremblay St	1	Scheduled Outage	Pole replacement (same outage)	165	2.5	412.5
May 14, 2017	622 Tremblay St	1	Scheduled Outage	Pole replacement (same outage)	20	3	60
May 17, 2017	42 Cloutier N	1	Scheduled Outage	Pole & transformer replacement	3	2.583	7.75
June 1, 2017	Collin & Bosnick Rd	1	Scheduled Outage	Pole replacement	5	2.8333	14.16
June 1, 2017	17 Collin Road	1	Scheduled Outage	Pole replacement	2	1.1	2.2

Date	Location	Code	Description	Cause	Customer Interrup. No. Customers affected	Duration (Hours)	Customer Hours
June 6, 2017	84 Riverside Drive	1	Scheduled Outage	Pole replacement	1	3.52	3.52
June 10, 2017	807 Front Street	5	Defective equipment	Broken hot line clamp	10	4.87	48.7
June 10, 2017	Blais Road	5	Defective equipment	Broken tie wire & insulator	10	1.58	15.8
June 11, 2017	Bosnick Road	3	Tree Contact	Trees on line	1	17.38	17.38
June 11, 2017	Labelle & McNee Street	0	Unknown	3 blown fuses	57	1.33	75.81
June 11, 2017	Front Street	1	Scheduled Outage	Pole replacement	47	4.87	228.89
June 13, 2017	1768 Hwy 11 West	9	Foreign Interference	Bird (blow fuse)	1	10.87	10.87
June 13, 2017	609 Alexandra St	1	Scheduled Outage	NorthernTel pole replacement	7	3.03	21.21
June 14, 2017	823 Prince Street	1	Scheduled Outage	NorthernTel pole replacement	10	2.17	21.7
June 15, 2017	630 Veilleux Street	5	Defective equipment	Burnt lead & transformer repl.	10	1.87	18.7
June 19, 2017	Ninth Street (University)	5	Defective equipment	Blown transformer on 3 Ph bank	2	9.58	19.16
June 21, 2017	Gilles Street (LTP)	1	Scheduled Outage	Changed transformer base	29	4.45	129.05
June 27, 2017	Gilles Street (LTP)	1	Scheduled Outage	Transformer base	30	4.366	131
June 27, 2017	86 Fontaine Drive	0	Unknown		1	1.33	1.33
July 6, 2017	1124 Edward Street	1	Scheduled Outage	Pole relocation & transfer wires	5	1.6333	8.166
July 6, 2017	1124 Edward Street	1	Scheduled Outage	Pole relocation & transfer wires on new pole (same outage)	1	2.45	2.45
July 6, 2017	1120 Edward Street	1	Scheduled Outage	Pole relocation & transfer wires on new pole (same outage)	1	3.63	3.63
July 16, 2017	All customers	2	Loss of Supply	Hydro One planned outage	2763	6.45	17821.35
July 18, 2017	209 Hwy 583 N.	9	Foreign Interference	Crow	3	6.27	18.8
July 18, 2017	1845 Hwy 11 West	4		Lightning on triplex	5	2.65	13.25
July 24, 2017	1825 Hwy 11 West	9	Foreign Interference	Crow	2	1.48	2.96
July 26, 2017	170 Mcnee Street	4		Lightning hit on transformer	1	10.22	10.22
July 26, 2017	1897 & 1899 Hwy 11 West	9	Foreign Interference	Crow	2	2.316	4.63
July 26, 2017	Hwy 11, West of Labelle St	2	Loss of Supply	Hydro One outage	261	0.87	227.07
August 2, 2017	Edward Street	1	Scheduled Outage	Pole replacement	2	3.16	6.3
August 6, 2017	Labelle, Algoma & Wyborn	9	Foreign Interference	Crow	46	0.9	41.4

Date	Location	Code	Description	Cause	Customer Interrup. No. Customers affected	Duration (Hours)	Customer Hours
August 10, 2017	1635 West Street	1	Scheduled Outage	Transformer maintenance	5	0.466	2.33
August 10, 2017	All 3 feeders	2	Loss of Supply	Loss of supply from Hydro One	2763	2.1	5802.3
August 16, 2017	Rose Street (H.T.P.)	1	Scheduled Outage	Maintenance in padmount transformer	27	0.466	12.6
August 20, 2017	205 Hwy 583 N.	9	Foreign Interference	Crow	3	17.333	52
August 27, 2017	21M2 feeder	1	Scheduled Outage	Pole replacement	1099	5.883	6465.417
Sept 5, 2017	214 Hwy 11 East	5	Defective equipment	Blown transformer	1	40.85	40.85
Sept 7, 2017	415 Georges Street	1	Scheduled Outage	Pole replacement	4	2.5333	10.133
Sept 7, 2017	416 Georges Street	1	Scheduled Outage	Pole replacement (same outage)	3	2.93	8.8
Sept 15, 2017	Alexandra Street - From 5th to 9th St	5	Defective equipment	Burnt stirrup clamp & hot line clamp & switch	108	0.3166	34.2
Sept 25, 2017	Edward St	1	Scheduled Outage	Pole replacement	471	0.78333	368.95
Oct 17, 2017	1540 West St. & Pearson Drive	8	Human Element	Villeneuve Const. hit u/g wire	10	0.316	3.16
Oct 23, 2017	1414 Alexandra Street	9	Foreign Interference	Crow	13	0.566	7.36
Dec 9, 2017	631 Front & section of George St.	9	Foreign Interference	Crow	21	1.1167	23.45
					13437	**302.26**	**36997**

Table 4: Outage Detail 2018

Date	Location	Code	Description	Cause	Customer Interrup. No. Customers affected	Duration (Hours)	Customer Hours
					A	B	A x B
January 15, 2018	278 Hwy 583 South	8	Human Element	Truck hit triplex & broke bushings on transformer	3	10.65	31.95
January 20, 2018	Bosnick & Collin Rd	5	Defective equipment	Broken switch	4	7.333	29.332
January 24, 2018	Jolin Street	9	Foreign Interference	Blown fuse	7	0.7	4.9
February 2, 2018	620 Alexandra St.	1	Scheduled Outage	Bushing on tx was heating up	25	0.183	4.575
March 29, 2018	30 and 33 Proulx Rd	5	Defective equipment	Broken switch	2	2.1	4.2
April 12, 2018	Luc & Denis St	9	Foreign Interference	Burnt fuses (squirrel)	35	0.6	21
April 16, 2018	120 Gaspesie Road	9	Foreign Interference	Crow (CX gone on vacation & called us 3 days later)	1	79.683	79.683
April 17, 2018	711 Georges Street	7	Adverse Environment	Pole on fire	90	1.6	144
April 18, 2018	21 Bosnick Road	1	Scheduled Outage	Pole change over	1	2.75	2.75
May 4, 2018	All of M1 feeder	5	Defective equipment	Broken insulators and neutral	421	1.966	827.686
May 6, 2018	New house - Edward St	1	Scheduled Outage	Planned pole change over	337	0.65	219.05
May 6, 2018	12th St, part of George, Alexandra & Edward St	1	Scheduled Outage	Planned pole change over	138	3.7	510.6
May 6, 2018	10 - 12th Street	1	Scheduled Outage	Planned pole change over	1	4.366	4.366
April 24, 2018	Part of Houle, Aubin, 15th and Power St	5	Defective equipment	Transformer leaking oil	52	1.4333	74.5316
May 12, 2018	Barrette & Bergeron St	5	Defective equipment	Switch on fire	12	0.716	8.592
May 13, 2018	Louisbourg	1	Scheduled Outage	Pole change over	242	6.2666	1516.5172
May 19, 2018	Labelle and McNee St	5	Defective equipment	Brkn switch and lightning arrestor	16	1.0666	17.0656
May 23, 2018	George St	1	Scheduled Outage	Pole change over	20	0.75	15
May 25, 2018	Blais Rd	4	Lightning	Blown fuse	10	0.8333	8.333
May 26, 2018	86 Blais Rd	5	Defective equipment	Broken switch	10	2.1833	21.833
May 31, 2018	1320 Edward St	5	Defective equipment	Blown transformer	6	1.983	11.898
June 4, 2018	St-Pie-X, West Fontaine Dr, Veilleux St	8	Human Element	Tembec crane hit primary wires	351	0.5333	187.1883
June 5, 2018	All of 21M2	5	Defective equipment	Broken switch	1080	1.15	1242

Date	Location	Code	Description	Cause	Customer Interrup. No. Customers affected	Duration (Hours)	Customer Hours
June 7, 2018	520 Front St	1	Scheduled Outage	Pole change over	1	1.1166	1.1166
June 15, 2018	332 Tremblay St	9	Foreign Interference	Crow	16	1.25	20
June 17, 2018	512 Boulley St	9	Foreign Interference	Blown fuse	2	9.0166	18.0332
June 21, 2018	1414 Alexandra St	1	Scheduled Outage	Pole change over	5	5.1166	25.583
Jun 23, 2018	500 Hwy 11 E	5	Defective equipment	Broken switch	1	1.0833	1.0833
June 23, 2018	201 Hwy 11 E	0	Unknown	Blown fuse	3	1.4166	4.2498
July 5, 2018	Maisonneuve	5	Defective equipment	Blown elbow in padmount TX	152	1.25	190
July 6, 2018	Allen St	9	Foreign Interference	Crow	15	1.0166	15.249
July 16, 2018	All of 21M3 feeder	2	Loss of Supply	Unknown (Hydro One)	394	1.4166	558.1404
July 13, 2018	Edward, Prince, 6th,5th,7th St	4	Lightning	Lightning blew a main fuse	200	0.6666	133.32
July 25, 2018	Bosnick and Collin Rd	1	Scheduled Outage	Transformer change	4	0.4666	1.8664
July 27, 2018	3rd and Prince St	1	Scheduled Outage	Pole change over	5	3.4333	17.1665
July 27, 2018	Fontaine Dr	5	Defective equipment	Broken lightning arrestor	7	0.8833	6.1831
August 8, 2018	2 Hwy 1 East	1	Scheduled Outage	Change transformer on new pole , install by Hydro One	1	1.2333	1.2333
August 8, 2018	Alary Dr & Despres Rd	1	Scheduled Outage	Connect primary wire to system	2	0.65	1.3
August 9, 2018	14 Hwy 11 East	1	Scheduled Outage	Transformer transfer onto new pole install by H1	1	1.8333	1.8333
August 15, 2018	831 George St (CIBC)	9	Foreign Interference	Blown fuse (crow)	1	2.8333	2.8333
August 23, 2018	45 Hwy 11 East	1	Scheduled Outage	Transformer change over	2	2.4166	4.8332
September 4, 2018	68 Hwy 11 East	1	Scheduled Outage	Transformer and U/G wires change over new H1 pole	3	2.4333	7.2999
September 5, 2018	78 Hwy 11 East	1	Scheduled Outage	Transformer change over to new H1 pole	1	1.71666	1.71666
September 7, 2018	Bosnick, Collin, Lafond & Despres Rd	1	Scheduled Outage	Cross arm change over, due to new H1 pole	22	2.01	44.22
Sept 13, 2018	66 Hwy 11 East	1	Scheduled Outage	Transfer steel cross arm	1	1.6166	1.6166
Sept 16, 2018	201 Hwy 11 E	9	Foreign Interference	Crow	3	0.8	2.4
Sept 18, 2018	208 Hwy 11 E	1	Scheduled Outage	Transfer transformer & U/G wires	2	1.1833	2.3666
Sept 20, 2018	82 Hwy 11 E	1	Scheduled Outage	Transfer transformer & sec. wires	1	1.075	1.075
Sept 19, 2018	210 Hwy 11 E	1	Scheduled Outage	Transfer transformer & U/G wires	7	2.3	16.1

Date	Location	Code	Description	Cause	Customer Interrup. No. Customers affected	Duration (Hours)	Customer Hours
Sept 23, 2018	1 Blais Rd	5	Defective equipment	Broken lightning arrestor	1	1.0666	1.0666
Sept 25, 2018	Powell St	1	Scheduled Outage	Change padmount transformer	42	0.95	39.9
Sept 25, 2018	201 Hwy 11 E	1	Scheduled Outage	Crossarm & wires change over to new pole	3	1.6166	4.8498
Sept 26, 2018	204 Hwy 11 E	1	Scheduled Outage	U/G wire change over to new pole	1	1.3833	1.3833
Sept 27, 2018	1204 Alexandra St	1	Scheduled Outage	Disconnect for service entrance upgrade/relocation	1	4.7166	4.7166
Sept 28, 2018	904 Halle	1	Scheduled Outage	Re-screw meter socket to house	1	0.2666	0.2666
Oct 1, 2018	40 - 15th St	5	Defective equipment	Water in load break elbow and bushing well insert caused tracking to ground	25	1.9833	49.5825
Oct 4, 2018	Bergeron St	1	Scheduled Outage	Hydro One pole change over	10	0.8833	8.833
Oct 5, 2018	Hwy 11 West	0	Unknown	Unknow (blown fuse)	1	34.21466	34.21466
Oct 9, 2018	209 Hwy 583 North	9	Foreign Interference	Crow	3	47.6666	142.9998
Oct 18, 2018	521 Veilleux St	1	Scheduled Outage	Pole change over	14	0.6	8.4
Oct 19, 2018	All of Town	2	Loss of Supply	Loss of Supply	2768	1.2	3321.6
Oct 20, 2018	All of 21M2	5	Defective equipment	Broken switch & stirrup fail	1132	1.0166	1150.7912
Oct 24, 2018	209 Hwy 583 N	9	Foreign Interference	Crow	3	3.8166	11.4498
Oct 24, 2018	Veilleux and Mailloux St	1	Scheduled Outage	Pole Change over	16	0.8833	14.1328
Oct 24, 2018	Veilleux St	1	Scheduled Outage	Pole change over	14	3.0833	43.1662
Nov 7, 2018	521 Veilleux St	1	Scheduled Outage	Pole and transformer change over	14	1.1333	15.8662
Nov 9, 2018	521 Veilleux St	1	Scheduled Outage	Secondary change over	5	1.9833	9.9165
Nov 8, 2018	521 Veilleux St	1	Scheduled Outage	Secondary change over	4	1.95	7.8
Nov 12, 2018	512 Veillexu St	1	Scheduled Outage	Secondary wires change over to new pole	5	1.6	8
Nov 13, 2018	All 3 feeders	2	Loss of Supply	Problems with main line	2768	0.5	1384
Nov 18, 2018	Barrette St	9	Foreign Interference	Blown fuse (crow)	10	0.7333	7.333
Nov 29, 2018	All of M3 & part of M2	1	Scheduled Outage	Reboot meters	1155	0.2833	327.2115
Dec 2, 2018	Place Charbonneau	1	Scheduled Outage	Open transformer to discon. 1 CX	15	0.1	1.5
Dec 31, 2018	603 Kitchener Street	1	Scheduled Outage	Change current transformer	1	0.35	0.35
					11728	**297.41**	**12667**

Table 5: Outage Detail 2019

Date	Location	Code	Description	Cause	Customer Interrup. No. Customers affected	Duration (Hours)	Customer Hours
					A	B	A x B
9 January 2019	205 Hwy 583 N	9	Foreign Interference	Blown fuse (crow)	3	0.43	1.30
19 January 2019	817 Prince St	9	Foreign Interference	Blown fuse	16	0.95	15.20
9 February 2019	35 - 9th St	9	Foreign Interference	Meters hit by loader from Morin Construction	19	0.18	3.48
15 March 2019	M1 feeder	2	Loss of Supply	Raining/Ice storm	423	2.37	1000.82
23 April 2019	13 Cloutier Rd N	5	Defective equipment	Broken switch	1	0.30	0.30
24 April 2019	All of M1 feeder	5	Defective equipment	Broken switch	427	0.63	270.42
5 May 2019	Front St & 9th St	1	Scheduled Outage	Pole change over	939	4.17	3912.44
12 May 2019	Front St: 7th - 9th St	1	Scheduled Outage	Pole change over	42	5.12	214.90
14 May 2019	Tricept Mill	5	Defective equipment	Pole on fire at Tricept Mill	15	0.85	12.75
1 June 2019	Hwy 11 East	5	Defective equipment	Broken switch	2	0.82	1.63
4 June 2019	Stolz, Trahan St (Lecours Trl Park)	1	Scheduled Outage	Pole change over	25	4.08	102.08
4 June 2019	120 Gaspesie Rd	9	Foreign Interference	Blown fuse (squirrel)	1	9.13	9.13
11 June 2019	1501 Hwy 11 West	9	Foreign Interference	Transformer was hit by truck	2	2.03	4.07
17 June 2019	Gaspesie Road	1	Scheduled Outage	Cross arm and insulators change	14	2.03	28.47
17 June 2019	Fifteenth St	9	Foreign Interference	Broken underground wire	10	0.85	8.50
27 June 2019	Hwy 11 East and Blanchard St	1	Scheduled Outage	Pole change over	18	2.07	37.20
25 June 2019	All of M2 feeder	2	Loss of Supply	Cut neutral, primary on crossarm (H1)	2016	1.67	3374.00
25 June 2019	Hwy 11 West	2	Loss of Supply	Cut neutral, primary on crossarm (H1 - same outage)	261	6.58	1718.24
28 June 2019	503 Veilleux St	1	Scheduled Outage	Splice U/G secondary onto new pole	2	0.82	1.63
3 July 2019	213 McNee St	1	Scheduled Outage	Pole and transformer change over	1	2.78	2.78
4 July 2019	213 Fontaine Dr	1	Scheduled Outage	Change 50 KVA transformer	1	1.07	1.07
7 July 2019	39 - 12th St	2	Loss of Supply	Hydro One scheduled outage	1	8.50	8.50
7 July 2019	1200 Edward st	2	Loss of Supply	Hydro One scheduled outage	1	8.02	8.02
7 July 2019	All over town	2	Loss of Supply	Hydro One scheduled outage	2003	4.42	8846.45

Date	Location	Code	Description	Cause	Customer Interrup. No. Customers affected	Duration (Hours)	Customer Hours
7 July 2019	All over town	2	Loss of Supply	Hydro One scheduled outage	763	6.83	5213.81
10 July 2019	Fontaine Dr (Fern Girard Constr)	5	Defective equipment	Broken underground wire	6	1.63	9.80
16 July 2019	45 Labelle St	1	Scheduled Outage	Pole change over	1	1.58	1.58
17 July 2019	14 Place Lambert	1	Scheduled Outage	Broken U/G wire	1	0.68	0.68
23 July 2019	Allen St	1	Scheduled Outage	Replace pole	10	3.45	34.50
25 July 2019	45 Proulx Rd	1	Scheduled Outage	Repair underground pipe and wire	1	2.55	2.55
26 July 2019	322 Hwy 11 East	9	Foreign Interference	Crow	2	20.77	41.53
29 July 2019	1568 Hwy 11 East	5	Defective equipment	Repair underground secondary wires	4	2.65	10.60
29 July 2019	209 Hwy 583 North	9	Foreign Interference	Crow	3	2.52	7.55
1 August 2019	620 Veilleux St	1	Scheduled Outage	Pole change over	10	3.43	34.33
12 August 2019	205 Hwy 585 North	9	Foreign Interference	Crow	3	3.07	9.20
19 Aug 2019	209 Hwy 583 North	9	Foreign Interference	Crow	3	38.23	114.70
26 Aug 2019	209 Hwy 583 North	9	Foreign Interference	Crow	3	26.10	78.30
28 Aug 2019	Allen, Rousse & Veilleux St	1	Scheduled Outage	Pole change over	44	5.10	224.40
4 Sept 2019	8th and Alexandra St	1	Scheduled Outage	Pole change over	59	5.23	308.76
11 Sept 2019	1406 Alexandra St	1	Scheduled Outage	Pole change over	9	5.53	49.80
17 Sept 2019	122 Hwy 583S	1	Scheduled Outage	Pole change over	18	2.17	39.00
20 Sept 2019	111 Cloutier Rd N	5	Defective equipment	Broken switch	1	0.55	0.55
27 Sept 2019	508 Hwy 11 E	1	Scheduled Outage	Pole change over	18	2.23	40.20
8 Dec 2019	Hwy 11 East	2	Loss of Supply	1 Phase off crossarm, pole owned by Hydro One	427	1.78	761.47
8 Dec 2019	21 Rousse St	5	Defective equipment	Broken switch	9	10.48	94.35
8 Dec 2019	all of town	2	Loss of Supply	Hydro One main feeder	2761	0.93	2576.84
26 Dec 2019	M2 Feeder	5	Defective equipment	Blown lighting arrestors	1505	0.75	1128.75
					11904	**218.14**	**30367**

Table 6: Outage Detail 2020 – Up to July 31st

Date	Location	Code	Description	Cause	Customer Interrup. No. Customers affected	Duration (Hours)	Customer Hours
					A	B	A x B
12 Feb 2020	644 Jolin St	5	Defective equipment	Broken fuse	7	2.5	17.5
16 Mar 2020	56 Hwy 11 East	5	Defective equipment	Broken U/G wire, run temporary wires	1	1.8833	1.8833
18 April 2020	30-47 Bryant St	7	Adverse Environment	Pole on fire	73	2.8333	206.8309
20 April 2020	All of 21M2	5	Defective equipment	Broken switch	1948	3.1167	6071.3316
20 April 2020	309 Hwy 583 S	5	Defective equipment	Broken switch	1948	2.666	5193.368
13 May 2020	1713 Hwy 11 W	5	Defective equipment	Defective surge arrestor	1	1.2	1.2
20 May 2020	636 Allen St	1	Scheduled Outage	Pole replacement	2	0.6166	1.2332
25 May 2020	1589 Hwy 11 West	9	Foreign Interference	Crow	1	26.0333	26.0333
28 May 2020	36 Bryant St	1	Scheduled Outage	Pole change over underground services	2	1.9	3.8
28 May 2020	1325 Front St	5	Defective equipment	Broken Switch and lightning arrestor	1	1.3666	1.3666
1 June 2020	209 Hwy 583 N	9	Foreign Interference	Crow	3	20.55	61.65
3 June 2020	5 Rousse ST	1	Scheduled Outage	Pole change over	4	1.05	4.2
3 June 2020	5 Rousse St	1	Scheduled Outage	Pole change over	3	0.55	1.65
6 June 2020	205 Hwy 583 N	9	Foreign Interference	Crow	3	3.1833	9.5499
7 June 2020	1325 Front St	1	Scheduled Outage	Pole change over	1	5.85	5.85
7 June 2020	From 12th St to Labelle St	1	Scheduled Outage	Pole change over	67	3.25	217.75
12 Jun 2020	1122 Alexandra St	1	Scheduled Outage	Pole change over	3	2.633	7.899
16 Jun 2020	623 Allen St	1	Scheduled Outage	Pole change over	45	1.35	60.75
23 Jun 2020	West St	9	Foreign Interference	Wires hit by Villeneuve Construction	10	1.0333	10.333
23 Jun 2020	West St	9	Foreign Interference	Wires hit by Villeneuve Construction	10	2.4666	24.666
23 Jun 2020	West St	9	Foreign Interference	Wires hit by Villeneuve Construction	10	2.35	23.5
26 Jun 2020	Corner Kitchener & 8th St	1	Scheduled Outage	Pole change over	43	5.1333	220.7319
7 July 2020	320 Bergeron St	1	Scheduled Outage	Pole change over	1	2.8333	2.8333
7 July 2020	West St, Frost Plact	9	Foreign Interference	Villeneuve Constr hit U/G wires	8	2.15	17.2
12 July 2020	All F1E line and Hearst TS	2	Loss of Supply	H1 transmission line maintenance	2763	10.5	29011.5
14 Jul 2020	533 Alexandra St	9	Foreign Interference	Crow	6	2.666	15.996
15 Jul 2020	Fontaine Dr	1	Scheduled Outage	Pole change over	6	2	12

Date	Location	Code	Description	Cause	Customer Interrup. No. Customers affected	Duration (Hours)	Customer Hours
20 July 2020	209 Hwy 583N (Dump)	9	Foreign Interference	Crow	3	32.2	96.6
20 Jul 2020	Front St	5	Defective equipment	Burnt crossarm due to linkage	17	3.5	59.5
22 Jul 2020	26 Fontaine Dr	1	Scheduled Outage	Pole change over	1	3.2	3.2
22 Jul 2020	655 Fontaine Dr	1	Scheduled Outage	Pole change over	2	3.7833	7.5666
26 Jul 2020	Fontaine Dr and Jolin St	1	Scheduled Outage	Pole change over	206	3.2666	672.9196
27 Jul 2020	209 Hwy 583N (Dump)	9	Foreign Interference	Crow	3	20.7666	62.2998
					7313	**186.01**	**42587**

Appendix C
Capital program details and explanations

HPDC	**Table 1: Plant Capital for 2015**			
	Amounts are in dollars			
Category	**Description**	**Plan**	**Actual**	**Variance**
System Access				
	New construction/service	$11,000	$0	-$11,000
System Renewal				
	1830/1835 - Distribution Overhead - Replace Poles	$70,000	$110,612	
	1845 - U/G conductors and devices - Install new base	$5,431	$0	
	1850 - Line Transformers - Replace transformer	$6,017	$31,897	
	Subtotal	$81,448	$142,509	$61,061
System Service				
	1860 - Meters - New meters	$2,625	$0	
	1835 - Overhead Conductors & Devices - OH devices, Replace porcelain surge arrestors, new solid blade switch	$21,000	$26,604	
	Subtotal	$23,625	$26,604	$2,979
General Plant				
	1611 - Computer Software - billing software upgrade	$5,000	$0	
	1908 - Building & Fixtures - New natural gas furnace; building signage & warehouse interior renovations	$7,500	$10,574	
	1915 - Office Furniture Equipment	$2,500	$0	
	1920 - Computer Equipment Hardware (New desktop at warehouse	$10,000	$1,440	
	1940 - Tools & Equipment - New Locator	$7,000	$7,353	
	Subtotal	$32,000	$19,367	-$12,633
	Total Capital	$148,073	$188,480	
	Contributed Capital	-$0	-$0	
	Net Capital	$148,073	$188,480	$40,407

Following the 2015 pole and transformer inspection survey, a pole replacement program was implemented due to pole deterioration acknowledgement based on the survey findings. The pole replacement program was implemented after the 2015 budget was approved; therefore, some components were canceled/delayed or reattributed as per the table above, including the purchase of a new pickup truck.

HPDC	**Table 2: Plant Capital for 2016**			
	Amounts are in dollars			
Category	**Description**	**Plan**	**Actual**	**Variance**
System Access				
	New construction/service	$10,000	$29,251	$19,251
System Renewal				
	1830/1835 - Distribution Overhead - Replace Poles	$67,500	$69,251	
	1845 - U/G conductors and devices – New Tx bases	$10,000	$0	
	1850 - Line Transformers - Replace transformer	$8,800	$9,880	
	Subtotal	$86,300	$79,130	-$7,170
System Service				
	1860 - Meters - New meters	$3,000	$0	-
	1835 - Overhead Conductors & Devices - OH devices, Replace porcelain surge arrestors, new solid blade switch	$15,000	$8,940	
	Subtotal	$18,000	$8,940	-$9,060
General Plant				
	1611 - Computer Software	$5,200	$0	
	1908 - Building & Fixtures - Warehouse interior renovations (Interior flooring, walls & doors)	$20,000	$24,635	
	1930 – Transportation – Vehicle restoration	$16,000	$0	
	1940 - Tools & Equipment	$2,500	$5,467	
	Subtotal	$43,700	$30,102	-$13,598
	Total Capital	$158,00	$147,424	
	Contributed Capital	-$10,000	-$29,251	
	Net Capital	$148,000	$118,173	-$29,827

Other than the pole replacement program in System Renewal, there are no material projects that were completed.

HPDC	**Table 3: Plant Capital for 2017**			
	Amounts are in dollars			
Category	**Description**	**Plan**	**Actual**	**Variance**
System Access				
	New construction/service	$13,000	$13,751	$751
System Renewal				
	1830/1835 - Distribution Overhead - Replace Poles & load brake switch	$77,000	$101,232	
	1845 - U/G conductors and devices - Install new base	$4,000	$706	
	1850 - Line Transformers - Replace transformer	$15,000	$34,314	
	Subtotal	$96,000	$136,252	$40,252
System Service				
	1835 - Distribution Overhead - Solid blade switch	$10,000	$24,849	
	1855 - Services	n/a	$1,468	
	1860 - Meters - New PT, CT transformers for meters	$2,000	$0	
	Subtotal	$12,000	$26,317	$14,317
General Plant				
	1611 - Computer Software	$14,000	$1,116	
	1920 - Computer Hardware	n/a	$1,363	
	1930 – Transportation – Vehicle restoration	$21,000	$0	
	1940 - Tools & Equipment	$5,000	$1,850	
	Subtotal	$40,000	$4,329	-$35,671
	Total Capital	$161,000	$179,949	
	Contributed Capital	-$13,000	-$13,051	
	Net Capital	$148,000	$166,898	-$18,898

Other than the pole replacement program in System Renewal, there are no material projects that were completed.

HPDC	**Table 4: Plant Capital for 2018**			
	Amounts are in dollars			
Category	**Description**	**Plan**	**Actual**	**Variance**
System Access				
	New construction/service	$10,000	$29,510	$19,510
System Renewal				
	1830/1835 - Distribution Overhead - Replace Poles	$85,000	$82,842	
	1845 - U/G conductors and devices - Install new base	$3,000	$489	
	1850 - Line Transformers - Replace transformer	$18,500	$11,776	
	Subtotal	$106,500	$95,107	-$11,393
System Service				
	1835 - Distribution Overhead - Solid blade switch, temporary switches	$15,000	$22,176	
	1855 - Services	n/a	$6,931	
	1860 - Meters - New meters	$20,000	$24,429	
	Subtotal	$35,000	$53,537	$18,537
General Plant				
	1908 - Building & Fixtures	$3,500	$16,732	
	1915 - Office Furniture Equipment – (1) New folding machine & (1) new stamping machine	$17,000	$19,288	
	1930 – Transportation – New pickup	$32,000	$61,484	
	1940 - Tools & Equipment	$3,500	$2,499	
	Subtotal	$56,000	$100,003	$44,003
	Total Capital	$217,500	$278,156	
	Contributed Capital	-$10,000	-$29,510	
	Net Capital	$207,500	$248,646	$41,146

The pole replacement program in System Renewal, was a material project. There were no other material projects planned, but one pickup truck was planned to be replaced. In the same year a no-fault accident with the other pickup truck occurred and damage was so extensive that it needed to be replaced. The result was that the two pickup trucks replacement caused a material expenditure of $61,484.

HPDC	**Table 5: Plant Capital for 2019**			
	Amounts are in dollars			
Category	**Description**	**Plan**	**Actual**	**Variance**
System Access				
	New construction/service	$15,000	$13,051	
System Renewal				
	1830 - Distribution Overhead - Poles	$85,000	$88,532	
	1845 - U/G conductors and devices	$10,000	$0	
	1850 - Line Transformers	$20,000	$13,909	
	Subtotal	$115,000	$102,441	-$12,559
System Service				
	1835 - Overhead Conductors & Devices - New solid blade switch	$10,000	$4,802	
	1855 - Services	$2,500	$2,891	
	1860 - Meters - New meters – new MIST meters	$20,000	$0	
	Subtotal	$32,500	$7,692	-$24,808
General Plant				
	1920 - Computer Equipment Hardware	$7,000	$7,346	
	1930 – Transportation – New trailer	n/a	$3,454	
	1940 - Tools & Equipment	$3,500	$5,787	
	1940 - Tools & Equipment - Trencher	n/a	$23,300	
	1940 - Tools & Equipment - Wood chipper	n/a	$16,372	
	Subtotal	$10,500	$56,259	$45,759
	Total Capital	$173,000	$179,444	
	Contributed Capital	-$15,000	-$13,051	
	Net Capital	$158,000	$166,393	$8,393

Other than the pole replacement program in System Renewal, there are no material projects that were completed.

While not material, the purchase of three unbudgeted pieces of equipment is explained as follows. The Town of Hearst performed some road work in an area of the town that is supplied by underground distribution plant. HPDC did not anticipate any problems with the work to be done by the Town but customers called in over time that they had intermittent power. In the process of fixing the services that had been damaged by the road work a trencher was required. HPDC in past has rented this device when it needed to use one but, there was not one available in the timeframe it needed to respond. Other alternatives were available such as a backhoe, but this would result in substantial landscape restoration costs. HPDC decided that the purchase of the unit was warranted since it was the lowest cost alternative. The trailer purchased was to be able to move the trencher to and from the jobsite.

The woodchipper purchase came about because the dumping charges at the Town dump were being increased substantially. On investigation HPDC became aware that most other utilities use chippers for similar reasons. HPDC now has an arrangement with the Town that the wood chips are dumped at playgrounds in the Town in the play areas so there is additional safety for the children when playing. It also saves on dumping costs.

HPDC	**Table 5: Plant Capital for 2020**			
	Amounts are in dollars			
Category	**Description**	**Plan**	**Actual as of Oct 31**	**Variance**
System Access				
	New construction/service (Note 1)	$15,000		-$15,000
System Renewal				
	1830 - Distribution Overhead – Poles (Note 2)	$110,000	$108,328	
	1845 - U/G conductors and devices	n/a	$0	
	1850 - Line Transformers (Note 3)	$25,000	$15,676	
	Subtotal	$135,000	$124,004	-$10,996
System Service				
	1835 - Overhead Conductors & Devices - New solid blade switch (See Note 4)	$5,000	$2,126	
	1855 – Services (See Note 5)	$2,500	$1,642	
	1860 - Meters - New meters – new MIST meters (See Note 6)	$5,000	$0	
	Subtotal	$12,500	$3,768	-$8,732
General Plant				
	1908 – Building Fixtures- New overhead door, warehouse (See Note 7)	$25,000	$18,098	
	1915 – Office Furniture Equipment -New phone System (See Note 8)	$2,500	$2,402	
	1940 - Tools & Equipment (See Note 9)	$5,000	$5,234	
	Subtotal	$32,500	$25,734	-$6,766
	Total Capital	$195,000	$153,505	-$41,495
	Contributed Capital	-$15,000	-$0	$15,000
	Net Capital	$180,000	$153,505	-$26,495

Notes:

1. No new customer requested distribution system expansion in 2020. Possible side effect of COVID-19
2. More work will be done in November. It is estimated that the budget will be exceeded slightly.
3. More work will be done in November. It is estimated that the final expenditures will be slightly below the budget amount.
4. The planned work is completed. No further work is expected.
5. The work is completed. No further work is expected.
6. Measurement Canada is shut down due to COVID-19. The meters ordered in Q1 2020 are still not received.
7. Work is done. No further charges are expected.
8. Work is done. No further charges are expected.
9. All tools are purchased and received. No further charges are expected.

HPDC	Table 7: Plant Capital for 2021	
Category	**Description**	**Plan**
System Access		
	New construction/service	$15,000
	Subtotal	$15,000
System Renewal		
	1830 - Distribution Overhead - Replace Poles	$100,000
	1850 - Line Transformers - Replace transformer	$15,000
	Subtotal	$115,000
System Service		
	1855 - Services	$2,500
	1835 - Overhead Conductors & Devices - New solid blade switch	$5,000
	Subtotal	$7,500
General Plant		
	1930 - Transportation – New bucket truck	$265,000
	Subtotal	$265,000
	Total Capital	$402,500
	Contributed Capital	-$15,000
	Net Capital	$387,500

The pole replacement program and bucket truck replacement are the projects that exceed the materiality threshold. The justification for these can be found in Appendix D.

HPDC	Table 8: Plant Capital for 2022	
Category	**Description**	**Plan**
System Access		
	New construction/service	$15,000
	Total	$15,000
System Renewal		
	1830/35 - Distribution Overhead - Replace Poles	$112,200
	1850 - Line Transformers - Replace transformer	$35,000
	Total	$147,200
System Service		
	1855 – Services	$3,000
	1860 - Meters - New meters	$10,000
	1835 - Overhead Conductors & Devices - New solid blade switch	$5,000
	Total	$18,000
General Plant		
	1908 - Building & Fixtures - Outside storage area renovations	$25,000
	1940 - Tools & Equipment - New tools	$5,000
	Total	$30,000
	Total Capital	$210,200
	Contributed Capital	-$15,000
	Net Capital	$195,200

The pole replacement program is the only project that exceeds the materiality threshold. The justification for this program is in Appendix D.

HPDC	Table 9: Plant Capital for 2023	
Category	**Description**	**Plan**
System Access		
	New construction/service	$15,000
	Total	$15,000
System Renewal		
	1830/35 - Distribution Overhead - Replace Poles	$114,500
	1850 - Line Transformers - Replace transformer	$35,700
	Total	$150,200
System Service		
	1855 – Services	$3,000
	1860 - Meters - New meters	$11,000
	1835 - Overhead Conductors & Devices - New solid blade switch	$5,000
	Total	$19,000
General Plant		
	1925 - Computer Hardware – New server/desktops at warehouse	$10,000
	1930 - Transportation - New wood pole trailer	$10,000
	1940 - Tools & Equipment - New tools	$5,000
	Total	$25,000
	Total Capital	$209,200
	Contributed Capital	-$15,000
	Net Capital	$194,200

The pole replacement program is the only project that exceeds the materiality threshold. The justification for this program is in Appendix D.

HPDC	Table 10: Plant Capital for 2024	
Category	**Description**	**Plan**
System Access		
	New construction/service	$15,000
	Total	$15,000
System Renewal		
	1830/35 - Distribution Overhead - Replace Poles	$116,800
	1850 - Line Transformers - Replace transformer	$36,400
	Total	$153,200
System Service		
	1855 – Services	$3,000
	1860 - Meters - New meters	$12,000
	1835 - Overhead Conductors & Devices - New solid blade switch	$5,000
	Total	$20,000
General Plant		
	1908 - Building & Fixtures – Security/Safety fence repairs	$20,000
	1920 - Computer Equipment Hardware – Laptop replacement	$2,500
	1940 - Tools & Equipment - New tools	$5,000
	Total	$27,500
	Total Capital	$215,700
	Contributed Capital	-$15,000
	Net Capital	$200,700

The pole replacement program is the only project that exceeds the materiality threshold. The justification for this program is in Appendix D.

HPDC	**Table 11: Plant Capital for 2025**	
Category	**Description**	**Plan**
System Access		
	New construction/service	$15,000
	Total	$15,000
System Renewal		
	1830/35 - Distribution Overhead - Replace Poles	$119,100
	1850 - Line Transformers - Replace transformer	$39,000
	Total	$158,100
System Service		
	1855 – Services	$3,000
	1860 - Meters - New meters	$10,000
	1835 - Overhead Conductors & Devices - New solid blade switch	$7,000
	Total	$20,000
General Plant		
	1908 - Building & Fixtures	$5,000
	1915 - Office Furniture Equipment	$5,000
	1920 - Computer Equipment Hardware	$5,000
	1940 - Tools & Equipment - New tools	$10,000
	Total	$25,000
	Total Capital	$218,100
	Contributed Capital	-$15,000
	Net Capital	$203,100

The pole replacement program is the only project that exceeds the materiality threshold. The justification for this program is in Appendix D.

Appendix D

Justifications for The Pole Replacement Program and The Bucket truck purchase

Justification for the Pole Replacement program

HPDC has more than 1,000 poles in service that were installed in the 1950's and 1960's. The photographs below are a few of the photographs taken at random to illustrate the condition of the poles. As a result, the pole assessment detailed in Appendix E was developed so that an objective assessment could be carried out that was independent of the "opinion" of any one person but based on the physical features that were observable. The assessment process has been in place for 5 years and has proved to be efficient in the field and effective in identifying poles that are a risk to the distribution system. This is evidenced by the fact that since this program has started there have not been any structural failures of poles causing system outages.

The assessment produced a single measure of the condition of the pole condition and HPDC set a level of 17 and lower where the poles would be replaced. This resulted in 223 poles that needed to be replaced in the 2020 to 2024 period. The next pole condition survey will be in 2024 which will determine the next 5 years of the program. This timing was used to ensure that the DSP would have the most up to date information in each year it was required. It was also decided that only the poles that needed to be replaced per the assessment would be included in this pole replacement program and that total street rebuilds would not be done. However, any open wire services from a replaced pole would be upgraded to the current standard triplex service. In several cases consecutive poles need to be replaced. In these sections the secondary bus is also converted from an open wire to a triplex bus per current standards. Otherwise the replacement is like for like.

The pole replacement is needed because of the condition of the poles. Maintenance will not restore strength to these poles and any maintenance treatment to slow the deterioration would be costly and ineffective when compared to the replacement option. The photographs at the end of this section illustrate the kinds of conditions that are described in this justification.

Over the past 5 years poles were replaced in the order indicated by their condition, replacing the worst condition poles first. This worked well. In this period since HPDC is looking to replace more poles based on the condition, it is looking to improve construction efficiency by grouping the poles geographically over the 5 year period and replacing adjacent poles scheduled for replacement over the 5 years at the same time. This will reduce the number of job setups and make the construction more efficient.

The timing of the project is such that it can be completed over several years with no increased costs to complete the program other than the changing costs of material and labour in each year of the program. HPDC estimates that this escalation is 5% per year and the annual projections reflect this though the actual work to be performed remains constant. HPDC decided to complete the pole replacement program over a 5-year period to achieve workload and capital expenditure smoothing thus minimizing customer rate increase impacts while still addressing the work that needs to be done at a reasonable pace.

If the current work were not carried out there would be a continued deterioration in pole strength and this would most likely result in single or grouped pole failures in adverse weather situations that would result in increased Operating and Maintenance costs as well as long power restoration times, likely affecting many customers. By taking the current approach HPDC is addressing the need for asset

replacement on a planned basis prior to in-service failure, which is the lowest cost method, and doing it at a modest pace to ease the customer rate impact and maintains current system reliability performance.

Photographs:

An example of Shell Rot

Pole deforming due to reduced fiber strength and side force loading

An example of wood fiber deterioration

An example of wood deterioration

An “old” pole- installed in 1951

An example of long deep cracks

Justification 47 ft Bucket Truck

Bucket Truck Justification:

The existing truck, cab and chassis, and aerial device, was purchased in 1995.

In the 25 years it has been in service it has worked well and has been reliable except for the last few years. HPDC parks all its vehicles in an enclosed heated warehouse overnight and regularly does maintenance on every vehicle to keep the equipment in best condition as possible. This is demonstrated by the 25 years of service for the bucket truck to be replaced.

In some utilities the planning rule of thumb is that the cab and chassis lasts for 7 years and the aerial device lasts 14 years. Clearly, for HPDC this has not been the practice. Some reasons for this may include that because HPDC has a relatively small service area the amount of driving is lower; the units are stored in a heated garage and the winter conditions for corrosion may be different. However, these assets eventually arrive at an economic and functional end of life situation.

The economic end of life considerations that lead to the replacement of the vehicle was the wear and tear on the unit; the repairs and maintenance completed in recent times; the difficulty of finding OEM manufacturer or after-market parts; as well as rust and corrosion to the cab and chassis. Areas of concern on the arial device are that the custom hydraulic hoses are showing significant signs of drying/wear and tear; the plastic bucket work platform has physical damage as a result of use, and the aerial device has a working height of 42 feet which is short for the current work environment.

In 2019, HPDC spent over 10k$ in repairs to remove major rust from the frame as the unit would not otherwise pass the annual safety check. Additionally, in early 2020, the engine radiator leaked, and no garage/parts suppliers were able to find a replacement since most parts for this truck (1995) have been discontinued. Therefore, HPDC subcontracted a specialized aluminium welder to make a custom-built radiator for this unit. Since, the radiator is custom-built, no one knows how long it can last. In addition, it is expected that the hydraulic hoses will need to be replaced soon and the hydraulic cylinders overhauled. These are costs that will not need to be incurred with the truck replacement.

The existing aerial device is also not well suited for material handling due to its limited lifting capacity. This makes completing the pole replacement program more challenging if the aerial device is not able to lift the equipment as needs to be done. Also, with the shorter reach of the old aerial device it was sometimes necessary to take risky positions to complete some of the work. The longer reach of the new aerial device will prevent this from happening.

The replacement of this bucket truck is a large expenditure for HPDC. It has been put off for some time but with the rising maintenance costs and the prospect of continued significant expenditures on a 25 year old truck and aerial device, HPDC concluded that not was the appropriate time to make the purchase. HPDC has demonstrated that it maintains its vehicles and tools well, so they last a long time. A new vehicle is expected to give many years of excellent service.

In 2020, request for quotes were published and in late 2020, a new bucket truck was ordered to be delivered early 2021.

The cost for the replacement was:

$ 96,300	for the chassis
$165,788	for the aerial device and installation
$262,088	total cost

The total expected capital cost is $265,000 which is the quoted price plus some ancillary costs to put the unit into service. Once the new vehicle and new 47 ft aerial device are received the old unit will be retired. O&M costs are expected to remain close to the same for regular operation and maintenance.

Photographs:

View of Whole Truck

Rust on Wheels

Rust on Running Board and Outrigger

Some of the Hydraulic Hoses that need to be replaced

Other Hoses to be Replaced

Bucket Wear and Tear

Appendix E

Pole Inspection Process – Poles in Service

Pole Condition Assessment

Rating system for pole condition:

Several factors impact the condition of a pole and the assessment of its capabilities and useful life expectancy:

Some of these factors are:

- Age of the pole
- Surface deterioration or shell rot
- Longitudinal cracks along the pole
    - Characterized by depth of the crack [accessible from the ground]
    - Characterized by the length of the crack
    - Characterized by the number of cracks in the pole
    - Characterized by the presence of rot in the crack
- Ground line deterioration of the pole to 6 inches below grade
    - Check with a sharp object or screwdriver to what distance the wood is soft from deterioration. Check in 4 quadrants and get an average depth of penetration.
- Test with a hammer to see if the heart of the pole sounds solid or not.

These factors combine to give an overall rating of the pole.

Hearst Power has decided to use the following factors and rating for each factor:

Age (A):

Rating Value	Criteria or measurements
1	over 50 years old
2	40 to 50 years old
3	30 to 40 years old
4	20 to 30 years old
5	less than 20 years old

(B) Sum of depth of all separate cracks accessible by a person at ground level

Rating Value	Criteria or measurements
1	Greater than 12 inches
2	10 to 12 inches
3	8 to 10 inches
4	4 to 8 inches
5	Less than 4 inches

(C) Length of cracks one inch or more deep- reachable by a person on the ground.

Rating Value	Criteria or measurements
1	More than 50% of the pole height
2	25% to 50% of the pole height

3	10% to 25% of the pole height
4	Less than 10% of the pole height

(D) Number of cracks on the pole that are significant [appear to be deep- 1 inch or more- and wide – ¼ inch or more and visible from the ground if above the secondary level.]

Rating Value	Criteria or measurements
1	More than 10
2	8 to 10
3	6 to 8
4	3 to 6
5	Less than 3

(E) Presence of rot or growth in cracks or spur gaffs

Rating Value	Criteria or measurements
1	Rot / growth is present
2	No rot / growth present

(F) Condition at ground line [at grade]. Take 4 measurements 90 degrees apart. Sum the values of the penetration.

Rating Value	Criteria or measurements
1	More than 12 inches
2	10 to 12 inches
3	8 to 10 inches
4	4 to 8 inches
5	Less than 4 inches

(G) Hammer test no more than 1 foot above ground level and take soundings 90 degrees apart

Rating Value	Criteria or measurements
1	Definite Core deterioration
2	Possible Core deterioration
3	No perceived core deterioration

In each measure a low number is a poorer condition pole.

To come up with a single value each of the factors A to G are weighted equally relative to the other factors. Hence to get an overall assessment of the pole condition, add the rating values of the factors together for each pole. For example, the worst score would be A+B+C+D+E+F+G=7 and the best score would be 29.

HPDC used the above criteria and surveyed 1545 poles that have been in service. The criteria for replacement are a rating of 17 or lower. The lower the rating the poorer the pole condition is. Table 1: Poles to be replaced [with condition assessment 2019], below shows the poles that need to be replaced based on the survey and the selection criterion. Note that there is a mixture of single phase and three phase lines and that a significant number of these poles also have transformers mounted on them.

Hearst Power Distribution Company Limited					
Table 1: Poles to be replaced [with condition assessment 2019]					
Pole #	**Location**	**Height**	**total condition rating**	**Phase**	**Tx**
11786	308 Bergeron (back alley)	35	8	NA	N
10726	7 Picard	35	9	1	N
11486	1325 Front (Tim Horton east driveway)	40	10	3	Y
10340	1204 Alexandra	35	10	1	N
11398	206 Hwy 11E	30	10	NA	N
10156	Front St.	45	10	3	N
10554	26 Fontaine Dr.	40	11	3	Y
10887	Cloutier Rd N (2 span north of #106)	35	11	1	N
11787	306 Bergeron (back alley)	30	11	NA	N
11213	320 Bergeron	30	11	NA	N
10155	Front St. (CFP weigh scale)	45	11	3	N
10572	Mailloux	40	12	3	Y
10542	6 Fontaine Dr.	35	12	3	Y
10655	Fontaine Dr. & Jolin (south of Fontaine Dr.)	35	12	NA	N
10642	5 Rouse	35	12	1	N
10564	Allen & Rouse (south west)	35	12	1	N
10342	1122 Alexandra	35	12	1	N
10197	8th & Kitchener	40	12	1	N
10499	Cloutier Rd S	35	12	1	N
11410	Hwy 11E (south side near bridge)	40	12	3	N
10142	Tricept yard	45	12	3	N
10146	Tricept yard	45	12	3	Y
10636	623 Allen	35	13	1	N
10565	645 Allen	35	13	1	N
10376	1403 Edward (in yard to hospital)	40	13	3	N
11439	622 George (behind house)	30	13	NA	N
10314	1222 Prince	35	13	1	Y
10884	Cloutier Rd N (5 span north of #58)	35	13	1	N
11289	Bosnick Rd	35	13	1	N
10839	Fontaine Dr. (1 south east of #86)	35	13	NA	N
10586	Hwy 583 N & Tremblay	45	14	3	N
10578	526 Tremblay	40	14	3	N

Hearst Power Distribution Company Limited					
Table 1: Poles to be replaced [with condition assessment 2019]					
Pole #	**Location**	**Height**	**total condition rating**	**Phase**	**Tx**
10575	Tremblay & Mailloux (north east)	40	14	3	N
10585	505 Tremblay	40	14	NA	N
10574	Mailloux & Tremblay (north west)	45	14	3	N
11429	538 Hwy 11 E	40	14	1	N
10644	Rouse & Veilleux (north east)	35	14	1	N
10617	643 Jolin	35	14	NA	N
10604	Mailloux	35	14	1	N
10372	1224 Edward	45	14	3	Y
10002	5th St. MOE lift pumphouse	45	14	3	Y
10131	620 Alexandra	35	14	1	N
10298	812 Prince	35	14	3	Y
11759	municipal parking lot	35	14	NA	N
10222	36 9th St.	40	14	3	Y
10391	Hwy 583 S & Halle St	35	14	3	Y
10417	207 Gaspesie Rd	45	14	NA	N
10901	Cloutier Rd N (2 span north of #42)	35	14	1	N
10887	Cloutier Rd N (2 span north of #58)	35	14	1	N
10875	Cloutier Rd N (4 span north of #106)	35	14	1	N
11803	Cloutier Rd N	35	14	1	N
11212	326 Bergeron	30	14	NA	N
10166	Tricept yard	50	14	3	N
10685	413 Tremblay	30	14	NA	N
10700	338 Tremblay	40	14	1	N
10723	14 Picard	30	14	NA	N
10580	Tremblay & Blanchard (south west)	30	15	NA	N
10582	509 Tremblay	30	15	NA	N
10571	Mailloux & Hwy 11 E	45	15	3	N
10653	Fontaine Dr. & Rouse (south of Fontaine Dr.)	25	15	NA	N
10609	624 Veilleux	40	15	1	Y
10637	619 Allen	35	15	1	Y
10024	511 Edward	40	15	3	Y
10270	825 Edward	45	15	3	N

Hearst Power Distribution Company Limited					
Table 1: Poles to be replaced [with condition assessment 2019]					
Pole #	**Location**	**Height**	**total condition rating**	**Phase**	**Tx**
10257	1320 Edward	45	15	3	Y
11504	1100 Front (fire hall)	45	15	3	Y
10334	1322 Alexandra	35	15	1	Y
10204	23 8th	35	15	NA	N
11756	824 Prince (behind house)	30	15	NA	N
10046	5th & Front St.	35	15	NA	N
10307	1018 Prince	35	15	1	Y
10309	11th & Prince	35	15	1	N
10311	1116 Prince	35	15	1	N
10326	1440 Prince	30	15	NA	N
10114	7th & Boulley	35	15	1	N
10115	63 7th	35	15	1	N
10168	617 Boulley	35	15	1	Y
10167	620 Boulley	35	15	1	N
10792	141 Gaspesie Rd (south side)	30	15	NA	N
10427	Hwy 583 S	35	15	1	N
10433	Girard Dr. & Cematary Lane	35	15	NA	N
10492	Cloutier Rd S	40	15	1	N
10504	Cloutier Rd S	35	15	1	N
10505	Cloutier Rd S	35	15	1	N
10508	Cloutier Rd S	35	15	1	N
10517	90 Cloutier Rd S	35	15	1	N
10902	Cloutier Rd N (1 span north of #42)	35	15	1	N
11806	Cloutier Rd N	35	15	1	N
11296	Bosnick Rd	35	15	1	N
11169	Alary Dr & Despres Rd	40	15	1	N
10161	Front St.	35	15	NA	N
10160	Front St.	35	15	NA	N
11407	Quirion & Hwy 11E	35	15	NA	N
10686	416 Tremblay	40	15	1	N
10709	Tremblay & Quirion (south east)	30	15	NA	N
11792	333 Tremblay	35	15	NA	N

Hearst Power Distribution Company Limited					
Table 1: Poles to be replaced [with condition assessment 2019]					
Pole #	**Location**	**Height**	**total condition rating**	**Phase**	**Tx**
10576	534 Tremblay	40	16	3	Y
10551	Fontaine Dr. & Rouse (north west)	35	16	3	N
10598	526 Veilleux	35	16	NA	N
10611	630 Veilleux	35	16	1	N
10639	9 Rouse(in front of garage)	35	16	1	Y
10023	519 Edward	40	16	3	N
10241	24 12th St.	40	16	3	N
10243	12th & Prince (north west)	40	16	3	N
11443	716 Front	35	16	NA	N
11470	10th & Front (north east)	40	16	3	N
11509	1020 Front (behind Assurance Aubin)	40	16	3	N
11503	1104 Front (The Beer Store)	35	16	NA	N
10341	12th & Alexandra (north east)	35	16	1	N
10203	27 8th	35	16	NA	N
10301	9th & Prince (North East)	40	16	3	N
10223	9th (New Life Assembly church)	40	16	3	Y
10388	904 Halle St	40	16	1	Y
10396	Hwy 583 S & Piper St (north west)	40	16	3	Y
10409	130 Hwy 583 S	40	16	3	N
10053	6th & George (south east)	40	16	1	N
10206	15 8th St	30	16	NA	N
10233	11 10th St.	35	16	NA	N
11036	McNee & West	40	16	1	N
11025	99 McNee	35	16	1	N
10989	McNee	35	16	1	N
10501	Cloutier Rd S	35	16	1	N
10503	Cloutier Rd S	35	16	1	N
10509	Cloutier Rd S	35	16	1	N
10527	Cloutier Rd S	35	16	1	N
10911	21 Cloutier Rd N (east side)	35	16	NA	N
10895	Cloutier Rd N (2 span north of #53)	35	16	1	N
10876	Cloutier Rd N (3 span north of #106)	35	16	1	N

Hearst Power Distribution Company Limited					
Table 1: Poles to be replaced [with condition assessment 2019]					
Pole #	**Location**	**Height**	**total condition rating**	**Phase**	**Tx**
11308	Collin Rd	35	16	1	N
11179	Despres Rd	35	16	1	N
11393	103 Hwy 11E - Private pole	40	16	1	Y
11120	P'tite Gaspesie Rd	35	16	1	N
11413	404 Hwy 11 E	40	16	3	Y
10728	8 Picard	35	16	NA	N
10724	11 Picard	35	16	1	N
10722	16 Picard	30	16	NA	N
10015	Airport Rd (1st from Johnson Lake Rd)	35	16	3	Y
10017	Airport Rd (3rd from Johnson Lake Rd)	35	16	3	N
10919	1808 Hwy 11W	30	16	NA	N
10926	1864 Hwy 11W	30	16	NA	N
10739	180 Hwy 583 N (near substation)	40	17	3	N
10748	Hwy 583 N	40	17	3	N
10577	531 Tremblay	30	17	NA	N
10652	12 Fontaine Dr.	30	17	3	N
10556	34 Fontaine Dr.	35	17	3	N
10557	Fontaine Dr. & Allen (north east)	40	17	3	N
10558	Fontaine Dr. & Allen (south of Fontaine Dr.)	35	17	NA	N
10559	40 Fontaine Dr.	35	17	3	N
10600	530 Veilleux	30	17	NA	N
10645	9 Rouse (beside garage)	35	17	NA	N
10080	3rd St. (CFP)	40	17	3	N
10106	408 Prince	40	17	3	N
10199	8th & Edward	45	17	3	N
10277	10th & Edward (south west)	45	17	3	Y
10371	1206 Edward	45	17	3	N
10373	1308 Edward	45	17	3	Y
10374	14th & Edward	45	17	3	N
11777	15th St. (sidewalk between Houle & 15th)	40	17	1	N
10240	12th & Alexandra (north west)	40	17	3	N
11466	900 Front	40	17	NA	N

Hearst Power Distribution Company Limited					
Table 1: Poles to be replaced [with condition assessment 2019]					
Pole #	**Location**	**Height**	**total condition rating**	**Phase**	**Tx**
11505	1100 Front (beside fire practice building)	40	17	3	Y
10338	1216 Alexandra	35	17	1	N
10337	1224 Alexandra	35	17	1	Y
10259	14th & Alexandra	35	17	1	N
10258	38 14th St.	30	17	NA	N
10331	1418 Alexandra	35	17	1	Y
10027	5th St. (between Kitchener & Edward)	45	17	3	N
10135	34 7th	35	17	NA	N
10283	816 Alexandra	35	17	1	Y
10067	6th St. (between Alexandra & Prince)	40	17	3	N
10075	38 6th St.	40	17	3	Y
10398	917 Piper St	40	17	1	N
10413	126 Hwy 583 S	40	17	3	N
10174	7th & George (south west)	40	17	3	N
10209	8th & George(south west)	40	17	3	N
10246	13 11th	35	17	NA	N
10310	1108 Prince	35	17	1	Y
10312	1124 Prince	35	17	1	Y
10316	1300 Prince	35	17	1	N
10247	13th St. (between Alexandra & Prince)	30	17	NA	N
10111	78 7th	35	17	1	N
10799	125 Gaspesie Rd	35	17	NA	N
11045	Algoma & Wyborn(north east)	35	17	1	N
11048	Line to ACR tracks	35	17	1	N
10997	195 McNee	40	17	1	Y
10495	Cloutier Rd S	35	17	1	N
10885	Cloutier Rd N (4 span north of #58)	35	17	1	N
10883	97 Cloutier Rd N (east side)	35	17	NA	N
10881	Cloutier Rd N (1 span north of #97)	35	17	1	N
11819	Cloutier Rd N	30	17	NA	N
11804	Cloutier Rd N	35	17	1	N
11811	Cloutier Rd N	35	17	1	N

Hearst Power Distribution Company Limited					
Table 1: Poles to be replaced [with condition assessment 2019]					
Pole #	**Location**	**Height**	**total condition rating**	**Phase**	**Tx**
11352	102 Hwy 11E	30	17	NA	N
11391	103 Hwy 11E	40	17	3	N
11387	201 Hwy 11E	30	17	NA	N
11386	201 Hwy 11E	40	17	1	Y
11400	210 Hwy 11E	35	17	NA	N
11170	122 Despres Rd (south side)	35	17	NA	N
11126	29 P'tite Gaspesie Rd (in yard)	35	17	1	Y
11107	85 P'tite Gaspesie Rd (in yard)	40	17	3	N
11222	12 Riverside Dr	35	17	1	Y
11233	Riverside Dr	45	17	1	N
11234	Riverside Dr	45	17	1	N
11273	72 Samson Rd	40	17	1	Y
10147	Tricept yard	45	17	3	N
11780	Front St. (east end)	30	17	NA	N
10144	Front St.(Riverside cemetary)	40	17	3	N
10154	Front St.	40	17	3	N
10681	Tremblay & Picard (north east)	40	17	1	N
10695	347 Tremblay	35	17	NA	N
10727	10 Picard	35	17	NA	N
10720	15 Picard	35	17	1	N
10714	21 Picard	35	17	1	N
10838	Fontaine Dr. (1 north east of #86)	35	17	3	N
10813	90 Fontaine Dr.	35	17	3	N
10814	94 Fontaine Dr.	40	17	3	N
11575	18 Holler	30	17	NA	N
10851	1760 Hwy 11W	40	17	NA	N
10861	17 Vandette	40	17	1	Y
10956	1863 Hwy 11W	35	17	NA	N
10441	270 Hwy 583S	35	17	1	Y

Appendix F

Failure Reports – Porcelain Lightning Arrestors and Porcelain Switches

Below is part of the communications received from the then Ontario Hydro to other utilities advising that there are problems with specific insulators sold by specific manufacturers. There were other communications after this, clarifying procedures, but this information provides the background to the insulator failures HPDC has experienced and supports their program to replace these insulators. HPDC has adopted a pace for replacement of these insulators based on the failure rate of these insulators that HPDC have experienced and worst performing feeder information.

RECEIVED
MAR 15 1993
ENGINEERING DEPT.
H.E.C. of CAMBRIDGE and N. DUMFRIES

Box 970, 225 Edinburgh Road South, GUELPH, Ontario, N1H 6N2

March 10, 1993

MR. RON SINCLAIR
CAMBRIDGE PUC
1500 BISHOP ST.
CAMBRIDGE, ONTARIO
N1R 6W8

Attention: All Joint Use Partners and Tenants

Re: HAZARDS ASSOCIATED WITH SUSPECT PORCELAIN INSULATORS USED ON ONTARIO HYDRO LINES.

This letter will serve as notification of a safety concern associated with porcelain insulators used on Ontario Hydro lines. The attached information will describe the types of insulators involved and the precautions that Ontario Hydro has in place for its staff.

Ontario Hydro has installed the letter C on all poles which are framed with suspect insulators.

As stated earlier Ontario Hydro has implemented a work restriction on poles with these insulators. The purpose of this letter is to make you aware of the possible problem, but we are not mandating how you deal with this issue.

If you require clarification or further information related to this subject, feel free to contact me.

Yours truly,

Glenn Mcpherson
Area Line Supervisor
Guelph Area

SRR CV KM RS LO MF GR SW LF PG DJ File

Telephone (519) 822-5071, Toll Free 1-800-265-8306, FAX (519) 822-6451

REGIONAL TRADES AND OPERATING INFORMATION SYSTEM

TO:	POWERLINE MAINTAINERS WESTERN REGION	ORIGIN:	RETAIL CUSTOMER WESTERN REGION
TITLE:	CLIMBING RESTRICTION (PORCELAIN INSULATORS)	ISSUE:	MAY 1991
		NUMBER:	WR 35 R1

This directive has been revised to include the following sky tone grey insulators:

Improved Appearance

46kv - Canadian Porcelain
- Canadian Ohio Brass

34.5kv - Canadian Ohio Brass

Pin Type (Two Piece)

46kv - Canadian Porcelain
22kv - Canadian Porcelain

GOVERNING PRINCIPLE

All Powerline Maintainers shall be made aware of the possibility of porcelain insulator failures. When required to work on structures framed with 46kv, 34.5kv, and 22kv sky tone grey porcelain insulators, the structure shall not be climbed unless they are an approved make or unless they can be supported from an aerial device or with sticks from outside the falling path.

RATIONALE

A number of failures involving Canadian Ohio Brass and Canadian Porcelain improved appearance insulators and Canadian Porcelain two piece pin type insulators have been reported by Areas. Initial reports indicated the problem was with units obtained and installed in the years 1977-1981 inclusive. We now have evidence from the field the problem extends to all of these insulators regardless of year. Reports of failures are also beginning to show up in other Regions.

All failed insulators have been Canadian Ohio Brass or Canadian Porcelain. The last delivery of Canadian Porcelain improved appearance units was September 1984. A total of 28,200 Canadian Porcelain sky tone grey two piece porcelain insulators were purchased 1975-1983:

25,000 - 27.6kv
3,200 - 46kv

Both high consequence electrical and falling hazards exist. The climbing restriction represents a safety barrier. Replacement of the non-approved units eliminates the hazard.

PROCEDURE

1. **Improved Appearance**

   As the need arises to work on a pole framed with suspect (Canadian Ohio Brass or Canadian Porcelain rated at >15kv) sky-tone grey improved appearance porcelain insulators the insulators shall be replaced using an aerial device or supported with the insulator support systems described in TB 2083-R1 before climbing the structure. This restriction applies to both energized and de-energized lines where the Powerline Maintainer is in a position to be hit should the insulator fail.

2. **Two piece pin type**

   Before working on a pole with sky-tone grey two piece pin type (Canadian Porcelain rated at >15kv) insulators the insulators shall be replaced using an aerial device before climbing the structure. The pole can be climbed if the line is isolated and de-energized.

Once the insulators have been changed the poles should be identified by installing an aluminum letter "L" or "O" on the pole.

KEY TERMS

Insulator
Climbing
Porcelain Insulator
Restriction
Porcelain

DRAFT

Western Region Addendum to WR35-R1 Climbing Restriction (Porcelain Insulators)

This addendum is issued to clarify WR 35-R1 and should be filed in your RTOS manual.

The suspect insulators are of the following class and manufacture.

Improved Appearance (Sky Tone Grey)

46 kv	- Canadian Porcelain (horizontal clamp) - Canadian Ohio Brass (horizontal clamp)
34.5kv	- Canadian Ohio Brass (horizontal clamp)

Pin Type (Two Piece - Sky Tone Grey)

46 kv	- Canadian Porcelain
27.6kv	- Canadian Porcelain

WR 35-R1 only applies to suspect post type insulators, framed improved appearance in the horizontal position. We have not experienced breakage problems with the post insulators in the vertical position either on top pin or cross arm framing.

When work is to be performed on structures framed with the above suspect insulators (improved appearance or pin type) WR35-R1 does not apply for, routine switching operations, fuse replacement, isolation of transformers and services (including live line clamp operation), or to situations where an insulator is broken and the conductor is floating clear of the structure.

The situations mentioned above shall be handled applying approved work practices and being alert to the possibility of an insulator failure.

For any work other than the tasks mentioned above the steps in WR35-R1 apply.

Improved Appearance

46 kV Canadian Porcelain (CP)
Canadian Ohio Brass (OB or COB)
LAPP (1982)

34.5 kV Canadian Ohio Brass (OB or COB)

Risk is defined as **frequency** (probability of occurrence) times **consequence.**

Risk cannot be entirely eliminated, but must be managed to **"As Low As Reasonably Acceptable".**

(i) **The frequency** of failure has been very low and to date has not occured with someone working on the pole. There are no controls available to affect the frequency of failure.

(ii) **The consequence** of a failed insulator carrying a live conductor is high, if someone is working on the pole. A circuit outage, insulator change out and/or mehtods to catch a falling conductor are controls to affect the consequence.

Install the conductor catcher, or temporary support guy barrier before staring "work" on the pole.	The magnitude of stress on a insulator due to conductor weight, conductor vibrations and abnormal weather, are greater than vibrations due to climbing.
"Work" is defined as activity that may cause movement of the pole such as dead-ending conductor, pulling guys and/or changing transformers.	Because the probability of failure (frequency) is not increased, the risk of climbing high enough to install the conductor support system is "as low as reasonably acceptable".
The risk caused by climbing high enough to install the conductor support system is acceptable.	Two support systems are found in Technical Bulletin HO 2083 -R1

METHOD	ADDITIONAL INFORMATION
3. **Other Utilities Working on Our Poles** Climbing and minor service work that does not cause movement to the pole would not require additional protection. Ontario Hydro will need to provide protection as described in #1 and #2 if work such as stringing cable is carried out. Where potentially defective types of insulators have been identified, the pole shall be marked with the letter "C"	The risk for others working on our poles must also be managed to "as low as reasonably possible".

KEY TERMS

Insulators
Horizontal Post
Conductor Catcher
Hazard

Here is a list of Areas that have reported incidents and the type of insulators involved:

Strathroy - 34.5kv Canadian Ohio Brass Improved appearance Breaking at the base due poor manufacturing quality control

Essex - 46 kv Canadian Ohio Brass and Canadian Porcelain improved appearance and 46kv/27.6kv Canadian Porcelain two piece insulators
Cement growth

Simcoe - 27.6kv Canadian Porcelain two piece insulators Cement Growth

Peninsula Dundas - 46kv Canadian Porcelain improved appearance (1976)

Kent - 46kv/27.6kv Canadian Porcelain two piece insulators

Lapp. 82-83 Problem.

Appendix G

HPDC ESA Audit Report May 21, 2020

AESI AUDIT REPORT

Ontario Regulation 22/04 Sections 4 to 8

Client

Hearst Power Distribution Company Limited

Date

May 21, 2020

Prepared by

Daljit Cheema, P, Eng.

AESI

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APPENDIX LISTING

1. AUDIT SCOPE & SUMMARY

This audit report was prepared for Hearst Power Distribution Company Limited (HPDCL), which distributes electricity in the town of Hearst, serving approximately 2,900 residential, industrial, and commercial customers. The scope of this audit involved processes concerning 14kV and 25kV overhead & underground primary and secondary lines. HPDCL may contract out a portion of its work to qualified contractors and such work was included within the scope of this audit.
HPDCL employs seven (7) regular staff.

The auditor, Daljit Cheema, has a Lead QMS Auditor Certificate (ISO 9001:2008). Daljit is registered with the Professional Engineers of Ontario and has over 30 years of experience working in various capacities at local electrical distribution companies in the Greater Toronto Area. He is an approved auditor by ESA to conduct this audit to the requirements of Ontario Regulations 22/04 for HPDCL. The auditor is independent of the work being performed and of the audit client.

ESA Bulletin DB – 03/20 recommends that, “as the COVID-19 situation continues to evolve””, ESA is taking additional measures to support social distancing and feasibility of remote audits. ESA will accept remote audits under the current circumstances.

In discussion with Jessy Richard, General Manager has agreed to a virtual audit.

Site visits, walk through stores and outside equipment storage facility were not conducted.

Audit meetings were conducted via WebEx and teleconference. Records, plans and standard design drawings were made available via Drop Box and e-mails.

The audit was conducted on May 19, 2020 including the period required for documentation review and verification of control environment. Additional time was required to prepare this report and for audit preparation.

The period covered of this audit is January 1, 2019 to December 31, 2019.

The scope of the audit covered the following processes and departments:

- Review of the responses to the issues from previous audits (if applicable)
- Maintenance
- Purchasing
- Engineering / Design
- Field Construction and Inspection
- Health and Safety
- HPDCL Construction Verification (February 14, 2019)

The audit was conducted in accordance with the requirements of O. Reg 22/04 Sections 4 – 8.

The audit confirmed the control environment as per Auditing Guidelines.

The audit was conducted using the process approach. The processes documented within the Construction Verification Program and associated procedures were followed, personnel were interviewed, and records reviewed to confirm the implementation of the program.

HPDCL has addressed two “Needs Improvement” issues identified in previous audit report, (a) Assembly of approved standards design drawings and specifications not included on “Tail Board Talk Sheet”, (b) Latest CVP not submitted to ESA.

HPDCL response; (a) Assembly of approved standard design drawings and specifications will be included in work documents and “Tail Board Meetings” work Instructions. (b) Latest CVP revision dated February 14, 2019 submitted to ESA.

1.1. Opening Meeting Attendees

An opening meeting was held on May 19, 2020 with following persons present;

Jessy Richard	Marc Vaillancourt
Dennis Samson	Dal Cheema

1.2 Closing Meeting Attendees

A closing meeting was held on May 21, 2020 with following persons present;

Jessy Richard	Marc Vaillancourt
Dennis Samson	Dal Cheema

1.3 Observations

- Preventive Maintenance and inspection programs for equipment up to 750V not part of distribution system, overhead/underground primary and secondary distribution lines comply with Appendix ‘C’ of OEB’s Distribution System Code. Excellent Asset Management Programs.
- HPDLC does not have any submersible transformers, submarine cables, cables in tunnels under railroads/water crossings, cables in ducts suspended to bridges, manholes, building housing substation equipment, underground vaults housing HPDCL’s or customer owned equipment, and free-standing switchgear on the system.
- HPDCL does not own municipal substations. It owns one electrical distribution feeder and two jointly with Hydro One Network Inc.
- No plans were produced by an external consultant.
- New major equipment; 25 kVA 120/240V transformer was approved during the audit period by competent person. 25 kVA 120/240 V Pad mounted Transformer, Stock Number XO00140, Part Number XFPA0251120, USF Part Number U10700. Equipment Approval Form shows: Equipment Description, Equipment

Standards, Manufacturer Name, Manufacturer Item Number, and Vender Part Number.

- Soft copies of CSA Overhead & Underground Standards, National Electrical Safety Code, and hard copy of Ontario Electrical Safety Code were accessible to the staff.
- No temporary electrical plan (installations not completed due to lack of material/equipment or time constraint) installations during the audit period. Ref; DB-05-18.
- HDPCL anticipated two (2) locations where 3 phase, 3 wire system is solidly connected to WYE system at customers' service entrances. Further site visit revealed that system neutral does not enter the buildings. The neutral bushing is grounded to transformer case.

1.5 Auditor's' Opinion

It is the opinion of this auditor that HPDCL is in compliance with the requirement of ONTARIO REGULATION 22/04 Sections 4, 5, 6, 7, and 8.

Client	Auditor
Jessy Richard, General Manager	Daljit Cheema, P. Eng.
Hearst Power Distribution Company Ltd. 925 Alexander Street, Hearst, ON P0L 1N0	AESI Acumen Engineered Solutions Int'l Inc. 775 Main Street East, Suite 1B Milton, ON L9T 3Z3

Appendix 1

AUDIT PLAN - HPDI

May 14, 2020

1:00	Audit Planning Meeting	Present the Remote Audit process. Audit may be carried out over two meetings Auditor will provide blank Audit Check Lists for Sections 4, 6, 7 and 8. Submit relevant sample of work records for review for all the sections. Audit to be conducted via video conference/ or phone call. Records not available during the audits can be scanned on to USB flash drive and mailed to the auditor.
2:00	Adjournment	

May 19, 2020

8:00	Opening Meeting	Present the Audit process Review the description of LDC Review previous audit and action plans (if applicable). Update from client on any change made to the CVP processes.
8:30	Section 4 Safety Standards	Staff knowledgeable in maintaining lines and equipment in safe condition including ancillary equipment, overhead, underground lines and substations.
9:30	Section 6 Approval of Electrical Equipment	Staff knowledgeable in specifying approved equipment, purchasing, receiving, and stocking.
10:30	Section 7 Plans and Specifications	Staff knowledgeable in engineering design and assembly of plans for overhead and underground lines, substations, and subdivisions.
11:30	Section 8 Inspection and Approval of Construction	Staff knowledgeable in inspection of overhead and underground lines, subdivisions, and metering.
12:30	Safety Training and Promotion	Person(s) involved in promoting public safety to the public and safety training.
1:00	Adjournment	

May 21, 2020

8:00	Closing Meeting	Present - Management and staff who should receive a verbal report on the outcome of the audit.

9:00	Adjournment	

Appendix 2

AUDIT RESULTS AND CHECKLIST

2 AUDIT FINDINGS

Legend: NA – Not Applicable C – Complies NI – Needs Improvement NC – Non-Compliance

Reg. Sect.	Audit Plan / Requirement	Audit Results	NA	C	NI	NC
4(3)	A maintenance and inspection program for equipment up to 750 volts not part of distribution to ensure proper operation and safety (ancillary equipment) (Maintenance and inspection schedules, logs, checklists)	Inspection and PM of low voltage ancillary equipment: • Municipal street lighting has been replaced with new LED. Street Lights and Traffic Lights are maintained by HDPCL staff on behalf of the City and inspected by ESA. Work completed is recorded in "Record of Electrical Maintenance Work" and signed off by competent person with "no undue hazard". Inspection and PM records available.		X		
4(4)	A maintenance and inspection program for overhead primary and secondary distribution lines to ensure proper operation and safety Maintenance schedule Maintenance records Asset management program	Inspection and PM overhead system: • Primary and secondary line patrolled once a year – line patrolled recorded in Line Patrol Report. • Pole mounted transformers inspection is noted on a "Pole Mounted Inspection" spread sheet. Depending on the severity of the issue, is coded with different colors. High priority is represented by red, medium is represented by brown, and low priority is represented by green. • Annual Infrared inspection by HDPCL crew. • Pole testing by hammer test by HDPCL crew, five-year cycle. • Tree trimming every year and also based on line patrol by HDPLC crew. Tree trimming along secondary wires is noted on "Tree Trimming List 2019" spread sheet. • Porcelain replacement with polymers on going and as required. • Load break switch maintenance, 3 - year cycle, due in 2020.		X		

Legend: NA – Not Applicable C – Complies NI – Needs Improvement NC – Non-Compliance

Reg. Sect.	Audit Plan / Requirement	Audit Results	NA	C	NI	NC
		• PCB testing and elimination program. • Visual Inspection of load break switches during line patrol – check for opening and closing of switches annually. Inspection and PM records available				
4(5)	A maintenance, inspection and testing program for underground primary and secondary distribution lines to ensure proper operation and safety Maintenance schedule Asset management program Maintenance records	Inspection and PM underground system: • Annual inspection and maintenance plan. • Annual infrared inspection of pad-mount transformers by HPDCL • Single and three phase transformer inside inspection, 3 - year cycle and outside annually. The information is noted on Pad Mounted Transformer Inspection Sheet. Depending on the severity of the issue is coded with different colors. Red is high, Brown is medium, and Green is low priority. • Pad mounted snow removal patrol annually. • PCB testing and elimination program • Dip poles infrared inspection annually during line patrol. Inspection and PM records available		X		
4(6)	A maintenance, inspection, and testing program for distribution stations to ensure proper operation and safety Maintenance schedule Asset management program Maintenance records	Inspection and PM substations: Observations: • HPDCL does not own any municipal substations. It owns one electrical distribution feeder and one jointly owned with Hydro One Network Inc.		X		
6	Distribution equipment approved when approved by certification or field inspection; or approved under Rule of Distributor	HPDCL is a member of USF Group. HPDCL maintains documented equipment purchasing policy. Listing of all major		X		

Legend: NA – Not Applicable C – Complies NI – Needs Improvement NC – Non-Compliance

Reg. Sect.	Audit Plan / Requirement	Audit Results	NA	C	NI	NC
	• Documented outline of equipment approval process including identification of competent persons, review of test reports • List of approved major equipment up-to-date and reference to standards • Major equipment specifications approved by a competent person or P. Eng. • Approval records • Non-major equipment – Good Utility Practice • Receiving inspection • Pre-regulation equipment - GUP	equipment and certified test reports available for audit. Any new equipment is approved by competent person.				
6(1)(a)	Specifying equipment approved by certification or field evaluation	Personnel are aware of the need to specify equipment certified equipment approved by certification organization.		X		
6(1)(a)	Checking that supplied ancillary equipment ordered is approved by certification or field evaluation	Personnel are aware of the need to check for equipment approval markings.		X		
6(1)(b)	Major distribution equipment approval under Rule of the Distributor: • Meets industry standards acceptable to ESA; or • Meets distributor specifications approved by a P. Eng., competent person, and no undue hazard; or • Documented approval process • Supporting documentation of approvals • Certified tests reviewed by a competent person	Major equipment is approved under the Rules of the Distributor. Hard copies certified test data and equipment specifications are accessible The following new major equipment was approved during the audit period; • 25 kVA 120/240 V Pad mounted Transformer, Stock Number XO00140, Part Number XFPA0251120, USF Part Number U10700. • Polymer Line Post Insulator 28kV Line Post Insulator, Part Number KL-28SK.		X		

Legend: NA – Not Applicable C – Complies NI – Needs Improvement NC – Non-Compliance

Reg. Sect.	Audit Plan / Requirement	Audit Results	NA	C	NI	NC
	• Composite poles & wood poles	Certified test reports available via USF web site. Observations; • Equipment is approved by competent person. Equipment Approval Form shows: Equipment Description, Equipment Standards, Manufacturer Name, Manufacturer Item Number, and Vender Part Number.				
6(1)(b)	Re-Use of Major Equipment • Documented process identifies competent person • Used major equipment approved by competent person or a P. Eng. and no undue hazard. • Competent person records no undue hazard • Testing or repair – competent person records no undue hazard • Must fail safely	HPDCL has produced an In-coming Transformer Data Sheet which includes checklist for assessing transformers returned from the field. Transformers are tested. Transformers considered suitable for re-use are tagged, and signed by lead hand or lineman with “no undue hazard” statement and restocked. Observations: • No transformer returned from the field during the audit period.		X		
6(1)(b)	Non-major Equipment approval under Rule of the Distributor (no undue hazards**):** • Documented approval process • Meets industry standards; or • Distributor developed specifications; or • Good utility practice – 2 years or more, documented confirmation by a competent person, no undue hazards	The non-major equipment procedure is documented. New non-major equipment may be approved under Good Utility Practice that the material the has been in use for at least two years with supporting documents confirming that there is no “un due hazard” or may include use by different LDC • HPDCL is planning to put under Good Utility Practice, 9” Side Post Bracket (non-major equipment). Stock Number, Part Number 63810, and USF Part Number 00036 on trial for two years.		X		

Legend: NA – Not Applicable C – Complies NI – Needs Improvement NC – Non-Compliance

Reg. Sect.	Audit Plan / Requirement	Audit Results	NA	C	NI	NC
	• GUP may include successful use by a different LDC					
6(1)(b)	Equipment is specified to meet Rule of Distributor standards • Tendering • Purchasing alliances • Purchasing approved equipment (Purchase orders, reference to standard by model numbers, engineering specifications, technical data)	HPDCL is a member of USF and North-East District Buying Consortium (NEDBC). Group tendering is done through NEDBC. Specifications are provided to the venders, who have access to USF equipment list. Purchase Orders specify manufacturers' part number, cross reference to NEDBC and LDC's part number, description, and rating.		X		
6(1)(b)	Supplied equipment meets Rule of Distributor requirements • Inspection procedure • Dealing with vendor non-compliances	Equipment is checked against packing slips and purchasing orders to ensure accuracy and satisfactory condition. Observations; • On receiving the shipment, competent person completes "Inspection Report of Material Received" Checklist to ensure there are no anomalies.		X		
6(2)	Inspection and testing of equipment supplied based on Rule of Distributor requirements (Inspection and testing records)	HPDCL has not developed any unique standards and relies on Existing industry standards.	X			
6(2)	Determining inspection and testing methods for equipment supplied to distributor (Records of analysis, conclusions, manufacturers declaration, witness testing, third party or distributor testing)	HPDCL has not developed any unique inspection or testing. methods.	X			
6(1)(a) 6(2)	Dealing with vendor noncompliance (Field evaluation, rejection, communications)	Non-conforming shipments are quarantined, venders are contacted and equipment may be returned if necessary		X		
7	• Plans: • Prepared by a P. Eng.; and/or	HPDCL utilizes USF standard design drawings have been certified by P. Eng. All work instructions, standard design drawings, specifications are assembled by lead hands.		X		

Legend: NA – Not Applicable C – Complies NI – Needs Improvement NC – Non-Compliance

Reg. Sect.	Audit Plan / Requirement	Audit Results	NA	C	NI	NC
	• Based on standard design drawings and specifications or Sect. 75 OESC • Reviewed and approved by a • P. Eng. or ESA • Plans by subdivision developers • Plans by external consultants • Temporary power design standard • Deviation from approved standards	Observations; • No new line construction was designed or constructed in 2019. Except preventive maintenance and pole replacements. • No plans were produced for HPDCL by external engineering firm or by developers' consultant during the audit period.				
7	Approved plans or standard designs required except for: • Like-for-like construction • Emergency work • Legacy construction	Approved plans are provided except for like-for-like, Emergency and legacy construction. The USF standard designs drawings are used for pole replacement, repair and preventive maintenance. Observations: • Pole replacement at 8th Street and Alexandra Street; Standards Design Drawings, Specifications, and assembly of work instructions by competent person.		X		
7	Ensure third party attachments are: • Authorized; and • No adverse effect on distribution system safety • Engineering plans certified by LDC or third-party P. Eng. (no gaps in certification) • Certified third-party standards – evidence of certification • Third party generation • Bell Canada standards	Third party attachers' are Bell, Eastlink, Hearst Wi-Fibe and Ontera. Observations: • Third party attacher makes an application to HPDCL and provides the information. HPDCL surveys the hydro plant. Based on information provided by third party attacher, HPDCL will review the changes required at each pole to accommodate third party attacher 's request. Once HPDCL is satisfied, it will send all the information to a drafting firm. The drafting firm will prepare the plans. HPDCL's competent person will review & approve the plans and prepare make ready work list.		X		

Legend: NA – Not Applicable C – Complies NI – Needs Improvement NC – Non-Compliance

Reg. Sect.	Audit Plan / Requirement	Audit Results	NA	C	NI	NC
7	Up-to-date copies of internal specifications and identified standards available to approving P. Eng. – examples: • Electrical Safety Code • CSA Std. O/H Systems • CSA Std. U/G Systems • National Electrical Safety Code • Equipment Standards	HPDCL has hard/soft copy of USF standard. Observations; • Hard and Soft copies of CSA O/H, U/G Stds, National Electrical Safety Code, and hard copies of Ontario Electrical Safety Code are accessible to the staff.		X		
7	Ensure P. Eng. memberships valid and current	HPDCL does not employ a P. Eng.	X			
7	Identify competencies of identified competent persons and ensure they have the required competencies (training records, position descriptions, resumes)	Qualifications of identified competent staff reviewed. Observation: • Records available		x		
7(1)(a)	Installations based on plans by a P. Eng.: • Reviewed and approved by a P. Eng. or • Reviewed and Approved by ESA (Sample of plans)	Installations are based on standard design drawings reviewed approved by lead hand.	X			
7(1)(b)	Installations based on standard drawings and specifications assembled by a P. Eng., engineering technologist or competent person. (Sample of drawings and specifications)	Installations are based on standard drawings and specifications assembled by lead hand.		X		
7(2)(a) 7(2)(b)	Plans, standard design drawings and specifications reviewed and approved by a P. Eng. or ESA (Signatures, stamps)	Plans and standard design and specifications are reviewed and approved by lead hand.		X		
7(3) 7(5)	Plans, standard design drawings and specifications certified by a P. Eng. or ESA (Plans, drawings, specifications, certificates)	USF standards design drawings and specifications are certified by P. Eng.		X		

Legend: NA – Not Applicable C – Complies NI – Needs Improvement NC – Non-Compliance

Reg. Sect.	Audit Plan / Requirement	Audit Results	NA	C	NI	NC
7(6)	Ensure that standard design drawings, specifications and certificates are: • Recorded and tracked • As-built drawings show changes made in construction • Retained and available to ESA • Retained for minimum of one year after audit • Electronic storage	Work instructions/Plans are maintained in CVP project files indexed by dates, W.O. numbers. Project files contain the following: • Certificates • Permits, • Bill of Material • Tailboard Talk Sheets • CVP Work Order/Checklist records • locates		X		
8(1)	Construction verification program: • Approved by ESA • When approved • Qualified persons list up to date • Any changes approved	CVP approved by ESA on February 14, 2019.		X		
8(1)	Except for like-for-like replacements, emergency and legacy work, installations based on: • Approved and certified plans before construction; or • Standard design drawings and specifications • Approved equipment • Safety standards met • Non-compliances noted in record of inspection • Collections Department	Approved standard design drawings, specifications and assembly of work instructions are provided except for like for like replacement, emergency, and legacy work. Reviewed the Record of Inspection and Certificate of; “Pole Replacement” at 8th Street and Alexander Street The installation is based on following; • Approved standards design and specification used, • Approved equipment used, • Safety Standard met, • No Non-Compliances, • Partial and Final Inspections documented, • Certificate, before construction can be used		X		
8(1)	Ensure construction inspected and approved before use:	All construction is inspected and approved before use.		X		

Legend: NA – Not Applicable C – Complies NI – Needs Improvement NC – Non-Compliance

Reg. Sect.	Audit Plan / Requirement	Audit Results	NA	C	NI	NC
	• When implemented? • Monitored to cover all construction					
8(1)	Like-for-like, emergency and legacy work inspected and confirmed safe by competent person • Metering • Cutoff and reconnection • Customer Service • NC's rectified • No undue hazard statement • Inspection record and certificate	Like-for Like, Emergency, Legacy and metering work is inspected and confirmed safe by competent person. • Metering – upgrade, replacement, disconnect/reconnect (non – payment) • Trouble calls • Emergency Work • Maintenance • Power outages Observations; • WO of the above activities indicate that the work was completed and signed off by competent person with "no undue hazard" statement. • WO completed - created as result of action required from line patrol are signed off by competent person with "no undue hazard" statement. Records available		X		
8(2)(a) 8(2)(b) 8(2)(c)	Inspection by: • P. Eng.; or • Qualified person identified in inspection verification program; or • ESA	Inspections are carried out by qualified staff identified in CVP. CVP check list is used to ensure that work details have been addressed.		X		
8(3)	Records of inspection include: • Inspection before use of installation • Approved plan or standard design followed	Records of inspection provide all the required information on what was inspected: • Approved Plans • Service Orders		X		

Legend: NA – Not Applicable C – Complies NI – Needs Improvement NC – Non-Compliance

Reg. Sect.	Audit Plan / Requirement	Audit Results	NA	C	NI	NC
	• Approved equipment used • Inspection date • Installation identified • Non-compliances rectified • Stamped, signed, or initialed • Inspection verification program followed	• Inspection date • Approved Equipment used" • Tailboard Talk Sheets • Daily Time Sheets • Installation identified • Non-compliances rectified				
8(4)	Safety standards met before certification Certificates available and show: • Identify work inspected • Safety standards met • Date of certification • Stamp, signature, or initials • Like-for-like and legacy construction no undue hazards	Safety standards met certificate are available and show: • Record of Installation Inspection of work • Safety standards met • Date of certification • Tailboard Talk Sheets • Service Orders		X		
8(7)	Certificates and records of inspection available to ESA and: • Records and certificates of inspection • Covers all applicable construction • Signed and dated • Progressive inspections and sampling process certificates • Records of inspection for underground work	Certificates and records of inspection are available in project files.		X		
	Third party contractors trained and listed in the CVP	No third-party contractors trained and listed in CVP.	X			
	Competent and qualified persons trained on CVP and process for updating	CVP refreshers training of competent and qualified persons on May 15, 2019.		X		

Legend: NA – Not Applicable C – Complies NI – Needs Improvement NC – Non-Compliance

Reg. Sect.	Audit Plan / Requirement	Audit Results	NA	C	NI	NC
	Sampling program developed	No inspection sampling is done.	X			
	Process for resolving non-compliances and design changes	Process to resolve non-compliances is documented in CVP.		X		
	Third party construction by contractors • Construction and maintenance on electrical distribution system • Records of inspection and certificates • Approved plan followed	No work carried out by third party contractors during the audit period.	X			
	Third party attachment – communications and community antenna systems: • Meets safety requirements • Non-compliances and variations resolved • Inspection by P. Eng. or person qualified in CVP • Certificate and record of inspection	Third party attachment inspections are performed by competent person listed in CVP. Reviewed the following constructed plans; • Hearst Wi-Fibe, on Veilleux St, Mailloux St., Tremblay St., 1st St. Rousse St., Fontaine Dr.& Jolin St. • Hearst Wi-Fibe, on Labelle Ave., Villeneuve St., Bryant St., Wyborn St., Algoma St., & Mcnee St. Observations; The above plans were reviewed and approved by competent person. As constructed plans prepared by contractor, reviewed, and approved by competent person.		X		
	Public safety promotion: • Regular training includes safety • Performance assessment includes safety • Records on dealing with safety issues • Training materials • Safety communications • Interest and input from the Board	HPDCL promotes public safety in the following ways; • HPDCL has prepared electrical safety booklets in English and French. The booklet covers various safety related topics; Electricity can be dangerous, what to do if some has been shocked or burned by electricity, what to do in an electrical fire, what to do if you see broken or downed wires, stay away from electric lines and utility equipment, and electricity, you & water don't mix.		X		

Legend: NA – Not Applicable C – Complies NI – Needs Improvement NC – Non-Compliance

Reg. Sect.	Audit Plan / Requirement	Audit Results	NA	C	NI	NC
		• Public Safety information on HPDCL's web site. • Basic electrical safety awareness training to first emergency responders. • Refresher training to contractors by Fire Chief and Chief Building Inspector – "Call Before Dig" - (reps from HPDLC, Union Gas, Bell, Water are present to answer any questions). • ESA Safety Survey, every two years – completed during the audit period. • Emergency preparedness planning with the City, medical officer, police, EMS, MOE, MNR, phone company, school boards, Canadian Red Cross – 3 meetings/year. • Team building meeting with all employees annually. • GM quarterly report to the board – all safety related matters included. • Newspaper used to promote public safety. • Safety training to employees during year. • Use of face book to promote safety – notify customers of planned outages Records available.				

NOTES

2.4.3 CAPITALIZATION OF OVERHEAD

Indirect overhead costs, such as general and administration costs that are not directly attributable to an asset, are not, nor have they ever been capitalized. (as such Appendix 2-D is not applicable in this case)

2.4.4 COSTS OF ELIGIBLE INVESTMENTS FOR DISTRIBUTORS

HPDCL attests that it has not included any costs or included any Investments to Connect Qualifying Generation Facilities in its capital costs or in its Distribution System Plan.

As such, details of any capital contributions made or forecast to be made to a transmitter with respect to a Connection and Cost Recovery Agreement are not applicable in this case.

HPDCL is not considering incremental conservation initiatives in order to defer or avoid future infrastructure projects as part of distribution system planning processes nor is it planning on applying for funding through distribution rates to pursue activities such as energy efficiency programs, demand response programs, energy storage programs, etc. Lastly, HPDCL is not considering a generation facility.

2.4.5 NEW POLICY OPTIONS FOR THE FUNDING OF CAPITAL

HPDCL is not proposing any special or different approach to funding its capital expenditure.

2.4.6 ADDITION OF ICM ASSETS TO RATE BASE

HPDCL has never applied for a rate adder to recover an investment through the OEB's Incremental Capital Module. And as such, HPDCL does not need to balances in Account 1508 sub-accounts, reconciliation with proposed rate base amounts; recalculated revenue requirement should be compared with rate rider revenue. At the time of the application, HPDCL is not forecasting the need for an Advanced Capital Module or Incremental Capital Module.

1

2.4.7 SERVICE QUALITY AND RELIABILITY PERFORMANCE

HPDCL records and reports annually the following Service Reliability Indices:

- SAIDI = Total Customer-Hours of Interruptions/Total Customers Served
- SAIFI = Total Customer Interruptions/Total Customers Served
- CAIDI = Total Customer-Hours of Interruptions/Total Customer Interruptions

These indices provide HPDCL with annual measures of its service performance that are used for internal benchmarking purposes when making comparisons with other distribution companies (e.g., to better understand the rankings that will support the OEB's Incentive Rate Making Mechanism and Performance-Based Regulation). They are reported in accordance with Section 7.3.2 of the OEB's Electricity Distribution Rate Handbook.

HPDCL's performance metrics are discussed in detail in Section 5.2.3 of the DSP.

HPDCL is not proposing any benchmarking metrics that are not already in place.

Table 30 – OEB App 2-G ESQR Results

Indicator	OEB Minimum Standard	2013	2014	2015	2016	2017	2018	2019
Low Voltage Connections	> 90%	100%	100%	100%	100%	100%	100%	100%
High Voltage Connections	> 90%	N/A	100%	100%	100%	N/A	100%	100%
Appointment Scheduling	> 90%	100%	100%	100%	100%	100%	100%	100%
Appointments Met	> 90%	100%	100%	100%	100%	100%	100%	100%
Rescheduling a Missed Appointment	100%	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Telephone Accessibility	> 65%	100%	97%	89%	87%	87%	88%	92%
Telephone Call Abandon Rate	< 10%	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Written Response to Enquires	> 80%	100%	100%	100%	100%	100%	100%	100%
Emergency Urban Response	> 80%	100%	100%	100%	100%	N/A	100%	100%
Emergency Rural Response	> 80%	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Reconnection Performance Standard	> 85%	91%	100%	100%	100%	100%	100%	100%
Micro-embedded generation facilities	> 90%	100%	N/A	N/A	N/A	N/A	N/A	N/A

- **No explanations are required as all results have exceeded the OEB Minimum Standard.**

Table 31 – OEB App 2-G SAIFI SAIDI Results

Index	Including outages caused by loss of supply					Excluding outages caused by loss of supply					Excluding Major Event Days				
	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
SAIDI	44.980	3.280	13.390	4.580	11.000	2.000	2.190	4.330	2.670	2.480	2.000	2.190	4.330	2.670	2.480
SAIFI	6.880	1.730	4.860	4.240	4.310	0.710	1.270	1.770	2.090	1.180	0.710	1.270	1.770	2.090	1.180

	5 Year Historical Average		
SAIDI	15.446	2.734	2.734
SAIFI	4.404	1.404	1.404

Details and explanations of the SAIDI and SAIFI index variances can be found in section c) of 5.2.3 in the Distribution System plan.

LIST OF APPENDICES

N/A	