Table of Contents

Overview of Rate Base

Ex.2/Tab 1/Sch.1 - Rate Base Overview

Wellington North Power Inc.'s (WNP) Rate Base is determined by taking the average of the asset balances at the beginning and the end of the Test Year, plus a working capital allowance which is 7.5% of the sum of the cost of power and controllable expenses. The use of a 7.5% rate is consistent with the Board's letter of June 3, 2015 and the Filing Requirements as issued by the Ontario Energy Board.

The net fixed assets include those distribution assets associated with activities that enable the conveyance of electricity for distribution purposes. WNP does not have non-distribution assets. Controllable expenses include operations and maintenance, billing and collecting and administration expenses.

This exhibit will compare historical data with the 2015 Bridge Year and 2016 Test Year. WNP converted to International Financial Reporting Standards (IFRS) on January 1, 2015 and has prepared this application under IFRS. In order to make the comparisons meaningful, all comparisons will be made under IFRS.

WNP has calculated its 2016 Test Year rate base to be $9,523,835. This rate base is also used to determine the proposed revenue requirement found at Exhibit 6.

Table 2.1 below shows WNP's Rate Base calculations for the test year.

Table 2.1: Test Year Rate Base

Rate Base and Working Capital Allowance	
Particulars	Test Year 2016 (MIFRS)
Gross Fixed Assets (average)	16,008,237
Accumulated Depreciation (average)	($7,604,099)
Average Balance	$8,404,138
Allowance for Working Capital	$1,119,697
Total Rate Base	$9,523,835
Allowance for Working Capital – Derivation	
Particulars	Test Year 2016 (MIFRS)
Controllable Expenses	$1,811,368
Cost of Power/Power Supply Expense	$13,117,919
Working Capital Base	$14,929,287
Working Capital Rate %	7.5%
Working Capital Allowance	$1,119,697

Ex.2/Tab 1/Sch.2 - Rate Base Trend

Table 2.2 below presents WNP's Rate Base calculations for all required years including the 2016 Test Year. Year over year variance analysis follows.

Table 2.2: Rate Base Trend

Particulars	CGAAP Last Board Approved	CGAAP 2012	CGAAP 2013	CGAAP 2014	MIFRS 2015	MIFRS 2016
Net Capital Assets in Service:						
Opening Balance	5,812,772	4,825,188	5,528,521	5,802,179	5,960,835	7,653,193
Ending Balance	5,913,026	5,528,521	5,802,179	5,960,834	6,269,994	9,155,083
Average Balance	5,862,899	5,176,854	5,665,350	5,881,506	6,115,415	8,404,138
Working Capital Allowance	1,626,419	1,542,197	1,839,444	1,672,740	1,933,119	1,119,697
Total Rate Base	**7,489,318**	**6,719,051**	**7,504,794**	**7,554,247**	**8,048,534**	**9,523,835**

Table 2.3: Allowance for Working Capital – Derivation

Expenses for Working Capital	CGAAP Last Board Approved	CGAAP 2012	CGAAP 2013	CGAAP 2014	MIFRS 2015	MIFRS 2016
Eligible Distribution Expenses:						
3500-Distribution Expenses - Operation	271,063	316,211	348,432	341,075	403,400	411,500
3550-Distribution Expenses - Maintenance	230,223	272,443	239,542	226,874	233,118	239,500
3650-Billing and Collecting	327,863	354,125	333,323	339,063	385,125	395,000
3700-Community Relations	6,304	5,462	9,897	15,833	7,100	7,000
3800-Administrative and General Expenses	664,547	659,196	810,051	800,227	717,757	740,368
6105-Taxes other than Income Taxes	12,006	12,495	12,930	12,915	13,500	14,000
6205-Sub-account LEAP Funding	-	2,310	2,840	2,873	3,500	4,000
Total Eligible Distribution Expenses	1,512,006	1,622,241	1,757,015	1,735,988	1,763,500	1,811,368
3350-Power Supply Expenses	10,105,275	9,393,450	11,381,869	10,212,158	12,044,493	13,117,919
Total Expenses for Working Capital	11,617,281	11,015,691	13,138,884	11,948,146	13,807,993	14,929,287
Working Capital factor	14.0%	14.0%	14.0%	14.0%	14.0%	7.5%
Total Working Capital	**1,626,419**	**1,542,197**	**1,839,444**	**1,672,740**	**1,933,119**	**1,119,697**

The Rate Base for the 2016 Test Year has increased by $1,475,301 over the Bridge Year and $2,034,517 over the last Board Approved Rate Base. The reason for the increase in the 2016 Test Year is mainly attributed to:

- The inclusion at NBV of $1,383,199 in assets transferred to the test year opening balance from 1508. This addition is the reason the closing balance of the bridge year is not equal to the opening balance of the test year and is consistent with the method of Smart Meter asset inclusion. These assets are related to the 2014 ICM approval to rebuild our MS-2 sub-station. Further details on the topic of the ICM project can also be found at Exhibit 2 / Tab 5 / Schedule 7.

- The capital assets added in the Test Year, total $1,910,401. $1,269,062 of that amount is the Capital Contributions Paid for the construction of the second line feeder to Mount Forest. Another $480,000 of the remaining capital spending is budgeted to integrate the new line into the existing distribution system. Details of these additions are discussed in WNP's 2015 Distribution System Plan that has been filed as Appendix 2A of this Exhibit.

The Working Capital Allowance has decreased by $813,422 over the 2015 Bridge Year and decreased by $506,722 over the 2012 Board Approved Working Capital Allowance. The reason for the decrease from the 2015 Bridge Year to the 2016 Test Year is due to the change in Working Capital Allowance rate from the 14% approved in the 2012 COS to 7.5%. Details on the utility's Working Capital Allowance can be found at Table 2.2 above.

Ex.2/Tab 1/Sch.3 - Rate Base Variance Analysis

The following paragraphs and Tables 2.4 to Table 2.8 provide a narrative on the changes that have driven the increase in rate base since WNP's 2012 Board Approved Cost of Service Application.

2016 Test Year vs. 2015 Bridge Year:

Table 2.4: 2016-2015 Rate Base Variances

	MIFRS			
Particulars	**2016**	**2015**	**Var**	**%**
Net Capital Assets in Service:				
Opening Balance	7,653,193	5,960,835	1,692,358	28%
Ending Balance	9,155,083	6,269,994	2,885,089	46%
Average Balance	8,404,138	6,115,415	2,288,723	37%
Working Capital Allowance	1,119,697	1,933,119	(813,422)	-42%
Total Rate Base	**9,523,835**	**8,048,534**	**1,475,301**	**18%**

The total projected average asset balance in 2016 of $8,404,138 is $2,288,723 or 37.4% greater than 2015. The main reason for the variance is:

- The inclusion of almost $1.4 million of ICM assets (placed in service in 2014) in the opening balance for 2016.
- The addition of a Second Line Feeder to supply electricity to Mount Forest at a cost of $1.269 million.
- A new pole line to integrate the new electricity supply into the existing distribution system.
- WNP's investment in its distribution system required in order to keep the system running in a safe and reliable manner
- The working capital allowance saw a decrease due to the reduction in rate from 14% to 7.5%.

2015 Bridge Year vs. 2014 Actual:

Table 2.5: 2015-2014 Rate Base Variances

	MIFRS			
Particulars	**2015**	**2014**	**Var**	**%**
Net Capital Assets in Service:				
Opening Balance	5,960,835	5,802,179	158,656	3%
Ending Balance	6,269,994	5,960,834	309,161	5%
Average Balance	6,115,415	5,881,506	233,908	4%
Working Capital Allowance	1,933,119	1,673,143	259,976	16%
Total Rate Base	**8,048,534**	**7,554,649**	**493,884**	**7%**

The total projected average asset balance in 2015 of $6,115,415 is $233,908 or 4% greater than 2014. The increase is primarily due to:

- Computer upgrades to implement a virtual server along with software upgrades – 108,000.
- New Hardware and software for SCADA – Smart Grid project - $200,000.
- Pole Line Projects - $271,500
- New pick-up truck -$35,000.
- Building Renovations - $75,000
- The rest of the increase can be attributed to regular maintenance of the distribution system.
- The working capital allowance saw an increase that was due almost entirely due to the increase in Power Supply Expenses.

2014 Actual vs. 2013 Actual:

Table 2.6: 2014-2013 Rate Base Variances

	CGAAP			
Particulars	**2014**	**2013**	**Var**	**%**
Net Capital Assets in Service:				
Opening Balance	5,802,179	5,528,521	273,658	4.95%
Ending Balance	5,960,834	5,802,179	158,655	2.73%
Average Balance	5,881,506	5,665,350	216,157	3.82%
Working Capital Allowance	1,673,143	1,839,444	(166,301)	9.04%
Total Rate Base	**7,554,649**	**7,504,794**	**49,856**	**0.66%**

The total projected average asset balance in 2014 of $5,881,506 is $216,157 or 3.8% greater than 2013. The increase is primarily due to:

- The allocation of $240,000 in capital additions from the MS-2 Sub-station project which was approved in the 2014 ICM application as the portion of the project funded from the yearly capital budget.

- The rebuild of 2 pole lines during 2014 as well as the preparatory work for a small housing development totaled $344,942.
- The rest of the increase can be attributed to regular maintenance of the distribution system.
- The working capital allowance saw a decrease due mostly to the power supply expense decline and a decrease in OM&A.

2013 Actual vs. 2012 Actual:

Table 2.7: 2013-2012 Rate Base Variances

	CGAAP			
Particulars	**2013**	**2012**	**Var**	**%**
Net Capital Assets in Service:				
Opening Balance	5,528,521	4,825,188	703,333	14.58%
Ending Balance	5,802,179	5,528,521	273,658	4.95%
Average Balance	5,665,350	5,176,854	488,495	9.44%
Working Capital Allowance	1,839,444	1,542,197	297,247	19.27%
Total Rate Base	**7,504,794**	**6,719,051**	**785,742**	**11.69%**

The total projected average asset balance in 2013 of $5,802,179 is $488,495 or 9.4% greater than 2012. The increase is primarily due to:

- The purchase of a new double bucket truck for $280,200 to replace a 15 year old truck and the purchase of a pick-up truck for $29,631.
- The expenditure of $283,467 to replace assets at the end of their useful life. This included replacing Primary Metering Equipment, pole line replacement, etc.
- The rest of the increase can be attributed to regular maintenance of the distribution system.
- The working capital allowance saw an increase that was contributed to by increases in both Power Supply Expenses and OM&A. Details of the OM&A expenditures are presented at Exhibit 4.

2012Actual vs. 2012 Board Approved:

Table 2.8: 2012-2012 Board Approved Rate Base Variance

	CGAAP			
Particulars	**2012**	**Last Board Approved**	**Var**	**%**
Net Capital Assets in Service:				
Opening Balance	4,825,188	5,812,772	(987,583)	16.99%
Ending Balance	5,528,521	5,913,026	(384,505)	6.50%
Average Balance	5,176,854	5,862,899	(686,044)	11.70%
Working Capital Allowance	1,542,197	1,626,419	(84,222)	5.18%
Total Rate Base	**6,719,051**	**7,489,318**	**(770,266)**	**10.28%**

Lastly, 2012 Actuals vs Board Approved also shows a decrease in average net fixed assets. The total average balance in 2012 Actual of $5,176,854 is $686,044 less or 11.7% less than the 2012 Board Approved. The underspending can be attributed to the fact that since the rates were not approved until Sept 2012, there was not enough time to for WNP to have all the items of the Board approved rate base in service by the end of 2012. However, the rate base ending balance in 2013 demonstrates that capital spending was expanded to expected levels in subsequent years. The Working Capital Allowance was down due to a decrease in Power Supply Expenses. There was an increase in OM&A expenditures of about $110,000 as detailed at Exhibit 4.

Ex.2/Tab 1/Sch.4 – Fixed Asset Continuity Schedule

This Schedule presents a continuity schedule of WNP's investment in capital assets, the associated accumulated amortization and the net book value for each Capital USoA account for the 2011 Historic Year, 2012 Historic Year, 2013 Historic Year, 2014 Historic Year, 2015 Bridge Year and 2016 Test Year. WNP attests that the continuity statements reconcile with the calculated depreciation expenses, under Exhibit 4 – Operating Costs, and presented by asset account.

After the implementation of the IFRS standard, Customer Contributions are no longer recorded in Account 1995 Contributions & Grants. Under IFRS, WNP has transferred the NBV of Contributed Capital to Account 2440 Deferred Revenue and allocated to revenue over the service life of the related assets. For the purpose of cost allocation, and continuity within this application, WNP has included Account 2440 in the Continuity Schedules. This is consistent with the Boards required treatment.

The transition to IFRS has resulted in no impact to WNP's rate base.

The following Tables (table 2.9 to table 2.15) are the Board's Appendix 2-BA for 2011, 2012, 2013 and 2014 Actuals, the 2015 Bridge Year, and the 2016 Test Year.

Table 2.9: 2011 Fixed Asset Continuity Schedule

Appendix 2-BA

Fixed Asset Continuity Schedule [1]

Accounting Standard: CGAAP
Year: 2011

CCA Class [2]	OEB Account [3]	Description [3]	Cost				Accumulated Depreciation				Net Book Value
			Opening Balance	Additions [4]	Disposals	Closing Balance	Opening Balance	Additions	Disposals	Closing Balance	
12	1611	Computer Software (Formally known as Account 1925)	$362,308	$244,594	$0	$ 606,902	$227,045	$71,093	$0	$ 298,138	$ 308,765
CEC	1612	Land Rights (Formally known as Account 1906)	$5,815	$1,006	$0	$ 6,821	$0	$0	$0	$ -	$ 6,821
N/A	1805	Land	$41,988	$0	$0	$ 41,988	$0	$0	$0	$ -	$ 41,988
47	1808	Buildings	$431,212	$13,668	$0	$ 444,880	$178,634	$8,328	$0	$ 186,962	$ 257,918
13	1810	Leasehold Improvements				$ -				$ -	$ -
47	1815	Transformer Station Equipment >50 kV				$ -				$ -	$ -
47	1820	Distribution Station Equipment <50 kV	$995,758	$14,100	$0	$ 1,009,858	$612,014	$26,303	$0	$ 638,317	$ 371,541
47	1825	Storage Battery Equipment				$ -				$ -	$ -
47	1830	Poles, Towers & Fixtures	$2,589,866	$84,286	$0	$ 2,674,152	$794,104	$43,539	$0	$ 837,643	$ 1,836,509
47	1835	Overhead Conductors & Devices	$1,848,021	$86,632	$0	$ 1,934,653	$1,536,042	$104,024	$0	$ 1,640,066	$ 294,587
47	1840	Underground Conduit	$146,575	$4,687	$0	$ 151,262	$134,572	$16,690	$0	$ 151,262	-$ 0
47	1845	Underground Conductors & Devices	$437,016	$17,895	$0	$ 454,911	$133,096	$5,575	$0	$ 138,671	$ 316,240
47	1850	Line Transformers	$1,105,683	$77,258	$0	$ 1,182,942	$346,534	$61,778	$0	$ 408,312	$ 774,630
47	1855	Services (Overhead & Underground)	$512,533	$35,433	$0	$ 547,966	$413,747	$10,838	$0	$ 424,585	$ 123,382
47	1860	Meters	$686,882	$25,582	$0	$ 712,464	$373,042	$25,991	$0	$ 399,033	$ 313,431
47	1860	Meters (Smart Meters)				$ -				$ -	$ -
N/A	1905	Land				$ -				$ -	$ -
47	1908	Buildings & Fixtures				$ -				$ -	$ -
13	1910	Leasehold Improvements				$ -				$ -	$ -
8	1915	Office Furniture & Equipment (10 years)	$137,639	$12,101	$0	$ 149,740	$96,820	$10,199	$0	$ 107,019	$ 42,721
8	1915	Office Furniture & Equipment (5 years)				$ -				$ -	$ -
10	1920	Computer Equipment - Hardware				$ -				$ -	$ -
45	1920	Computer Equip.-Hardware(Post Mar. 22/04)	$285,555	$29,173	$0	$ 314,728	$162,745	$0	$0	$ 162,745	$ 151,983
45.1	1920	Computer Equip.-Hardware(Post Mar. 19/07)				$ -				$ -	$ -
10	1930	Transportation Equipment	$755,265	$6,719	$0	$ 761,984	$482,823	$71,091	$0	$ 553,914	$ 208,071
8	1935	Stores Equipment	$4,635	$0	$0	$ 4,635	($585)	$5,219	$0	$ 4,634	$ 0
8	1940	Tools, Shop & Garage Equipment	$91,579	$0	$0	$ 91,579	$91,579	$0	$0	$ 91,579	$ -
8	1945	Measurement & Testing Equipment	$1,964	$0	$0	$ 1,964	$1,964	$0	$0	$ 1,964	$ 0
8	1950	Power Operated Equipment				$ -	$0	$0	$0	$ -	$ -
8	1955	Communications Equipment	$16,486	$8,800	$0	$ 25,286	$14,946	$1,285	$0	$ 16,231	$ 9,055
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	$316,406	$27,911	$0	$ 344,317	$200,830	$31,685	$0	$ 232,515	$ 111,801
47	1985	Miscellaneous Fixed Assets	$3,935	$0	$0	$ 3,935	$3,935	$0	$0	$ 3,935	$ -
47	1990	Other Tangible Property				$ -				$ -	$ -
47	1995	Contributions & Grants	($277,253)	($113,405)	$0	-$ 390,658	($31,679)	($14,722)	$0	-$ 46,401	-$ 344,257
47	2440	Deferred Revenue [5]									
						$ -				$ -	$ -
		Sub-Total	**$ 10,499,868**	**$ 576,440**	**$ -**	**$ 11,076,308**	**$ 5,772,207**	**$ 478,916**	**$ -**	**$ 6,251,123**	**$ 4,825,185**
		Less Socialized Renewable Energy Generation Investments (input as negative)				$ -				$ -	$ -
		Less Other Non Rate-Regulated Utility Assets (input as negative)				$ -				$ -	$ -
		Total PP&E	**$ 10,499,868**	**$ 576,440**	**$ -**	**$ 11,076,308**	**$ 5,772,207**	**$ 478,916**	**$ -**	**$ 6,251,123**	**$ 4,825,185**
		Depreciation Expense adj. from gain or loss on the retirement of assets (pool of like assets), if applicable [6]									
		Total						**$ 478,916**			

Table 2.10: 2012 Fixed Asset Continuity Schedule

Appendix 2-BA

Fixed Asset Continuity Schedule [1]

Accounting Standard CGAAP *With Capitalization and Depreciation Policy Changes effective January 1st 2012 (as approved in last*
Year **2012**

			Cost				Accumulated Depreciation				
CCA Class [2]	OEB Account [3]	Description [3]	Opening Balance	Additions [4]	Disposals	Closing Balance	Opening Balance	Additions	Disposals	Closing Balance	Net Book Value
12	1611	Computer Software (Formally known as Account 1925)	$606,902	$314,202	$0	$ 921,105	$298,138	$258,970	$0	$ 557,108	$ 363,997
CEC	1612	Land Rights (Formally known as Account 1906)	$6,821	$1,650		$ 8,471	$0	$0	$0	$ -	$ 8,471
N/A	1805	Land	$41,988	$0	$0	$ 41,988	$0	$0	$0	$ -	$ 41,988
47	1808	Buildings	$444,880	$56,564	$0	$ 501,444	$186,962	$10,864	$0	$ 197,826	$ 303,618
13	1810	Leasehold Improvements				$ -				$ -	$ -
47	1815	Transformer Station Equipment >50 kV				$ -				$ -	$ -
47	1820	Distribution Station Equipment <50 kV	$1,009,858	$9,565	$0	$ 1,019,423	$638,317	$14,660	$0	$ 652,977	$ 366,446
47	1825	Storage Battery Equipment				$ -				$ -	$ -
47	1830	Poles, Towers & Fixtures	$2,674,152	$126,331	($11,766)	$ 2,788,717	$837,643	$47,579	($9,406)	$ 875,817	$ 1,912,900
47	1835	Overhead Conductors & Devices	$1,934,653	$116,505	($24,662)	$ 2,026,496	$1,640,066	$7,554	($24,662)	$ 1,622,958	$ 403,537
47	1840	Underground Conduit	$151,262	$888	($773)	$ 151,377	$151,262	$9	$0	$ 151,271	$ 106
47	1845	Underground Conductors & Devices	$454,911	$22,150	$0	$ 477,061	$138,671	$9,646	$0	$ 148,317	$ 328,744
47	1850	Line Transformers	$1,182,942	$99,196	($11,534)	$ 1,270,604	$408,312	$13,206	($988)	$ 420,530	$ 850,074
47	1855	Services (Overhead & Underground)	$547,966	$27,651	($7,202)	$ 568,415	$424,585	$12,401	($16,271)	$ 420,715	$ 147,701
47	1860	Meters	$201,720	$13,987	($1,765)	$ 213,943	$89,522	$7,903	($1,858)	$ 95,567	$ 118,375
47	1860	Meters (Stranded Meters)	$510,744		($510,744)	$ -	$309,511	$0	($309,511)	-$ 0	$ 0
47	1860	Meters (Smart Meters)		$614,068	$0	$ 614,068		$125,035	$0	$ 125,035	$ 489,033
N/A	1905	Land				$ -				$ -	$ -
47	1908	Buildings & Fixtures				$ -				$ -	$ -
13	1910	Leasehold Improvements				$ -				$ -	$ -
8	1915	Office Furniture & Equipment (10 years)	$149,740	$0	$0	$ 149,740	$107,019	$10,480	$0	$ 117,498	$ 32,241
8	1915	Office Furniture & Equipment (5 years)				$ -				$ -	$ -
10	1920	Computer Equipment - Hardware				$ -				$ -	$ -
45	1920	Computer Equip.-Hardware(Post Mar. 22/04)	$314,728	$62,867	($95,945)	$ 281,650	$162,745	$43,538	($95,945)	$ 110,338	$ 171,312
45.1	1920	Computer Equip.-Hardware(Post Mar. 19/07)				$ -				$ -	$ -
10	1930	Transportation Equipment	$761,984	$0	$0	$ 761,984	$553,914	$62,157	$0	$ 616,071	$ 145,913
8	1935	Stores Equipment	$4,635	$1,842	$0	$ 6,477	$4,634	$115	$0	$ 4,749	$ 1,727
8	1940	Tools, Shop & Garage Equipment	$91,579	$4,400	$0	$ 95,979	$91,579	$49	($389)	$ 91,239	$ 4,740
8	1945	Measurement & Testing Equipment	$1,964			$ 1,964	$1,964	$0	$0	$ 1,964	$ 0
8	1950	Power Operated Equipment	$0			$ -				$ -	$ -
8	1955	Communications Equipment	$25,286	$4,995	$0	$ 30,281	$16,231	$2,746	$0	$ 18,977	$ 11,304
8	1955	Communication Equipment (Smart Meters - Collectors & Repeaters)		$87,889	$0	$ 87,889	$0	$31,502	$0	$ 31,502	$ 56,386
8	1960	Miscellaneous Equipment				$ -				$ -	$ -
47	1970	Load Management Controls Customer Premises				$ -				$ -	$ -
47	1975	Load Management Controls Utility Premises				$ -				$ -	$ -
47	1980	System Supervisor Equipment	$344,317	$3,810	$0	$ 348,127	$232,515	$13,844	$0	$ 246,360	$ 101,767
47	1985	Miscellaneous Fixed Assets (Sentinel Lighting Rentals)	$3,935	$0	($3,935)	$ -	$3,935	$0	($3,935)	$ -	$ -
47	1990	Other Tangible Property				$ -				$ -	$ -
47	1995	Contributions & Grants	($390,658)	($4,691)		($395,349)	($46,401)	($17,084)	$0	-$ 63,486	-$ 331,864
47	2440	Deferred Revenue[5]								$ -	$ -
		Sub-Total	**$ 11,076,308**	**$ 1,563,869**	**-$ 668,325**	**$ 11,971,851**	**$ 6,251,123**	**$ 655,175**	**-$ 462,964**	**$ 6,443,334**	**$ 5,528,517**
		Less Socialized Renewable Energy Generation Investments (input as negative)				$ -				$ -	$ -
		Less Other Non Rate-Regulated Utility Assets (input as negative)				$ -				$ -	$ -
		Total PP&E	**$ 11,076,308**	**$ 1,563,869**	**-$ 668,325**	**$ 11,971,851**	**$ 6,251,123**	**$ 655,175**	**-$ 462,964**	**$ 6,443,334**	**$ 5,528,517**

Table 2.11: 2013 Fixed Asset Continuity Schedule

Appendix 2-BA

Fixed Asset Continuity Schedule [1]

Accounting Standard CGAAP *With Capitalization and Depreciation Policy Changes effective January 1st 2012 (as approved in last*
Year 2013

			Cost				Accumulated Depreciation				
CCA Class [2]	OEB Account [3]	Description [3]	Opening Balance	Additions [4]	Disposals	Closing Balance	Opening Balance	Additions	Disposals	Closing Balance	Net Book Value
12	1611	Computer Software (Formally known as Account 1925)	$921,105	$10,143	$0	$ 931,248	$557,108	$137,479	$0	$ 694,587	$ 236,661
CEC	1612	Land Rights (Formally known as Account 1906)	$8,471	$10,769	$0	$ 19,240	$0	$0	$0	$ -	$ 19,240
N/A	1805	Land	$41,988	$0	$0	$ 41,988	$0	$0	$0	$ -	$ 41,988
47	1808	Buildings	$501,444	$3,450	$0	$ 504,894	$197,826	$11,807	$0	$ 209,633	$ 295,261
13	1810	Leasehold Improvements				$ -				$ -	$ -
47	1815	Transformer Station Equipment >50 kV				$ -				$ -	$ -
47	1820	Distribution Station Equipment <50 kV	$1,019,423	$49,609	$0	$ 1,069,032	$652,977	$15,290	$0	$ 668,266	$ 400,766
47	1825	Storage Battery Equipment				$ -				$ -	$ -
47	1830	Poles, Towers & Fixtures	$2,788,717	$127,006	($8,909)	$ 2,906,814	$875,817	$46,952	($2,308)	$ 920,460	$ 1,986,354
47	1835	Overhead Conductors & Devices	$2,026,496	$64,609	($15,262)	$ 2,075,843	$1,622,958	$3,013	($9,460)	$ 1,616,511	$ 459,331
47	1840	Underground Conduit	$151,377	$0	$0	$ 151,377	$151,271	$106	($861)	$ 150,516	$ 861
47	1845	Underground Conductors & Devices	$477,061	$5,261	$0	$ 482,322	$148,317	$10,781	$0	$ 159,098	$ 323,224
47	1850	Line Transformers	$1,270,604	$83,750	($7,284)	$ 1,347,070	$420,530	$8,205	$0	$ 428,735	$ 918,335
47	1855	Services (Overhead & Underground)	$568,415	$42,589	($8,234)	$ 602,770	$420,715	$4,068	($7,855)	$ 416,928	$ 185,842
47	1860	Meters	$213,943	$21,470	($44,719)	$ 190,694	$95,567	$5,032	($17,537)	$ 83,062	$ 107,632
47	1860	Meters (Stranded Meters)				$ -	($0)			$ 0	$ 0
47	1860	Meters (Smart Meters)	$614,068	$907	($10,818)	$ 604,158	$125,035	$44,029	($5,259)	$ 163,805	$ 440,353
N/A	1905	Land				$ -				$ -	$ -
47	1908	Buildings & Fixtures				$ -				$ -	$ -
13	1910	Leasehold Improvements				$ -				$ -	$ -
8	1915	Office Furniture & Equipment (10 years)	$149,740	$16,600	$0	$ 166,340	$117,498	$10,671	$0	$ 128,170	$ 38,170
8	1915	Office Furniture & Equipment (5 years)				$ -				$ -	$ -
10	1920	Computer Equipment - Hardware				$ -				$ -	$ -
45	1920	Computer Equip.-Hardware(Post Mar. 22/04)	$281,650	$8,886	$0	$ 290,536	$110,338	$31,282	$0	$ 141,620	$ 148,916
45.1	1920	Computer Equip.-Hardware(Post Mar. 19/07)				$ -				$ -	$ -
10	1930	Transportation Equipment	$761,984	$309,831	($24,508)	$ 1,047,307	$616,071	$72,184	($24,508)	$ 663,747	$ 383,560
8	1935	Stores Equipment	$6,477	$0	$0	$ 6,477	$4,749	$230	$0	$ 4,980	$ 1,497
8	1940	Tools, Shop & Garage Equipment	$95,979	$0	$0	$ 95,979	$91,239	$709	$0	$ 91,948	$ 4,031
8	1945	Measurement & Testing Equipment	$1,964	$0	$0	$ 1,964	$1,964	$0	$0	$ 1,964	$ -
8	1950	Power Operated Equipment				$ -				$ -	$ -
8	1955	Communications Equipment	$30,281	$2,009	$0	$ 32,290	$18,977	$4,051	$0	$ 23,028	$ 9,262
8	1955	Communication Equipment (Smart Meters - Collectors & Repeaters)	$87,889	$0	$0	$ 87,889	$31,502	$12,699	$0	$ 44,202	$ 43,687
8	1960	Miscellaneous Equipment				$ -				$ -	$ -
47	1970	Load Management Controls Customer Premises				$ -				$ -	$ -
47	1975	Load Management Controls Utility Premises				$ -				$ -	$ -
47	1980	System Supervisor Equipment	$348,127	$0	$0	$ 348,127	$246,360	$13,997	$0	$ 260,357	$ 87,770
47	1985	Miscellaneous Fixed Assets (Sentinel Lighting Rentals)				$ -				$ -	$ -
47	1990	Other Tangible Property				$ -				$ -	$ -
47	1995	Contributions & Grants	($395,349)	$785	$0	($394,564)	($63,486)	($515)	$0	($64,001)	-$ 330,564
47	2440	Deferred Revenue[5]								$ -	$0
		Sub-Total	**$ 11,971,851**	**$ 757,675**	**-$ 119,734**	**$ 12,609,792**	**$ 6,443,334**	**$ 432,071**	**-$ 67,789**	**$ 6,807,616**	**$ 5,802,176**
		Less Socialized Renewable Energy Generation Investments (input as negative)				$ -				$ -	$ -
		Less Other Non Rate-Regulated Utility Assets (input as negative)				$ -				$ -	$ -
		Total PP&E	**$ 11,971,851**	**$ 757,675**	**-$ 119,734**	**$ 12,609,792**	**$ 6,443,334**	**$ 432,071**	**-$ 67,789**	**$ 6,807,616**	**$ 5,802,176**

Table 2.12: 2014 Fixed Asset Continuity Schedule

Appendix 2-BA

Fixed Asset Continuity Schedule [1]

Accounting Standard CGAAP *With Capitalization and Depreciation Policy Changes effective January 1st 2012 (as approved in last*
Year **2014**

			Cost				Accumulated Depreciation				
CCA Class [2]	OEB Account [3]	Description [3]	Opening Balance	Additions [4]	Disposals	Closing Balance	Opening Balance	Additions	Disposals	Closing Balance	Net Book Value
12	1611	Computer Software (Formally known as Account 1925)	$931,248	$10,320	$0	$ 941,568	$694,587	$130,245	$0	$ 824,832	$ 116,735
CEC	1612	Land Rights (Formally known as Account 1906)	$19,240	$9,411	$0	$ 28,651	$0	$0	$0	$ -	$ 28,651
N/A	1805	Land	$41,988	$0	$0	$ 41,988	$0	$0	$0	$ -	$ 41,988
47	1808	Buildings	$504,894	$4,250	$0	$ 509,144	$209,633	$11,886	$0	$ 221,519	$ 287,625
13	1810	Leasehold Improvements				$ -				$ -	$ -
47	1815	Transformer Station Equipment >50 kV				$ -				$ -	$ -
47	1820	Distribution Station Equipment <50 kV	$1,069,032	$237,846	($75,890)	$ 1,230,988	$668,266	$18,644	($74,461)	$ 612,450	$ 618,538
47	1825	Storage Battery Equipment				$ -	$0			$ -	$ -
47	1830	Poles, Towers & Fixtures	$2,906,814	$94,034	($9,843)	$ 2,991,004	$920,460	$52,027	($7,126)	$ 965,361	$ 2,025,643
47	1835	Overhead Conductors & Devices	$2,075,843	$51,847	$0	$ 2,127,690	$1,616,511	$9,417	$0	$ 1,625,928	$ 501,762
47	1840	Underground Conduit	$151,377	$0	$0	$ 151,377	$150,516	$18	$0	$ 150,534	$ 843
47	1845	Underground Conductors & Devices	$482,322	$123,029	($463)	$ 604,888	$159,098	$11,189	($463)	$ 169,824	$ 435,064
47	1850	Line Transformers	$1,347,070	$96,958	($8,629)	$ 1,435,399	$428,735	$27,866	($8,629)	$ 447,972	$ 987,427
47	1855	Services (Overhead & Underground)	$602,770	$83,349	($12,274)	$ 673,845	$416,928	$5,368	($12,274)	$ 410,022	$ 263,823
47	1860	Meters	$190,694	$0	$0	$ 190,694	$83,062	$3,918	$0	$ 86,980	$ 103,714
47	1860	Meters (Stranded Meters)				$ -	($0)			-$ 0	$ 0
47	1860	Meters (Smart Meters)	$604,158	$20,340	($22,469)	$ 602,029	$163,805	$46,512	($8,556)	$ 201,761	$ 400,268
N/A	1905	Land				$ -				$ -	$ -
47	1908	Buildings & Fixtures				$ -				$ -	$ -
13	1910	Leasehold Improvements				$ -				$ -	$ -
8	1915	Office Furniture & Equipment (10 years)	$166,340	$0	$0	$ 166,340	$128,170	$10,475	$0	$ 138,645	$ 27,695
8	1915	Office Furniture & Equipment (5 years)				$ -				$ -	$ -
10	1920	Computer Equipment - Hardware				$ -				$ -	$ -
45	1920	Computer Equip.-Hardware(Post Mar. 22/04)	$290,536	$18,484	$0	$ 309,021	$141,620	$26,841	$0	$ 168,462	$ 140,559
45.1	1920	Computer Equip.-Hardware(Post Mar. 19/07)				$ -				$ -	$ -
10	1930	Transportation Equipment	$1,047,307	$0	($213,651)	$ 833,656	$663,747	$83,936	($213,651)	$ 534,032	$ 299,624
8	1935	Stores Equipment	$6,477	$0	$0	$ 6,477	$4,980	$236	$0	$ 5,216	$ 1,261
8	1940	Tools, Shop & Garage Equipment	$95,979	$3,340	$0	$ 99,319	$91,948	$631	$0	$ 92,579	$ 6,740
8	1945	Measurement & Testing Equipment	$1,964	$0	$0	$ 1,964	$1,964	$0	$0	$ 1,964	$ -
8	1950	Power Operated Equipment				$ -	$0			$ -	$ -
8	1955	Communications Equipment	$32,290	$0	($2,037)	$ 30,253	$23,028	$3,466	($2,037)	$ 24,457	$ 5,796
8	1955	Communication Equipment (Smart Meters - Collectors & Repeaters)	$87,889	$0	$0	$ 87,889	$44,202	$16,687	$0	$ 60,888	$ 27,000
8	1960	Miscellaneous Equipment				$ -				$ -	$ -
47	1970	Load Management Controls Customer Premises				$ -				$ -	$ -
47	1975	Load Management Controls Utility Premises				$ -				$ -	$ -
47	1980	System Supervisor Equipment	$348,127	$0	$0	$ 348,127	$260,357	$14,028	$0	$ 274,384	$ 73,742
47	1985	Miscellaneous Fixed Assets (Sentinel Lighting Rentals)				$ -				$ -	$ -
47	1990	Other Tangible Property				$ -				$ -	$ -
47	1995	Contributions & Grants	($394,564)	($113,297)	$0	($507,861)	($64,001)	($10,194)	$0	($74,195)	-$ 433,667
47	2440	Deferred Revenue[5]								$ -	$0
		Sub-Total	**$ 12,609,792**	**$ 639,911**	**-$ 345,257**	**$ 12,904,446**	**$ 6,807,616**	**$ 463,197**	**-$ 327,198**	**$ 6,943,616**	**$ 5,960,831**

Table 2.13: 2014 Fixed Asset (MIFRS) Continuity Schedule

Appendix 2-BA

Fixed Asset Continuity Schedule [1]

Accounting Standard MIFRS *2014 is Transiton Year - Adopted IFRS on January 1, 2015*
Year **2014** *With Capitalization and Depreciation Policy Changes effective January 1st 2012 (as approved in last*

			Cost				Accumulated Depreciation				
CCA Class [2]	OEB Account [3]	Description [3]	Opening Balance	Additions [4]	Disposals	Closing Balance	Opening Balance	Additions	Disposals	Closing Balance	Net Book Value
12	1611	Computer Software (Formally known as Account 1925)	$931,248	$10,320	$0	$ 941,568	$694,587	$130,245	$0	$ 824,832	$ 116,735
CEC	1612	Land Rights (Formally known as Account 1906)	$19,240	$9,411	$0	$ 28,651	$0	$0	$0	$ -	$ 28,651
N/A	1805	Land	$41,988	$0	$0	$ 41,988	$0	$0	$0	$ -	$ 41,988
47	1808	Buildings	$504,894	$4,250	$0	$ 509,144	$209,633	$11,886	$0	$ 221,519	$ 287,625
13	1810	Leasehold Improvements	$0	$0	$0	$ -	$0	$0	$0	$ -	$ -
47	1815	Transformer Station Equipment >50 kV	$0	$0	$0	$ -	$0	$0	$0	$ -	$ -
47	1820	Distribution Station Equipment <50 kV	$1,069,032	$237,846	($75,890)	$ 1,230,988	$668,266	$18,644	($74,461)	$ 612,450	$ 618,538
47	1825	Storage Battery Equipment	$0	$0	$0	$ -	$0	$0	$0	$ -	$ -
47	1830	Poles, Towers & Fixtures	$2,906,814	$94,034	($9,843)	$ 2,991,004	$920,460	$52,027	($7,126)	$ 965,361	$ 2,025,643
47	1835	Overhead Conductors & Devices	$2,075,843	$51,847	$0	$ 2,127,690	$1,616,511	$9,417	$0	$ 1,625,928	$ 501,762
47	1840	Underground Conduit	$151,377	$0	$0	$ 151,377	$150,516	$18	$0	$ 150,534	$ 843
47	1845	Underground Conductors & Devices	$482,322	$123,029	($463)	$ 604,888	$159,098	$11,189	($463)	$ 169,824	$ 435,064
47	1850	Line Transformers	$1,347,070	$96,958	($8,629)	$ 1,435,399	$428,735	$27,866	($8,629)	$ 447,972	$ 987,427
47	1855	Services (Overhead & Underground)	$602,770	$83,349	($12,274)	$ 673,845	$416,928	$5,368	($12,274)	$ 410,022	$ 263,823
47	1860	Meters	$190,694	$0	$0	$ 190,694	$83,062	$3,918	$0	$ 86,980	$ 103,714
47	1860	Meters (Stranded Meters)	$0	$0	$0	$ -	($0)	$0	$0	$ 0	$ 0
47	1860	Meters (Smart Meters)	$604,158	$20,340	($22,469)	$ 602,029	$163,805	$46,512	($8,556)	$ 201,761	$ 400,268
N/A	1905	Land	$0	$0	$0	$ -	$0	$0	$0	$ -	$ -
47	1908	Buildings & Fixtures	$0	$0	$0	$ -	$0	$0	$0	$ -	$ -
13	1910	Leasehold Improvements	$0	$0	$0	$ -	$0	$0	$0	$ -	$ -
8	1915	Office Furniture & Equipment (10 years)	$166,340	$0	$0	$ 166,340	$128,170	$10,475	$0	$ 138,645	$ 27,695
8	1915	Office Furniture & Equipment (5 years)	$0	$0	$0	$ -	$0	$0	$0	$ -	$ -
10	1920	Computer Equipment - Hardware	$0	$0	$0	$ -	$0	$0	$0	$ -	$ -
45	1920	Computer Equip.-Hardware(Post Mar. 22/04)	$290,536	$18,484	$0	$ 309,021	$141,620	$26,841	$0	$ 168,462	$ 140,559
45.1	1920	Computer Equip.-Hardware(Post Mar. 19/07)	$0	$0	$0	$ -	$0	$0	$0	$ -	$ -
10	1930	Transportation Equipment	$1,047,307	$0	($213,651)	$ 833,656	$663,747	$83,936	($213,651)	$ 534,032	$ 299,624
8	1935	Stores Equipment	$6,477	$0	$0	$ 6,477	$4,980	$236	$0	$ 5,216	$ 1,261
8	1940	Tools, Shop & Garage Equipment	$95,979	$3,340	$0	$ 99,319	$91,948	$631	$0	$ 92,579	$ 6,740
8	1945	Measurement & Testing Equipment	$1,964	$0	$0	$ 1,964	$1,964	$0	$0	$ 1,964	$ -
8	1950	Power Operated Equipment	$0	$0	$0	$ -	$0	$0	$0	$ -	$ -
8	1955	Communications Equipment	$32,290	$0	($2,037)	$ 30,253	$23,028	$3,466	($2,037)	$ 24,457	$ 5,796
8	1955	Communication Equipment (Smart Meters - Collectors & Repeaters)	$87,889	$0	$0	$ 87,889	$44,202	$16,687	$0	$ 60,888	$ 27,000
8	1960	Miscellaneous Equipment	$0	$0	$0	$ -	$0	$0	$0	$ -	$ -
47	1970	Load Management Controls Customer Premises	$0	$0	$0	$ -	$0	$0	$0	$ -	$ -
47	1975	Load Management Controls Utility Premises	$0	$0	$0	$ -	$0	$0	$0	$ -	$ -
47	1980	System Supervisor Equipment	$348,127	$0	$0	$ 348,127	$260,357	$14,028	$0	$ 274,384	$ 73,742
47	1985	Miscellaneous Fixed Assets (Sentinel Lighting Rentals)	$0	$0	$0	$ -				$ -	$ -
47	1990	Other Tangible Property	$0	$0	$0	$ -				$ -	$ -
47	1995	Contributions & Grants		$0	$0	$ -			$0	$0	$ -
47	2440	Deferred Revenue [5]	($394,564)	($113,297)	$10,194	-$ 497,667	($64,001)	$0	$0	-$ 64,001	($433,667)
		Sub-Total	**$ 12,609,792**	**$ 639,911**	**-$ 335,063**	**$ 12,914,640**	**$ 6,807,616**	**$ 473,391**	**-$ 327,198**	**$ 6,953,810**	**$ 5,960,831**
		Less Socialized Renewable Energy Generation Investments (input as negative)				$ -				$ -	$ -
		Less Other Non Rate-Regulated Utility Assets (input as negative)				$ -				$ -	$ -
		Total PP&E	**$ 12,609,792**	**$ 639,911**	**-$ 335,063**	**$ 12,914,640**	**$ 6,807,616**	**$ 473,391**	**-$ 327,198**	**$ 6,953,810**	**$ 5,960,831**

Table 2.14: 2015 Fixed Asset (MIFRS) Continuity Schedule

Appendix 2-BA

Fixed Asset Continuity Schedule [1]

Accounting Standard MIFRS *2014 is Transiton Year - Adopted IFRS on January 1, 2015*
Year **2015** *With Capitalization and Depreciation Policy Changes effective January 1st 2012 (as approved in last*

			Cost				Accumulated Depreciation				
CCA Class [2]	OEB Account [3]	Description [3]	Opening Balance	Additions [4]	Disposals	Closing Balance	Opening Balance	Additions	Disposals	Closing Balance	Net Book Value
12	1611	Computer Software (Formally known as Account 1925)	$941,568	$23,000	$0	$ 964,568	$824,832	$87,564	$0	$ 912,396	$ 52,172
CEC	1612	Land Rights (Formally known as Account 1906)	$28,651	$0	$0	$ 28,651	$0	$0	$0	$ -	$ 28,651
N/A	1805	Land	$41,988	$0	$0	$ 41,988	$0	$0	$0	$ -	$ 41,988
47	1808	Buildings	$509,144	$75,000	$0	$ 584,144	$221,519	$12,721	$0	$ 234,240	$ 349,903
13	1810	Leasehold Improvements	$0			$ -	$0			$ -	$ -
47	1815	Transformer Station Equipment >50 kV	$0			$ -	$0			$ -	$ -
47	1820	Distribution Station Equipment <50 kV	$1,230,988	$0	$0	$ 1,230,988	$612,450	$20,304	$0	$ 632,753	$ 598,235
47	1825	Storage Battery Equipment	$0			$ -	$0			$ -	$ -
47	1830	Poles, Towers & Fixtures	$2,991,004	$234,818	$0	$ 3,225,822	$965,361	$55,636	$0	$ 1,020,996	$ 2,204,826
47	1835	Overhead Conductors & Devices	$2,127,690	$19,373	$0	$ 2,147,063	$1,625,928	$10,010	$0	$ 1,635,938	$ 511,125
47	1840	Underground Conduit	$151,377	$72,499	$0	$ 223,876	$150,534	$743	$0	$ 151,277	$ 72,599
47	1845	Underground Conductors & Devices	$604,888	$2,042	$0	$ 606,930	$169,824	$12,745	$0	$ 182,569	$ 424,361
47	1850	Line Transformers	$1,435,399	$77,768	$0	$ 1,513,167	$447,972	$29,964	$0	$ 477,935	$ 1,035,232
47	1855	Services (Overhead & Underground)	$673,845	$60,000	$0	$ 733,845	$410,022	$6,749	$0	$ 416,771	$ 317,074
47	1860	Meters	$190,694	$0	$0	$ 190,694	$86,980	$5,018	$0	$ 91,998	$ 98,696
47	1860	Meters (Stranded Meters)	$0			$ -	($0)			-$ 0	$ 0
47	1860	Meters (Smart Meters)	$602,029	$3,500	($16,000)	$ 589,529	$201,761	$45,393	($4,000)	$ 243,154	$ 346,375
N/A	1905	Land	$0			$ -	$0			$ -	$ -
47	1908	Buildings & Fixtures	$0			$ -	$0			$ -	$ -
13	1910	Leasehold Improvements	$0			$ -	$0			$ -	$ -
8	1915	Office Furniture & Equipment (10 years)	$166,340	$2,000	$0	$ 168,340	$138,645	$7,203	$0	$ 145,848	$ 22,492
8	1915	Office Furniture & Equipment (5 years)	$0			$ -	$0			$ -	$ -
10	1920	Computer Equipment - Hardware	$0			$ -	$0			$ -	$ -
45	1920	Computer Equip.-Hardware(Post Mar. 22/04)	$309,021	$85,000	$0	$ 394,021	$168,462	$39,083	$0	$ 207,545	$ 186,476
45.1	1920	Computer Equip.-Hardware(Post Mar. 19/07)	$0			$ -	$0			$ -	$ -
10	1930	Transportation Equipment	$833,656	$35,000	$0	$ 868,656	$534,032	$87,436	$0	$ 621,468	$ 247,188
8	1935	Stores Equipment	$6,477	$0	$0	$ 6,477	$5,216	$236	$0	$ 5,452	$ 1,025
8	1940	Tools, Shop & Garage Equipment	$99,319	$0	$0	$ 99,319	$92,579	$798	$0	$ 93,378	$ 5,941
8	1945	Measurement & Testing Equipment	$1,964	$0	$0	$ 1,964	$1,964	$0	$0	$ 1,964	$ -
8	1950	Power Operated Equipment	$0			$ -	$0			$ -	$ -
8	1955	Communications Equipment	$30,253	$0	$0	$ 30,253	$24,457	$3,466	$0	$ 27,923	$ 2,329
8	1955	Communication Equipment (Smart Meters - Collectors & Repeaters)	$87,889	$0	$0	$ 87,889	$60,888	$2,608	$0	$ 63,497	$ 24,392
8	1960	Miscellaneous Equipment				$ -				$ -	$ -
47	1970	Load Management Controls Customer Premises				$ -				$ -	$ -
47	1975	Load Management Controls Utility Premises				$ -				$ -	$ -
47	1980	System Supervisor Equipment	$348,127	$200,000	$0	$ 548,127	$274,384	$24,028	$0	$ 298,412	$ 249,715
47	1985	Miscellaneous Fixed Assets (Sentinel Lighting Rentals)	$0			$ -	$0			$ -	$ -
47	1990	Other Tangible Property	$0			$ -	$0			$ -	$ -
47	1995	Contributions & Grants	$0	$0	$0	$0	$0	$0	$0	$0	$ -
47	2440	Deferred Revenue[5]	($497,667)	($130,000)	$12,865	($614,802)	($64,001)	$0	$0	-$ 64,001	($550,802)
		Sub-Total	**$ 12,914,640**	**$ 760,000**	**-$ 3,135**	**$ 13,671,505**	**$ 6,953,810**	**$ 451,706**	**-$ 4,000**	**$ 7,401,512**	**$ 6,269,994**
		Less Socialized Renewable Energy Generation Investments (input as negative)				$ -				$ -	$ -
		Less Other Non Rate-Regulated Utility Assets (input as negative)				$ -				$ -	$ -
		Total PP&E	**$ 12,914,640**	**$ 760,000**	**-$ 3,135**	**$ 13,671,505**	**$ 6,953,810**	**$ 451,706**	**-$ 4,000**	**$ 7,401,512**	**$ 6,269,994**

Table 2.15: 2016 Fixed Asset (MIFRS) Continuity Schedule

Appendix 2-BA

Fixed Asset Continuity Schedule [1]

Accounting Standard MIFRS *2014 is Transiton Year - Adopted IFRS on January 1, 2015*
Year **2016** *With Capitalization and Depreciation Policy Changes effective January 1st 2012 (as approved in last CoS EB-2011-0249)*

			Cost						Accumulated Depreciation							
CCA Class [2]	OEB Account [3]	Description [3]	Opening Balance	1508 Assets Included	1508 Accum Amortization	Additions [4]	Disposals	Closing Balance	Opening Balance	Additions	Amort on 1508 Additions	Disposals	Closing Balance	Net Book Value	
12	1611	Computer Software (Formally known as Account 1925)	$964,568			$1,300		$ 965,868	$912,396	$17,267		$0	$ 929,662	$ 36,205	
CEC	1612	Land Rights (Formally known as Account 1906)	$28,651			$0		$ 28,651	$0	$0		$0	$ -	$ 28,651	
N/A	1805	Land	$41,988			$0		$ 41,988	$0	$0		$0	$ -	$ 41,988	
47	1808	Buildings	$584,144			$30,000		$ 614,144	$234,240	$12,624		$0	$ 246,863	$ 367,280	
13	1810	Leasehold Improvements						$ -					$ -	$ -	
47	1815	Transformer Station Equipment >50 kV						$ -					$ -	$ -	
47	1820	Distribution Station Equipment <50 kV	$1,230,988	$1,003,742	($35,066)	$0		$ 2,199,664	$632,753	$19,829	$23,377	$0	$ 675,960	$ 1,523,704	Includes MS2 Substation Re-Build assets as per Board Approved IRM ICM application for 2014 Distribution Rates EB-2013-0178
47	1825	Storage Battery Equipment						$ -	$0				$ -	$ -	
47	1830	Poles, Towers & Fixtures	$3,225,822	$80,477	($2,683)	$358,261		$ 3,661,878	$1,020,996	$62,226	$1,788	$0	$ 1,085,010	$ 2,576,868	Includes MS2 Substation Re-Build assets as per Board Approved IRM ICM application for 2014 Distribution Rates EB-2013-0178
47	1835	Overhead Conductors & Devices	$2,147,063	$325,138	($12,086)	$30,137		$ 2,490,252	$1,635,938	$10,423	$8,057	$0	$ 1,654,418	$ 835,835	Includes MS2 Substation Re-Build assets as per Board Approved IRM ICM application for 2014 Distribution Rates EB-2013-0178
47	1840	Underground Conduit	$223,876			$0		$ 223,876	$151,277	$1,468		$0	$ 152,744	$ 71,131	
47	1845	Underground Conductors & Devices	$606,930	$24,598	($922)	$0		$ 630,606	$182,569	$12,764	$615	$0	$ 195,948	$ 434,658	Includes MS2 Substation Re-Build assets as per Board Approved IRM ICM application for 2014 Distribution Rates EB-2013-0178
47	1850	Line Transformers	$1,513,167			$38,791		$ 1,551,958	$477,935	$31,421		$0	$ 509,356	$ 1,042,602	
47	1855	Services (Overhead & Underground)	$733,845			$60,000		$ 793,845	$416,771	$7,999		$0	$ 424,770	$ 369,075	
47	1860	Meters	$190,694			$0		$ 190,694	$91,998	$5,018		$0	$ 97,016	$ 93,678	
47	1860	Meters (Stranded Meters)	$0					$ -	($0)				$ 0	$ 0	
47	1860	Meters (Smart Meters)	$589,529			$83,500	($17,500)	$ 655,529	$243,154	$47,996		($5,000)	$ 286,150	$ 369,379	
N/A	1905	Land						$ -					$ -	$ -	
47	1908	Buildings & Fixtures						$ -					$ -	$ -	
13	1910	Leasehold Improvements						$ -					$ -	$ -	
8	1915	Office Furniture & Equipment (10 years)	$168,340			$0		$ 168,340	$145,848	$3,584		$0	$ 149,432	$ 18,908	
8	1915	Office Furniture & Equipment (5 years)						$ -					$ -	$ -	
10	1920	Computer Equipment - Hardware						$ -					$ -	$ -	
45	1920	Computer Equip.-Hardware(Post Mar. 22/04)	$394,021			$39,350		$ 433,371	$207,545	$48,397		$0	$ 255,941	$ 177,430	
45.1	1920	Computer Equip.-Hardware(Post Mar. 19/07)						$ -	$0				$ -	$ -	
10	1930	Transportation Equipment	$868,656			$0		$ 868,656	$621,468	$46,083		$0	$ 667,551	$ 201,105	
8	1935	Stores Equipment	$6,477			$0		$ 6,477	$5,452	$236		$0	$ 5,688	$ 789	
8	1940	Tools, Shop & Garage Equipment	$99,319			$0		$ 99,319	$93,378	$798		$0	$ 94,176	$ 5,143	
8	1945	Measurement & Testing Equipment	$1,964			$0		$ 1,964	$1,964	$0		$0	$ 1,964	$ -	
8	1950	Power Operated Equipment	$0					$ -					$ -	$ -	
8	1955	Communications Equipment	$30,253			$0		$ 30,253	$27,923	$1,488		$0	$ 29,411	$ 842	
8	1955	Communication Equipment (Smart Meters - Collectors & Repeaters)	$87,889			$0		$ 87,889	$63,497	$0		$0	$ 63,497	$ 24,392	
8	1960	Miscellaneous Equipment						$ -					$ -	$ -	
47	1970	Load Management Controls Customer Premises						$ -					$ -	$ -	
47	1975	Load Management Controls Utility Premises						$ -					$ -	$ -	
47	1980	System Supervisor Equipment	$548,127			$0		$ 548,127	$298,412	$34,028		$0	$ 332,440	$ 215,687	
47	1985	Miscellaneous Fixed Assets (Sentinel Lighting Rentals)						$ -					$ -	$ -	
47	1990	Other Tangible Property						$ -					$ -	$ -	
47	1995	Contributions & Grants	$0			$0		$0		$0		$0	$0	$ -	
47	2440	Deferred Revenue[5]	($614,802)			$0	$14,165	($600,637)	($64,001)				$ 64,001	($536,636)	
47	1609	Capital Contributions Paid				$1,269,062		$ 1,269,062		$12,691		$0	$ 12,691	$ 1,256,371	
		Sub-Total	**$ 13,671,505**	**$ 1,433,955**	**-$ 50,757**	**$ 1,910,401**	**-$ 3,335**	**$ 16,961,770**	**$ 7,401,512**	**$ 376,337**	**$ 33,838**	**-$ 5,000**	**$ 7,806,686**	**$ 9,155,084**	
		Less Socialized Renewable Energy Generation Investments (input as negative)						$ -					$ -	$ -	
		Less Other Non Rate-Regulated Utility Assets (input as negative)						$ -					$ -	$ -	
		Total PP&E	**$ 13,671,505**	**$ 1,433,955**	**-$ 50,757**	**$ 1,910,401**	**-$ 3,335**	**$ 16,961,770**	**$ 7,401,512**	**$ 410,175**		**-$ 5,000**	**$ 7,806,686**	**$ 9,155,084**	

Gross Assets

Ex.2/Tab 2/Sch.1 - Gross Assets Variance Analysis

WNP chose to break down and explain variances in three categories; Distribution Assets, General Plant, and Capital Contributions.

- Distribution Plant Asset Accounts include USoA 1820 to 1860 and USoA 1980 and 1985. This includes assets such as Sub Stations, poles, wires, transformers and meters.
- General Plant Asset Accounts include USoA 1805 to 1808 and USoA 1915, 1955. These accounts include assets such as buildings, transportation equipment, computer software and hardware.
- Contributions and Grants include USoA accounts 1609, 1995 and 2440. These accounts include all contributions in aid of capital that WNP has received or are forecasted to be received as allowed under the Distribution System Code ("DSC"), as well as forecasted capital contributions paid.

Table 2.16 below summarizes WNP's assets in the three categories already described.

Table 2.16 – Gross Asset Summary

	2012 Board Approved	2012 Actual	2013 Actual	2014 Actual	2014 Actual	2015 Bridge Year	2016 Test Year
	CGAAP	CGAAP	CGAAP	CGAAP	MIFRS	MIFRS	MIFRS
Distribution Assets	9,016,460	9,478,231	9,778,206	10,356,041	10,356,041	11,010,041	12,946,429
General Plant	2,450,507	2,888,971	3,226,151	3,056,267	3,056,267	3,276,267	3,346,917
Capital Contribution	-390,658	-395,349	-394,564	-507,861	-497,667	-614,802	668,425
Total	11,076,308	11,971,852	12,609,793	12,904,447	12,914,641	13,671,506	16,961,771

Detailed Breakdown by Major Plant Account

Table 2.17 illustrates a detailed breakdown by Major Plant account for each functionalized item along with the relevant USoA. WNP has also included a summary of Accumulated Amortization in the same format in Table 2.18.

Table 2.17 – Gross Asset Breakdowns by Major Plant Accounts

		2012 Board Approved	2012 Actual	Variance from Board Approved	2013 Actual	Variance from 2012	2014 Actual	2014 Actual	Variance from 2013	2015 Bridge Year	Variance from 2014	2016 Test Year	Variance from 2015 Forecast
	Land & Building	CGAAP	CGAAP		CGAAP		CGAAP	MIFRS		MIFRS		MIFRS	
1805	Land	41,988	41,988	0	41,988	0	41,988	41,988	0	41,988	0	41,988	0
1806/1612	Land - Rights/Easements	6,821	8,471	1,650	19,240	10,769	28,651	28,651	9,411	28,651	0	28,651	0
1808	Buildings & Fixtures	444,880	501,444	56,564	504,894	3,450	509,144	509,144	4,250	584,144	75,000	614,144	30,000
	Distribution Stations												
1820	Sub Stations Power	1,009,858	1,019,423	9,565	1,069,032	49,609	1,230,988	1,230,988	161,956	1,230,988	0	2,199,664	968,676
	Overhead Plant												
1830	Poles Towers & Fixtures	2,674,152	2,788,717	114,565	2,906,814	118,097	2,991,004	2,991,004	84,190	3,225,822	234,818	3,661,878	436,056
1835	O/H Conductors & Devices	1,934,653	2,026,496	91,843	2,075,843	49,347	2,127,690	2,127,690	51,847	2,147,063	19,373	2,490,252	343,189
	Underground Plant												
1840	U/G Conduit	151,262	151,377	115	151,377	0	151,377	151,377	0	223,876	72,499	223,876	0
1845	U/G Conductors & Devices	454,911	477,061	22,150	482,322	5,261	604,888	604,888	122,566	606,930	2,042	630,606	23,676
	Transformers												
1850	Distribution Transformers	1,182,942	1,270,604	87,663	1,347,070	76,466	1,435,399	1,435,399	88,329	1,513,167	77,768	1,551,958	38,791
	Services & Meters												
1855	Distribution Services - O/H & U/G	547,966	568,415	20,449	602,770	34,355	673,845	673,845	71,075	733,845	60,000	793,845	60,000
1860	Distribution Meters	712,465	213,943	-498,522	190,694	-23,249	190,694	190,694	0	190,694	0	190,694	0
1860	Distribution Meters-Smart		614,068	614,068	604,158	-9,910	602,029	602,029	-2,129	589,529	-12,500	655,529	66,000
	Transportation & Misc												
1930	Transportation Equipment	761,984	761,984	0	1,047,307	285,323	833,656	833,656	-213,651	868,656	35,000	868,656	0
1935	Stores Equipment	4,634	6,476	1,842	6,476	0	6,476	6,476	0	6,476	0	6,476	0
1940	Tools, Shop & Garage Equipment	91,579	95,979	4,400	95,979	0	99,319	99,319	3,340	99,319	0	99,319	0
1945	Measurement & Testing Equipment	1,964	1,964	0	1,964	0	1,964	1,964	0	1,964	0	1,964	0
	IT & Intangible												
1915	Office Equipment	149,740	149,740	0	166,340	16,600	166,340	166,340	0	168,340	2,000	168,340	0
1920	Computer Equipment	314,728	281,650	-33,078	290,536	8,886	309,021	309,021	18,484	394,021	85,000	433,371	39,350
1925/1611	Computer Software	606,903	921,105	314,202	931,248	10,143	941,568	941,568	10,320	964,568	23,000	965,868	1,300
1955	Communication Equipment	25,286	118,170	92,884	120,178	2,009	118,141	118,141	-2,037	118,141	0	118,141	0
1980	System Supervisory Equip.	344,317	348,127	3,810	348,127	0	348,127	348,127	0	548,127	200,000	548,127	0
1985	Sentinel Lighting	3,935	0	-3,935	0	0	0	0	0	0	0	0	0
1609	Capital Contributions Paid								0		0	1,269,062	1,269,062
1995	Contributed Capital	-390,658	-395,349	-4,691	-394,564	785	-507,861	0	-113,297	0	0		0
2440	Deferred Revenue							-497,667	0	-614,802	-117,135	-600,637	14,165
	Total	11,076,308	11,971,852		12,609,793		12,904,447	12,914,641		13,671,506		16,961,771	

Table 2.18 – Accumulated Amortization Breakdowns by Major Plant Accounts

		2012 Board Approved	2012 Actual	Variance from Board Approved	2013 Actual	Variance from 2012	2014 Actual	2014 Actual	Variance from 2013	2015 Bridge Year	Variance from 2014	2016 Test Year	Variance from 2015 Forecast
	Land & Building	CGAAP	CGAAP		CGAAP		CGAAP	MIFRS		MIFRS		MIFRS	
1805	Land	0	0	0	0	0	0	0	0	0	0	0	0
1806/1612	Land - Rights/Easements	0	0	0	0	0	0	0	0	0	0	0	0
1808	Buildings & Fixtures	186,962	197,826	10,864	209,633	11,807	221,519	221,519	11,886	234,240	12,721	246,864	12,624
	Distribution Stations												
1820	Sub Stations Power	638,317	652,976	14,660	668,266	15,290	612,449	612,449	-55,817	632,753	20,304	675,960	43,207
	Overhead Plant												
1830	Poles Towers & Fixtures	837,645	875,818	38,173	920,461	44,643	965,362	965,362	44,901	1,020,997	55,635	1,085,011	64,014
1835	O/H Conductors & Devices	1,640,066	1,622,959	-17,107	1,616,512	-6,447	1,625,929	1,625,929	9,417	1,635,939	10,010	1,654,419	18,480
	Underground Plant												
1840	U/G Conduit	151,262	151,271	9	150,516	-755	150,534	150,534	18	151,277	743	152,744	1,467
1845	U/G Conductors & Devices	138,671	148,317	9,646	159,098	10,781	169,824	169,824	10,726	182,569	12,745	195,948	13,379
	Transformers												
1850	Distribution Transformers	408,311	420,529	12,218	428,734	8,205	447,970	447,970	19,236	477,935	29,965	509,356	31,421
	Services & Meters												
1855	Distribution Services - O/H & U/G	424,585	420,714	-3,870	416,927	-3,787	410,022	410,022	-6,906	416,771	6,749	424,770	7,999
1860	Distribution Meters	399,030	95,564	-303,466	83,058	-12,506	86,977	86,977	3,918	91,998	5,021	97,016	5,018
1860	Distribution Meters-Smart		125,035	125,035	163,805	38,770	201,761	201,761	37,956	243,154	41,393	286,150	42,996
	Transportation & Misc												
1930	Transportation Equipment	553,914	616,072	62,157	663,748	47,676	534,033	534,033	-129,715	621,469	87,436	667,552	46,083
1935	Stores Equipment	4,634	4,749	115	4,980	230	5,216	5,216	236	5,452	236	5,688	236
1940	Tools, Shop & Garage Equipment	91,579	91,239	-340	91,948	709	92,579	92,579	631	93,378	799	94,176	798
1945	Measurement & Testing Equipment	1,964	1,964	0	1,964	0	1,964	1,964	0	1,964	0	1,964	0
	IT & Intangible												
1915	Office Equipment	107,019	117,499	10,480	128,170	10,671	138,645	138,645	10,475	145,848	7,203	149,432	3,584
1920	Computer Equipment	162,745	110,339	-52,407	141,620	31,282	168,462	168,462	26,841	207,545	39,083	255,941	48,396
1925/1611	Computer Software	298,138	557,108	258,970	694,587	137,479	824,832	824,832	130,245	912,397	87,565	929,663	17,266
1955	Communication Equipment	16,231	50,479	34,248	67,230	16,750	85,345	85,345	18,116	91,420	6,075	92,908	1,488
1980	System Supervisory Equip.	232,515	246,359	13,844	260,357	13,997	274,384	274,384	14,028	298,412	24,028	332,440	34,028
1985	Sentinel Lighting	3,935	0	-3,935	0	0	0	0	0	0	0	0	0
1609	Capital Contributions Paid								0		0	12,691	12,691
1995	Contributed Capital	-46,402	-63,486	-17,084	-64,001	-515	-74,195	0	-10,194	0	0		0
2440	Deferred Revenue							-64,001	0	-64,001	0	-64,001	0
	Total	6,251,120	6,443,331		6,807,614		6,943,613	6,953,807		7,401,517		7,806,692	

Variance Analysis on Gross Assets

For the purposes of the Variance Analysis, assets are categorized as Distribution Assets, General Plant and Contributed Capital. Variances are explained following the table of data.

Table 2.19 – Variance Analysis of Gross Assets

		2012 Board Approved	2012 Actual	Variance from Board Approved	2013 Actual	Variance from 2012	2014 Actual	2014 Actual	Variance from 2013	2015 Bridge Year	Variance from 2014	2016 Test Year	Variance from 2015 Forecast
	Distribution Assets	CGAAP	CGAAP		CGAAP		CGAAP	MIFRS		MIFRS		MIFRS	
1820	Sub Stations Power	1,009,858	1,019,423	9,565	1,069,032	49,609	1,230,988	1,230,988	161,956	1,230,988	0	2,199,664	968,676
1830	Poles Towers & Fixtures	2,674,152	2,788,717	114,565	2,906,814	118,097	2,991,004	2,991,004	84,190	3,225,822	234,818	3,661,878	436,056
1835	O/H Conductors & Devices	1,934,653	2,026,496	91,843	2,075,843	49,347	2,127,690	2,127,690	51,847	2,147,063	19,373	2,490,252	343,189
1840	U/G Conduit	151,262	151,377	115	151,377	0	151,377	151,377	0	223,876	72,499	223,876	0
1845	U/G Conductors & Devices	454,911	477,061	22,150	482,322	5,261	604,888	604,888	122,566	606,930	2,042	630,606	23,676
1850	Distribution Transformers	1,182,942	1,270,604	87,663	1,347,070	76,466	1,435,399	1,435,399	88,329	1,513,167	77,768	1,551,958	38,791
1855	Distribution Services - O/H & U/G	547,966	568,415	20,449	602,770	34,355	673,845	673,845	71,075	733,845	60,000	793,845	60,000
1860	Distribution Meters	712,465	213,943	-498,522	190,694	-23,249	190,694	190,694	0	190,694	0	190,694	0
1860	Distribution Meters-Smart	0	614,068	614,068	604,158	-9,910	602,029	602,029	-2,129	589,529	-12,500	655,529	66,000
1980	System Supervisory Equip.	344,317	348,127	3,810	348,127	0	348,127	348,127	0	548,127	200,000	548,127	0
1985	Sentinel Lighting	3,935	0	-3,935	0	0	0	0	0	0	0	0	0
	Total	9,016,460	9,478,231	461,771	9,778,206	299,976	10,356,041	10,356,041	577,835	11,010,041	654,000	12,946,429	1,936,388
	General Plant												
1805	Land	41,988	41,988	0	41,988	0	41,988	41,988	0	41,988	0	41,988	0
1806/1612	Land - Rights/Easements	6,821	8,471	1,650	19,240	10,769	28,651	28,651	9,411	28,651	0	28,651	0
1808	Buildings & Fixtures	444,880	501,444	56,564	504,894	3,450	509,144	509,144	4,250	584,144	75,000	614,144	30,000
1915	Office Equipment	149,740	149,740	0	166,340	16,600	166,340	166,340	0	168,340	2,000	168,340	0
1920	Computer Equipment	314,728	281,650	-33,078	290,536	8,886	309,021	309,021	18,484	394,021	85,000	433,371	39,350
1925/1611	Computer Software	606,903	921,105	314,202	931,248	10,143	941,568	941,568	10,320	964,568	23,000	965,868	1,300
1930	Transportation Equipment	761,984	761,984	0	1,047,307	285,323	833,656	833,656	-213,651	868,656	35,000	868,656	0
1935	Stores Equipment	4,634	6,476	1,842	6,476	0	6,476	6,476	0	6,476	0	6,476	0
1940	Tools, Shop & Garage Equipment	91,579	95,979	4,400	95,979	0	99,319	99,319	3,340	99,319	0	99,319	0
1945	Measurement & Testing Equipment	1,964	1,964	0	1,964	0	1,964	1,964	0	1,964	0	1,964	0
1955	Communication Equipment	25,286	118,170	92,884	120,178	2,009	118,141	118,141	-2,037	118,141	0	118,141	0
	Total	2,450,507	2,888,971	438,464	3,226,151	337,180	3,056,267	3,056,267	-169,883	3,276,267	220,000	3,346,917	70,650
	Capital Contributions												
1609	Capital Contributions Paid	0	0	0	0	0	0	0	0	0	0	1,269,062	1,269,062
1995	Contributed Capital	-390,658	-395,349	-4,691	-394,564	785	-507,861	0	-113,297	0	0	0	0
2440	Deferred Revenue	0	0	0	0	0	0	-497,667	0	-614,802	-117,135	-600,637	14,165
	Total	-390,658	-395,349	-4,691	-394,564	785	-507,861	-497,667	-113,297	-614,802	-117,135	668,425	1,283,227
	Summary Total	11,076,308	11,971,852	895,544	12,609,793	637,940	12,904,447	12,914,641	294,654	13,671,506	756,865	16,961,771	3,290,265

2012 Board Approved vs. to 2012 Actual:

Distribution Assets Variance: $461,771

Over $115,000 was attributable to the asset inclusion of smart meters. Several Smaller pole line renewal projects contributed to the increases in Poles - $114,565, O/H Conductors - $91,843, and Distribution Transformers – $87,663

General Plant Assets Variance: $438,464

The major changes in this area were the inclusion of smart meter costs into assets as approved in EB-2011-2049. This included Software and Communication Equipment as well as the necessary technological infrastructure.

Contributed Capital Variance: -$4,691

This amount was a small project which resulted in a capital contribution.

2012 Actual vs. 2013 Actual:

Distribution Assets Variance: $299,976

To maintain system reliability each year pole line renewal projects prompt the investment in Poles, O/H Conductors, and Transformers. A study on our Sub Stations to evaluate capital investment requirements was completed and submitted in EB-2013-0178. Subsequently, some capital improvements were begun in the areas that did not require expedited replacement of the Sub Station.

General Plant Assets Variance: $337,180

The major purchase was a replacement for a double bucket truck - $280,200, and a pick-up truck - $29,631.

Contributed Capital Variance: $785

No material changes in Contributed Capital.

2013 Actual vs. 2014 Actual:

Distribution Assets Variance: $577,835

To maintain system reliability each year pole line renewal projects prompt the investment in Poles, O/H Conductors, and Transformers. A study on our Sub Stations to evaluate capital investment requirements was completed and submitted in EB-2013-0178. In 2014 one of the Sub Stations was rebuilt and $240,000 from the annual capital budget was allocated to this project.

General Plant Assets Variance: -$169,883

The old double bucket truck was retired in 2014 resulting in a decrease in transportation assets.

Contributed Capital Variance: $113,297

There was a capital contribution of $113,297 made by a real estate developer to set up the electrical infrastructure for a small sub-division.

2014 Actual vs. 2015 Estimated:

Distribution Assets Variance: $654,000

In order to provide efficiencies and minimize disruptions larger pole line renewal projects were aligned with Township road projects. This is projected to result in investments to the following assets: Poles - $234,818, O/H conductor 19,373, Distribution Services O/H and U/G - $60,000, U/G Conduit - $72,499, and Transformers – 77,768. As well, a $200,000 upgrade to our SCADA system is planned.

General Plant Assets Variance: $220,000

Investments in building renovations, computer network upgrades, accounting and documentation software upgrades, and a replacement pick-up truck are all planned for 2015.

Contributed Capital Variance: -$117,135

There is an anticipated capital contribution of $130,000 for a real estate development to set up the electrical infrastructure for a small sub-division. This is partially offset by the allocation of deferred revenue to income.

2015 Estimate vs. 2016 Estimated:

Distribution Assets Variance: $1,936,388

The inclusion of 1508 regulatory assets from the incremental capital module application in EB-2013-0178 is $1,383,199 of the increase in asset values. As well in order to integrate the second line feeder into the existing supply system will require another $460,000 for a new pole line and PME unit.

General Plant Assets Variance: $70,650

Investments in building renovations - $30,000, and computer hardware upgrades - $39,350 are planned for 2015.

Contributed Capital Variance: $1,283,227

A planned Capital contribution payment of $1,269,062 to Hydro One Networks Inc. to bring a second power line feeder to Mount Forest is planned. It is anticipated that this power line will be in service during 2016.

Incremental Capital Information:

In its 2014 IRM Application (EB-2013-0178), WNP received approval for an incremental capital module application. The information of the current and estimated values of the Incremental Capital Expenditures, amortization, accumulated amortization and the Incremental Capital Expenditures Rate Rider can be found in Exhibit 2/Tab 5/Schedule7 - Addition of ICM Assets to Rate Base

Ex.2/Tab 2/Sch.2 - Accumulated Depreciation

WNP has adopted depreciation rates based on the Kinectrics Asset Depreciation Study. The rates used are presented below and the Continuity Schedules of Accumulated Amortization are presented at Exhibit 4 / Tab 4 /Schedule 2.

While WNP's accumulated depreciation generally increases at the same pace as the utility capital investment, the accumulated depreciation decreased in 2015 and 2016 due to increased depreciable lives. Due to an extremely high failure rate with smart meters, WNP is proposing a decrease in the estimated life span of this asset class.

WNP completed the installation of smart meters throughout the service territory in summer of 2011. At the end of spring 2011 all installed smart meters were registered with the Meter Data Management and Repository ("MDM/R"). Time of use ("TOU") billing began in January 2012.

Table 2.20 Smart Meter Implementation.

	2008	2009	2010	2011	Total
Residential	73	141	2,888	19	3,121
General Service < 50 kW	17	102	358	1	478
Total Smart Meters Installed	**90**	**243**	**3,246**	**20**	**3,599**
% Complete	3%	9%	99%	100%	

Over the past two years (2013 and 2014), WNP has observed an increase in the failure rate of Smart Meters. During the period, the LDC has replaced nearly 200 Smart Meters per year due to technical faults and failures. The removed meters are scrapped because the one-year warranty period has passed and it is most cost-effective to purchase a new meter (at approximately $98 per meter) compared to sending the meter back to the manufacturer for investigation (approximate cost $200). The table below shows the number of meters that have been withdrawn and replaced over the past two years as well as the count as at June 30th 2015:

Table 2.21 – Number of Faulty Smart Meters Scrapped – January 2013 to June 2015

Year Retired	2013					2013 Total	2014				2014 Total	2015			2015 Total	Grand Total
Year of Meter	2008	2009	2010	2011	2012		2008	2009	2010	2012		2008	2009	2010		
Meter Type																
Smart Meter - A3RL 16S	0	0	1	0	0	5	0	0	0	0	0	0	0	0	0	5
Smart Meter - A3RL 16S15	0	0	5	0	0	6	0	0	4	0	4	0	0	2	2	12
Smart Meter - A3RL 35	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Smart Meter - A3RL 35-15	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	3
Smart Meter - A3RL 9S	0	0	0	0	0	13	0	0	0	0	3	0	0	0	0	16
Smart Meter - A3RL 9S-15	0	0	3	0	0	4	0	0	2	0	3	0	0	0	0	7
Smart Meter - A3TL 12S	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	2
Smart Meter - R2S	4	1	88	0	3	98	10	7	150	3	172	5	3	46	56	326
Smart Meter - R2S 12S	0	0	30	0	0	30	0	0	1	0	1	0	0	1	1	32
Smart Meter - R2S 1S	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	3
Smart Meter - R2S 3S	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	2
Smart Meter - R2S 600	0	0	2	0	0	2	0	0	2	0	2	0	0	0	0	4
Smart Meter - R2SD2S	0	0	15	0	0	15	0	0	14	0	14	0	0	0	0	29
Smart Meter - R2SGEN 2S	0	0	1	2	0	3	0	0	0	0	0	0	0	0	0	3
Total	**4**	**1**	**151**	**5**	**3**	**187**	**10**	**7**	**173**	**3**	**199**	**5**	**3**	**49**	**59**	**445**

WNP's depreciable lives by asset class are presented in the table below:

Table 2.22: Comparison of Depreciation Rates (approved in 2012 CoS)

USoA Account Number	Description	Current (EB-2011-0249)	Proposed Changes (Years)
1611	Computer Software	5	
1808	Buildings	60	
1820	Distribution Station Equipment - Transformer	45	
1820	Distribution Station Equipment - Equipment	40	
1820	Distribution Station Equipment - Reclosures and Breakers	30	
1820	Distribution Station Equipment - Structure/Civil	45	
1830	Poles, Towers and Fixture - All	45	
1835	Underground Conductors and Devices - All	45	
1840	Conduit	50	
1845	Underground Conductor - Direct Buried	40	
1850	Line Transformers - All	40	
1855	Secondary Services	40	
1860	Primary Metering Equipment	15	
1860	GS>50 Meters	25	
1860	Smart Meters	15	10
1915	Office Funiture & Equipment	10	
1920	Computer Hardware	5	
1930	Vehicles - Trucks and Bucket Trucks (Heavy)	8	
1930	Vehicles - Pickup Trucks (Light)	5	
1935	Stores Equipment	8	
1940	Tools, Shop & Garage Equipment	10	
1945	Measurement & Testing Equipment	10	
1955	Communication Equipment	5	
1980	System Supervisor Equipment	10	

Allowance for Working Capital

Ex.2/Tab 3/Sch.1 - Derivation of Working Capital

The Filing Requirements permit applicants to take one of two approaches for calculation of the Allowance for Working Capital:

a) The 7.5% Allowance Approach as indicated by the Board; or

b) The filing of a lead/lag study.

WNP has used the rate of 7.5% for calculating the Working Capital Allowance as per letter issued by the Board on June 3, 2015, "Allowance for Working Capital for Electricity Distribution Rate Applications". The Working Capital Allowance is the sum of Cost of Power and controllable expenses (i.e. Operations, Maintenance, Billing and Collecting, Community Relations, Administration and General). WNP's calculation in determining its Allowance for Working Capital is illustrated below:

Table 2.23 – Allowance for Working Capital Calculation

Expenses for Working Capital	CGAAP Last Board Approved	CGAAP 2012	CGAAP 2013	CGAAP 2014	MIFRS 2015	MIFRS 2016
Eligible Distribution Expenses:						
3500-Distribution Expenses - Operation	271,063	316,211	348,432	341,075	403,400	411,500
3550-Distribution Expenses - Maintenance	230,223	272,443	239,542	226,874	233,118	239,500
3650-Billing and Collecting	327,863	354,125	333,323	339,063	385,125	395,000
3700-Community Relations	6,304	5,462	9,897	15,833	7,100	7,000
3800-Administrative and General Expenses	664,547	659,196	810,051	800,227	717,757	740,368
6105-Taxes other than Income Taxes	12,006	12,495	12,930	12,915	13,500	14,000
6205-Sub-account LEAP Funding	-	2,310	2,840	2,873	3,500	4,000
Total Eligible Distribution Expenses	1,512,006	1,622,241	1,757,015	1,735,988	1,763,500	1,811,368
3350-Power Supply Expenses	10,105,275	9,393,450	11,381,869	10,212,158	12,044,493	13,117,919
Total Expenses for Working Capital	11,617,281	11,015,691	13,138,884	11,948,146	13,807,993	14,929,287
Working Capital factor	14.0%	14.0%	14.0%	14.0%	14.0%	7.5%
Total Working Capital	**1,626,419**	**1,542,197**	**1,839,444**	**1,672,740**	**1,933,119**	**1,119,697**

Cost of Power Calculations:

WNP confirms that the Cost of Power ("COP") is determined by a split between the Regulated Price Plan ("RPP") and non-RPP customers based on actual data, use of most current RPP price, and use current Uniform Transmission Rates ("UTR"). WNP has calculated the COP for the 2016 Test Year based upon the 2016 Load Forecast adjusted for the impact of Conservation and Demand Management ("CDM") Activities and in accordance with the Board's Filing 7 Requirements. A summary of the Total COP expenses in shown in Table 2-14 below:

Table 2.24 – Summary of Cost of Power Expenses

Account # & Name	2012 Board Approved	2012	2013	2014	2015 Bridge Year	2016 Test Year
4705-Power Purchased	$8,415,170	$7,830,022	$9,583,542	$8,526,662	$10,145,902	$11,157,842
4714-Charges-Network	$523,932	$520,983	$637,831	$607,219	$672,833	$668,643
4716-Charges-Connection	$340,588	$344,028	$389,080	$354,193	$394,589	$422,587
4708-Charges-WMS	$551,160	$426,913	$442,847	$391,280	$488,051	$481,596
4730-Rural Rate Assistance	$116,592	$126,549	$133,153	$141,468	$144,197	$142,290
4750-Low Voltage	$157,834	$144,954	$204,500	$157,221	$163,893	$209,635
4751-Smart Meter Entity Charge	$0	$0	$25,415	$34,116	$35,027	$35,326
Total Cost of Power Expenses	**$10,105,275**	**$9,393,450**	**$11,416,368**	**$10,212,158**	**$12,044,493**	**$13,117,919**

Account # & Name	2012 Board Approved	2012	2013	2014	2015 Bridge Year	2016 Test Year
4705-Power Purchased	$8,415,170	$7,830,022	$9,583,542	$8,526,662	$10,145,902	$11,157,842
4714-Charges-Network	$523,932	$520,983	$637,831	$607,219	$672,833	$668,643
4716-Charges-Connection	$340,588	$344,028	$389,080	$354,193	$394,589	$422,587
4708-Charges-WMS	$551,160	$426,913	$442,847	$391,280	$488,051	$481,596
4730-Rural Rate Assistance	$116,592	$126,549	$133,153	$141,468	$144,197	$142,290
4750-Low Voltage	$157,834	$144,954	$204,500	$157,221	$163,893	$163,476
4751-Smart Meter Entity Charge	$0	$0	$25,415	$34,116	$35,027	$35,326
Total Cost of Power Expenses	**$10,105,275**	**$9,393,450**	**$11,416,368**	**$10,212,158**	**$12,044,493**	**$13,071,760**

Commodity Prices:

In accordance with the Filing Requirements, the commodity price estimate used to calculate COP was determined in a way that bases the split between RPP and Non-RPP customers on 2014 actual data and uses the most current RPP price.

The Regulated Price Plan (RPP) and Non-RPP price was obtained from the "Regulated Price Plan: Price Report - May 1, 2015 to April 30, 2016" published by the Board on April 20, 2015. Below is a summary of the RPP and Non-RPP forecasted supply costs for 2016:

Table 2.25 – Summary of Cost of Power Expenses

RPP Supply Cost Summary *for the period from May 1, 2015 through April 30, 2016*	
Forecast Wholesale Electricity Price	$19.92
Load-Weighted Price for RPP Consumers ($ / MWh)	$21.68
Impact of the Global Adjustment ($ / MWh)	$81.94
Adjustment to Address Bias Towards Unfavourable Variance ($ / MWh)	$1.00
Adjustment to Clear Existing Variance ($ / MWh)	($2.52)
Average Supply Cost for RPP Consumers ($ / MWh)	**$102.10**
Non-RPP Supply Cost Summary *for the period from May 1, 2015 through April 30, 2016*	
Forecast Wholesale Electricity Price	$19.92
Load-Weighted Price for RPP Consumers ($ / MWh)	
Impact of the Global Adjustment ($ / MWh)	$81.94
Adjustment to Address Bias Towards Unfavourable Variance ($ / MWh)	
Adjustment to Clear Existing Variance ($ / MWh)	
Average Supply Cost for RPP Consumers ($ / MWh)	**$101.86**

From the above information, WNP applied the following power supply estimates:

a) For RPP customers, WNP applied a forecast supply cost of $102.10 per MWh (10.210 cents per kWh); and
b) For Non-RPP customers, WNP applied a forecast supply cost of $101.86 per MWh (10.186 cents per kWh).

WNP appreciates that the commodity charge will be updated to reflect any changes to commodity prices that may become available prior to the approval of its Application.

Wholesale Market Service:

On December 19, 2014, the Board issued a Decision with Reasons and Rate Order (EB-2014-0347) establishing that the Wholesale Market Service rate ("WMS rate") used by rate regulated distributors to bill their customers shall be $0.0044 per kilowatt hour effective January 1, 2015. In a Decision and Order issued on December 19, 2014, on page 6 the Board established that the WMS rate used by regulated distributors to bill their customers shall continue to be 0.44 cents per kilowatt-hour, effective January 1, 2015. This unit rate shall apply to a customer's metered energy consumption adjusted by the distributor's Board-approved Total Loss Factor.

WNP used $0.0044 per kilowatt hour for the Wholesale Market Service charge in its 2016 Test Year cost of power calculations.

Network and Connection Charges

Electricity distributors are charged for transmission costs at the wholesale level and subsequently pass these charges on to their distribution customers through the Retail Transmission Service Rates (RTSRs). For each distribution rate class there are two RTSRs:

- RTSR Network charge - recovers the Uniform Transmission Rates (UTR) wholesale network service charge
- RTSR Connection charge - recovers the UTR wholesale line and transformation connection charges.

WNP pays Network and Connection charges from Hydro One. WNP is fully embedded to Hydro One.

WNP determined the kW billed by Hydro One for 2014 actual Network and Connection Charges. The 2014 kW was then utilized to estimate the monthly Network and Connection costs for the 2016 Test Year by applying the forecasted kW by the January 1, 2015 Uniform Transmission Rates (UTR) as approved by the Board (EB-2014-0357).

WNP acknowledges that the transmission costs will be updated to reflect any new rates that may become available prior to the approval of its application.

Low Voltage Charges

WNP incurs low voltage charges from Hydro One as the LDC is embedded to Hydro One.

In Exhibit 8, WNP proposes Low Voltage Service Rates with detailed calculations being presented in this Exhibit. In summary:

a) The 2016 Test Year LV rate projections were allocated to customer classes, according to each class' share of projected Transmission-Connection revenue, in accordance with Board policy);
b) The 2016 Test Year LV charges were calculated based on an average of the last 3 years of actuals (2012, 2013 and 2014)

WNP has estimated the Low Voltage charge for the 2016 Test Year to be $209,635.

Smart Meter Entity Charges

In a the Board issued a Decision and Order (EB-2012-0100 and EB-2012-0211), on page 4, the Board ordered that Effective May 1, 2013, the Smart Metering Entity charge to be levied and collected by Distributors identified in the Board's annual Yearbook of Electricity Distributors from Residential and General Service <50kW customers shall be $0.79 per month. The Smart Metering Entity charge shall be in effect from May 1, 2013 to October 31, 2018.

In compliance with the Decision and Order above, WNP is proposing to maintain its existing Smart Meter Entity Charge ("SME"). The proposed rate remains at $0.79 per customer per month applicable to Residential and General Service <50 kW rate classes.

Table 2-24 provides a summary of WNP's Cost of Power calculation for the 2016 Test Year.

Table 2.26 –Cost of Power Calculation for 2016 Test Year

Power Supply Expense

Determination of Commodity

		2015 Load Forecast		2016 Load Forecast			
		Loss Factor:	1.0716	Loss Factor:	1.0656		
Customer Class Name		**RPP Customers**	**Non-RPP Customers**	**RPP Customers**	**Non-RPP Customers**	RPP	Non-RPP
Residential	kWh	25,951,015	1,476,625	26,219,572	1,491,906	94.62%	5.38%
General Service < 50 kW	kWh	10,028,121	2,502,845	10,109,727	2,523,213	80.03%	19.97%
General Service > 50 to 999 kW	kWh	733,853	14,655,077	685,496	13,689,384	4.77%	95.23%
General Service 1,000 to 4,999kW	kWh	-	54,767,856	-	53,933,541	0.00%	100.00%
Unmetered Scattered Load	kWh	4,462	-	3,223	-	100.00%	0.00%
Sentinel Lighting	kWh	22,033	3,980	20,875	3,770	84.70%	15.30%
Street Lighting	kWh	-	774,814	-	772,980	0.00%	100.00%
microFIT							
other							
TOTAL		**36,739,485**	**74,181,198**	**37,038,893**	**72,414,793**		
%		*33.12%*	*66.88%*	*33.84%*	*66.16%*		

Forecast Price

HOEP ($/MWh)				$21.68		Note: Table ES-1 from current RPP report - Load Weighted price for RPP Consumers
Global Adjustment ($/MWh)				$81.94		Note: Table ES-1 from current RPP report - Impact of Global Adjustment
Adjustments				($1.52)		
TOTAL ($/MWh)				**$102.10**	**$101.86**	Note: Table ES-1 from current RPP report - Impact of Global Adjustment
$/kWh				***$0.10210***	***$0.10186***	
%				33.84%	66.16%	
WEIGHTED AVERAGE PRICE		**$0.1019**		**$0.0346**	**$0.0674**	

Electricity Projections

(volumes for the bridge and test year are automatically loss adjusted) **RPP Customers**

		2015			2016		
Customer							
Class Name		Volume	rate ($/kWh):	Amount	Volume	rate ($/kWh):	Amount
Residential	kWh	25,951,015	0.09250	$2,400,558	26,219,572	0.10210	$2,677,018
General Service < 50 kW	kWh	10,028,121	0.09250	$927,636	10,109,727	0.10210	$1,032,203
General Service > 50 to 999 kW	kWh	733,853	0.09250	$67,884	685,496	0.10210	$69,989
General Service 1,000 to 4,999kW	kWh	0	0.09250	$0	0	0.10210	$0
Unmetered Scattered Load	kWh	4,462	0.09250	$413	3,223	0.10210	$329
Sentinel Lighting	kWh	22,033	0.09250	$2,038	20,875	0.10210	$2,131
Street Lighting	kWh	0	0.09250	$0	0	0.10210	$0
microFIT	kWh	0	0	$0	0	0	$0
other	kWh	0	0	$0	0	0	$0
TOTAL		**36,739,485**		**$3,398,529**	**37,038,893**		**$3,781,671**

(volumes for the bridge and test year are automatically loss adjusted) **Non RPP Customers** **Non RPP Customers**

		2015			2016		
Customer							
Class Name		Volume	rate ($/kWh):	Amount	Volume	rate ($/kWh):	Amount
Residential	kWh	1,476,625	0.09096	$134,311	1,491,906	0.10186	$151,966
General Service < 50 kW	kWh	2,502,845	0.09096	$227,654	2,523,213	0.10186	$257,014
General Service > 50 to 999 kW	kWh	14,655,077	0.09096	$1,332,997	13,689,384	0.10186	$1,394,401
General Service 1,000 to 4,999kW	kWh	54,767,856	0.09096	$4,981,575	53,933,541	0.10186	$5,493,670
Unmetered Scattered Load	kWh	0	0.09096	$0	0	0.10186	$0
Sentinel Lighting	kWh	3,980	0.09096	$362	3,770	0.10186	$384
Street Lighting	kWh	774,814	0.09096	$70,476	772,980	0.10186	$78,736
microFIT	kWh	0	0	$0	0	0	$0
other	kWh	0	0	$0	0	0	$0
TOTAL		**74,181,198**		**$6,747,373**	**72,414,793**		**$7,376,171**

Transmission - Network

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

		2015			2016		
Customer							
Class Name		Volume	Rate	Amount	Volume	Rate	Amount
Residential	kWh	27,427,640	0.0067	$183,765	27,711,478	0.0067	$186,491
General Service < 50 kW	kWh	12,530,966	0.0062	$77,692	12,632,939	0.0062	$78,672
General Service > 50 to 999 kW	kW	44,272	2.5395	$112,430	41,588	2.5508	$106,081
General Service 1,000 to 4,999kW	kW	109,361	2.6973	$294,979	108,301	2.7093	$293,417
Unmetered Scattered Load	kWh	4,462	0.0062	$28	3,223	0.0062	$20
Sentinel Lighting	kW	68	1.9248	$131	65	1.9333	$126
Street Lighting	kW	1,988	1.9151	$3,808	1,995	1.9236	$3,837
TOTAL		**40,118,759**		**$672,833**	**40,499,589**		**$668,643**

Transmission - Connection

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

		2015			2016		
Customer							
Class Name		Volume	Rate	Amount	Volume	Rate	Amount
Residential	kWh	27,427,640	0.0042	$115,196	27,711,478	0.0045	$125,896
General Service < 50 kW	kWh	12,530,966	0.0035	$43,858	12,632,939	0.0038	$47,827
General Service > 50 to 999 kW	kW	44,272	1.4209	$62,907	41,588	1.5370	$63,920
General Service 1,000 to 4,999kW	kW	109,361	1.5577	$170,351	108,301	1.6850	$182,482
Unmetered Scattered Load	kWh	4,462	0.0035	$16	3,223	0.0038	$12
Sentinel Lighting	kW	68	1.1215	$77	65	1.2132	$79
Street Lighting	kW	1,988	1.0986	$2,184	1,995	1.1883	$2,371
TOTAL		**40,118,759**		**$394,589**	**40,499,589**		**$422,587**

Table 2.26 / continued –Cost of Power Calculation for 2016 Test Year

Power Supply Expense

Wholesale Market Service

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

		2015			2016		
Customer			**rate ($/kWh):**	**0.0052**		**rate ($/kWh):**	**0.0052**
Class Name		Volume		Amount	Volume		Amount
Residential	kWh	27,427,640	0.00440	$120,682	27,711,478	0.00440	$121,931
General Service < 50 kW	kWh	12,530,966	0.00440	$55,136	12,632,939	0.00440	$55,585
General Service > 50 to 999 kW	kWh	15,388,931	0.00440	$67,711	14,374,880	0.00440	$63,249
General Service 1,000 to 4,999kW	kWh	54,767,856	0.00440	$240,979	53,933,541	0.00440	$237,308
Unmetered Scattered Load	kWh	4,462	0.00440	$20	3,223	0.00440	$14
Sentinel Lighting	kWh	26,013	0.00440	$114	24,646	0.00440	$108
Street Lighting	kWh	774,814	0.00440	$3,409	772,980	0.00440	$3,401
microFIT	Monthly		0.00440	$0		0.00440	$0
other	0		0.00440	$0		0.00440	$0
TOTAL		**110,920,683**		**$488,051**	**109,453,686**		**$481,596**

Rural Rate Protection

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

		2015			2016		
Customer			**rate ($/kWh):**			**rate ($/kWh):**	
Class Name		Volume		Amount	Volume		Amount
Residential	kWh	27,427,640	0.00130	$35,656	27,711,478	0.00130	$36,025
General Service < 50 kW	kWh	12,530,966	0.00130	$16,290	12,632,939	0.00130	$16,423
General Service > 50 to 999 kW	kWh	15,388,931	0.00130	$20,006	14,374,880	0.00130	$18,687
General Service 1,000 to 4,999kW	kWh	54,767,856	0.00130	$71,198	53,933,541	0.00130	$70,114
Unmetered Scattered Load	kWh	4,462	0.00130	$6	3,223	0.00130	$4
Sentinel Lighting	kWh	26,013	0.00130	$34	24,646	0.00130	$32
Street Lighting	kWh	774,814	0.00130	$1,007	772,980	0.00130	$1,005
microFIT	Monthly	0	0.00130	$0	0	0.00130	$0
other	0	0	0.00130	$0	0	0.00130	$0
TOTAL		**110,920,683**		**$144,197**	**109,453,686**		**$142,290**

Smart Meter Entity Charge

(per customer)

		2015			2016		
Customer			**rate ($/kWh):**			**rate ($/kWh):**	
Class Name		Customer #		Annualised Amount	Customer #		Annualised Amount
Residential	kWh	3,220	0.79000	$30,530	3,251	0.79000	$30,818
General Service < 50 kW	kWh	474	0.79000	$4,496	476	0.79000	$4,508
RSVA							$0
TOTAL		**3,695**		**$35,027**	**3,726**		**$35,326**

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

(volumes are not loss adjusted)

Customer		**Revenue**	**Expense**	**2015**			**2016**		
Class Name		USA #	USA #	Volume	Rate	Amount	Volume	Rate	Amount
Residential	kWh	4075	4750	25,595,036	$0.0018	$46,071	26,005,466	$0.0023	$60,131
General Service < 50 kW	kWh	4075	4750	11,693,697	$0.0015	$17,541	11,855,213	$0.0019	$22,843
General Service > 50 to 999 kW	kW	4075	4750	44,272	$0.6050	$26,785	41,588	$0.7823	$32,532
General Service 1,000 to 4,999kW	kW	4075	4750	109,361	$0.6632	$72,528	108,301	$0.8576	$92,876
Unmetered Scattered Load	kWh	4075	4750	4,164	$0.0015	$6	3,024	$0.0019	$6
Sentinel Lighting	kW	4075	4750	68	$0.4775	$33	65	$0.6175	$40
Street Lighting	kW	4075	4750	1,988	$0.4677	$930	1,995	$0.6048	$1,207
TOTAL		**0**	**0**	**37,448,587**		**$163,893**	**38,015,652**		**$209,635**

Projected Power Supply Expense						**$12,044,493**			**$13,117,919**

Ex.2/Tab 3/Sch.2 - Lead Lag Study

WNP is not proposing to use a lead lag study in order to determine its Working Capital Allowance. As indicated in Exhibit 2 / Tab 3 /Schedule 1 WNP has chosen to follow the first of the options in the Board's June 3, 2015 letter providing two approaches for the calculation of the allowance for working capital:

(1) The 7.5% allowance approach; or

(2) The filing of a lead/lag study.

WNP has not previously been directed by the Board to undertake a lead/lag study.

Smart Meter Deployment and Stranded Meters

Ex.2/Tab 4/Sch.1 - Disposition of Smart Meters and Treatment of Stranded Meters

In WNP's last COS Application completed in 2012, WNP received approval from the Board for the disposition and recovery of costs related to smart meters in the following amounts.

Table 2.27 – 2012 Stranded Meter Disposition

Appendix 2-S
Stranded Meter Treatment

Year	Notes	Gross Asset Value	Accumulated Amortization	Contributed Capital (Net of Amortization)	Net Asset	Proceeds on Disposition	Residual Net Book Value	
		(A)	(B)	(C)	(D) = (A) - (B) - (C)	(E)	(F) = (D) - (E)	
2006					$ -		$ -	
2007					$ -		$ -	
2008					$ -		$ -	
2009					$ -		$ -	
2010					$ -		$ -	
2011					$ -		$ -	This amount was approved for disposition in case number EB-2011-0249
2012		$ 510,744	$ 309,511		$ 201,233		$ 201,233	Wellington North Power Inc.'s 2012 Cost of Service rate application.
2013					$ -		$ -	Residual balance from disposal is discussed in Exhibit 9.
2014					$ -		$ -	
2015	(1)				$ -		$ -	

There is an outstanding variance in previous recoveries for 1555 stranded meters where disposition is requested in Exhibit 9 / Tab 1 / Schedule 2 as per Guideline G-2011-0001.

Capital Expenditures

Ex.2/Tab 5/Sch.1 - Planning

In accordance with the Filing Requirements, WNP is filing its consolidated Distribution System Plan (DSP) as a stand-alone document as part of Exhibit 2 in WNP's 2016 Cost of Service rate application. Appendix 2A contains Wellington North Power's Distribution System Plan with supporting appendices.

In its 2015 Distribution System Plan, WNP has organized the information using the headings indicated in Chapter Five of the Board's "Filing Requirements for Electricity Distribution and Transmission Applications, Consolidated Distribution System Plan Filing Requirements" (issued March 28, 2013.) WNP's DSP incorporates matters relating to regional planning, performance measurement, the LDC's asset management process, assets managed, capital expenditure planning and renewable energy generation.

Details concerning the Regional Planning Process are found in Section 5.2.2 of WNP's DSP.

WNP is not proposing any capital investments for capacity upgrades to accommodate applications for the connection of renewable energy generation plant for the 2016 Test Year.

WNP's DSP also details the LDC's capital investments for the 2015 Bridge Year and across the five-year horizon of 2016 to 2020 categorized by System Renewal, System Access, System Service, and General Plant. Also WNP has provided details for historical capital projects that meet or exceed the materiality threshold investment of $50,000 for the years of 2011 to 2014 inclusive, grouped by the Board's investment categories. Information regarding the Capital Planning can be found in Section 5.4 of WNP's DSP.

WNP's DSP includes the planning two major capital investment projects that the LDC is seeking approval from the OEB for recovery of costs through electricity rates. An overview of these projects is described below:

a) <u>A new Second-line feeder to the Town of Mount Forest – planned for 2016 Test Year.</u>
WNP has been working with Hydro One Networks Inc. (HONI) to address capacity and reliability concerns with the electrical supply to Mount Forest. The result is a proposed

project, pending OEB approval, to build approximately 11 kilometers of pole line to connect a 44kV feeder from Palmerston TS to WNP's distribution system.

Currently, Mount Forest is supplied through a single rural radial 44kV pole line owned and operated by HONI from the Hanover TS approximately 44km away. The existing pole line is constructed through several areas with no road access making inspection, maintenance and repairs difficult and time consuming. An ice storm in April 2013 broke a number of HONI poles resulting in an outage lasting over 18 hours negatively impacting the manufacturing and small business consumers as well as critical load customers in Mount Forest. The outage demonstrated the need for an alternate power supply to ensure critical loads (hospital, seniors housing complex and warming station) are maintained and switching options are available to transfer loads.

The approximate cost of the new 2nd feeder 44kV line is $1,269,701 which includes a contributed capital payment of approximately $1,237,689 to Hydro One. WNP is planning to proceed with this project in the 2016 Test Year, subject to approval from the OEB to recover costs of constructing a 2nd line feeder through electricity rates.

Details about this "special" capital project, including background, scope, customer engagement, and supporting material can be found in WNP's 2016 DSP, Section 5.4.5.3.1.

b) <u>The replacement of an aged substation (MS3 substation) – planned for 2018.</u>

WNP is including this "special project" in Appendix 2A, the 2015 Distribution System Plan as a capital project for 2018. The LDC is submitting this as an Advanced Capital Module component of the WNP's 2016 Cost of Service rate application and is seeking approval from the OEB to accept this project for 2018 implementation and energization.

WNP acquired the services of Costello Associates Inc. to provide supporting technical information and budgetary estimates for an asset condition assessment of six of its distribution substations. This independent 3rd party report with findings and recommendation was issued to WNP in June 2013. This study identifies deficiencies in the substations that require attention. Page 2 of the report states the concern regarding the age of these substations and combined with overall condition lead to the planned replacement.

WNP has filed an Advanced Capital Module on the OEB's on-line portal as part of its cost of service filing reflecting the estimated costs for replacing the LDC's MS3 Substation.

Details about this "special" capital project, including background, scope, options explored and supporting material can be found in WNP's 2016 DSP, Section 5.4.5.3.2.

Table 2.28 – Capital Projects Table

Capital Projects Table

Projects	2011	2012	2013	2014	2015 Bridge Year	2016 Test Year
Reporting Basis	CGAAP	CGAAP	CGAAP	CGAAP	MIFRS	MIFRS
General Plant						
Non-system physical plant - Building structure	19,274	56,564	7,384	4,250	77,000	30,000
Non-system physical plant - Equipment & Tools	6,719	1,842	309,831	3,340	35,000	
Non-system physical plant - Land Rights / Acquisition	1,006	2,843	6,835	3,993		
Non-system physical plant - Software / Hardware	42,532	77,026	35,528	27,034	108,000	40,650
System capital investment support - Asset Management Study	27,911					
Sub-Total	97,442	138,275	359,578	38,617	220,000	70,650
System Access						
Customer Service Request	100,386	89,303	55,279	221,881	84,000	60,000
Customer Service Request - Contributed Capital	-113,405	-4,691		-113,297	-130,000	
Compliance - Financial Software	230,549					
Metering	41,576	15,587	2,450	17,203		
Other 3rd party infrastructure development requirements	14,374	6,972			88,500	
Sub-Total	273,480	107,171	57,730	125,787	42,500	60,000
System Renewal						
Failure risk - Asset replacement	192,014	307,636	283,467	413,894	285,500	50,000
Special Project - MS2 Substation replacement (Incremental Capital Module as part of IRM application EB-2014-0178)				1,433,955		
Sub-Total	192,014	307,636	283,467	1,847,849	285,500	50,000
System Service						
Operational Effectiveness	34,362	13,375	56,912	61,613	212,000	
Special Project - 2nd line feeder to Mount Forest (construction by Hydro One. Will be a contributed capital payment from WNP to HO)						1,269,751
New Primary Meter Equipment (PME) at 2nd line feeder demarcation point of WNP service area						80,000
Construction of new pole line to connect new 2nd line feeder 44kV to WNP's MS1 substation						380,000
Sub-Total	34,362	13,375	56,912	61,613	212,000	1,729,751
Miscellaneous						
Total	**597,299**	**566,457**	**757,686**	**2,073,866**	**760,000**	**1,910,401**
Less Renewable Generation Facility Assets and Other Non-Rate-Regulated Utility Assets ***(input as negative)***						
Total	**597,299**	**566,457**	**757,686**	**2,073,866**	**760,000**	**1,910,401**

Ex.2/Tab 5/Sch.2 - Required Information (Distribution System Plan)

WNP has filed its 2015 Distribution System Plan document with supporting appendices as Appendix 2A at the end of this Exhibit.

Ex.2/Tab 5/Sch.3 - Capitalization Policy

Capitalization Policy under CGAAP:

WNP applies only material and labour direct costs to capital. These direct costs are described further below. The minimum threshold for capitalizing expenditures is $500 for a capital project or expense.

Material Direct Cost:

The material 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 is comprised of all the eligible salaries for staff as well of their supervisors on a capital project.

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 are 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:

WNP has implemented the regulatory accounting changes to its capitalization policy effective January 1, 2012. The Capitalization policy is located at Exhibit 4 /Tab 4 /Schedule 6.

Ex.2/Tab 5/Sch.4 - 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.

Ex.2/Tab 5/Sch.5 - Costs of Eligible Investments for Distributors

WNP attests that it has not included any costs or included any Investments to Connect Qualifying Generation Facilities in its capital costs or in its 2015 Distribution System Plan.

Ex.2/Tab 5/Sch.6 - New Policy Options for the Funding of Capital

In this application WNP has filed an Advanced Capital Module on the OEB's on-line portal as part of its cost of service filing reflecting the estimated costs for replacing the LDC's MS3 Substation.

Details about this "special" capital project, including background, scope, options explored and supporting material can be found in Appendix 2A - WNP's 2015 DSP, Section 5.4.5.3.2

Ex.2/Tab 5/Sch.7 - Addition of ICM Assets to Rate Base

Since the Incremental Capital Project is complete, WNP is requesting the true-up of the estimated rate rider variances as calculated in this schedule. When the project was completed in 2014, the following assets and depreciation were recorded:

Table 2.29 - 1508 ICM Asset Purchases and Deprecation in 2014

1508 - Incremental Capital Assets Purchased					Year 2014					
	Opening Balance	Additions	Disposals	Closing Balance	Opening Balance	Additions	Adjustments	Disposals	Closing Balance	Net Book Value
Sub Stations Power - Overall	$0	$372,859	$0	$372,859	$0	$4,143	$0	$0	$4,143	$368,716
Sub Stations Power - Bushing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sub Stations Power - Tap Changer	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sub Stations Switchgear - Overall	$0	$274,754	$0	$274,754	$0	$3,434	$0	$0	$3,434	$271,320
Sub Stations - Station Switch	$0	$255,870	$0	$255,870	$0	$2,559	$0	$0	$2,559	$253,312
Sub Stations - Rigid Busbars	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sub Stations - Steel Structure	$0	$45,246	$0	$45,246	$0	$452	$0	$0	$452	$44,794
Sub Stations - Fence	$0	$55,013	$0	$55,013	$0	$1,100	$0	$0	$1,100	$53,912
Poles Towers & Fixtures - Wood	$0	$80,477	$0	$80,477	$0	$894	$0	$0	$894	$79,583
O/H Conductors & Devices - Conductors	$0	$8,562	$0	$8,562	$0	$71	$0	$0	$71	$8,491
U/G Conductors & Devices	$0	$24,598	$0	$24,598	$0	$307	$0	$0	$307	$24,291
Reclosers	$0	$316,576	$0	$316,576	$0	$3,957	$0	$0	$3,957	$312,619
		$1,433,955				$16,919				

Since the initial creation of the 1508 assets, no additions have been made. However, depreciation continues to be allocated as is displayed in the following table.

Table 2.30 - 1508 ICM Assets and Deprecation in Bridge Year 2015

1508 - Incremental Capital Assets					Year 2015					
	Opening Balance	Additions	Disposals	Closing Balance	Opening Balance	Additions	Adjustments	Disposals	Closing Balance	Net Book Value
Sub Stations Power - Overall	$372,859	$0	$0	$372,859	$4,143	$8,286	$0	$0	$12,429	$360,430
Sub Stations Power - Bushing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sub Stations Power - Tap Changer	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sub Stations Switchgear - Overall	$274,754	$0	$0	$274,754	$3,434	$6,869	$0	$0	$10,303	$264,451
Sub Stations - Station Switch	$255,870	$0	$0	$255,870	$2,559	$5,117	$0	$0	$7,676	$248,194
Sub Stations - Rigid Busbars	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sub Stations - Steel Structure	$45,246	$0	$0	$45,246	$452	$905	$0	$0	$1,357	$43,889
Sub Stations - Fence	$55,013	$0	$0	$55,013	$1,100	$2,201	$0	$0	$3,301	$51,712
Poles Towers & Fixtures - Wood	$80,477	$0	$0	$80,477	$894	$1,788	$0	$0	$2,683	$77,794
O/H Conductors & Devices - Conductors	$8,562	$0	$0	$8,562	$71	$143	$0	$0	$214	$8,348
U/G Conductors & Devices	$24,598	$0	$0	$24,598	$307	$615	$0	$0	$922	$23,676
Reclosers	$316,576	$0	$0	$316,576	$3,957	$7,914	$0	$0	$11,872	$304,704
	$1,433,955	$0				$33,838				$1,383,199

This application requests the inclusion of these assets into the opening balance of the fixed assets on January 1, 2016 using the NBV recorded above.

Incremental Capital Analysis

In 2014, Wellington North Power completed the construction to rebuild its MS-2 sub-station which services customers in Mount Forest. In its 2014 IRM Application (EB-2013-0178), Wellington North Power received approval for the recovery of the revenue requirement associated with the incremental capital costs of re-constructing the sub-station. In its decision and order, the Board found that the capital costs incurred were prudent and that Wellington North Power had provided sufficient evidence that potential alternatives were analyzed and that the completion of the project represented the most cost effective alternative for ratepayers. Wellington North Power has been recovering its costs through an Incremental Capital Module Rate Rider which though it had no specified ending date, would have a logical concluding date

of April 30, 2016 when the new rates go into effect based on the integration of these assets into the rate base in this COS application.

In its Decision and Order, the Board approved the forecasted costs of $1,596,000. However, actual total capital costs were higher than forecasted. Total costs of 1,704,730 were incurred. The Incremental Capital Rate Rider was based on an expenditure of $1,356,000 since $240,000 was being funded through our regular capital spending. For the cost over-run, $31,640 was recorded under regular capital spending, and $77,955 was assigned to the Incremental Capital accounts set up under 1508.

Total capital spending exceeded the budgeted amount by $108,730 as displayed below.

Table 2.31 – MS2 Substation: Estimate versus Actual Costs

	Component	Estimated Cost Detail	Actual Costs	Variance between **Estimated** to **Actual** Costs
1)	Consultancy / Project Mgmt Work (Costello Assoc)	$97,500	$115,254	118%
2)	Major Equipment (Purchased by WNP)	$539,000	$515,690	96%
3)	Design-Build Contractor	$786,500	$980,104	125%
4)	WNP Work (incl inventory materials)	$28,000	$74,334	265%
5)	Legal		$2,457	
5)	Other Work (Ground Study, Geotechnical)		$16,892	
	Total	$1,451,000	$1,704,730	
	Contingency	$145,100	$0	
		$1,596,100	**$1,704,730**	**106.8%**

The areas where cost over-runs were encountered were as follows.

Table 2.32 – MS2 Substation: Breakdown of Overspending

Over/Under Budget Analysis Description	Cost Detail
General Contract	$166,697
Additional Engineering (Costello)	$16,500
Grounding study, Geotech	$16,892
Legal	$2,457
Unsuitable soil excavation, fill and compaction	$25,472
Removable fence section	$2,788
Additional investigations regarding underground road crossing, change in	

concept, overhead line work, Sunday work with additional line crew and management of late deliveries	$46,334
Contingency	-$145,100
Material Savings	-$23,310
Total Over Budget	$108,730

The following table provides a summary of the estimate for the amounts that will be recorded in 1508 Other Regulatory Assets for May 1, 2014 to Apr 30, 2016 based on actuals to Aug 31, 2015

Table 2.33 – Amounts to be recorded in 1508

Description	2014	2015	2016	Total
Incremental Capital Expenditures	$1,433,955	$1,433,955	$1,433,955	
Depreciation Expense	16,919	33,838	11,279	
Accum. Depreciation	-16,919	-50,757	-62,036	
ICE Rate Rider Estimation	$73,308	$112,224	$37,106	$222,638

WNP is estimating the difference between its recalculated revenue requirement and the forecasted revenues to Apr 30, 2016 below:

Table 2.34 – Recalculated Revenue Requirement

Description	Capital	Revenue Requirement	Total 2014-2016
Board Approved Amounts		$105,665	$211,330
Projected Over Recovery vs Board Approved		-6,559	-11,308
ICM Collected/To be Collected		$112,224	$222,638
Board Approved Amounts	$1,356,000	$105,665	$211,330
Variance btw. Actual Cap Spending and Board Approved	77,955	9,568	19,136
Recalculated Amounts	$1,433,955	$115,233	$230,466
Variance Recalculated Rev Requirement vs. ICM Collected - Due from/(Owed to) Customer			$7,828

Based on these calculations, WNP is requesting approval for the true-up of the variances resulting from the increased actual capital spending and the Board approved amount in its ICM application (EB-2013-0178), net of any recoveries from its approved ICM rate rider.

WNP is requesting for disposition for $7,828 as itemized in the EDDVAR model and Exhibit 9.

WNP is also requesting approval from the Board to move the Incremental Capital Expenditures currently recorded in Account 1508 into its capital assets as of January 1, 2016 using the Net Book Value (NBV) of these assets as of December 31, 2015.

Ex.2/Tab 5/Sch.8 - Service Quality and Reliability Performance

WNP 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

These indices provide WNP 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.

Table 2.35 – SAIDI and SAIFI Loss of Supply for 2010 to 2014

Index	Includes outages caused by loss of supply					Excludes outages caused by loss of supply				
	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
SAIDI	0.000	1.020	3.380	16.040	2.340	0.000	0.920	0.440	0.140	0.120
SAIFI	2.220	0.470	2.050	3.230	0.710	0.040	0.400	0.150	0.100	0.110
5 Year Historical Average										
SAIDI					4.556					0.324
SAIFI					1.736					0.160

SAIDI = System Average Interruption Duration Index
SAIFI = System Average Interruption Frequency Index

Table 2.36 – Service Reliability Indicators for 2010 to 2014

Service Reliability Indicators						
Indicator	OEB Minimum Standard	2010	2011	2012	2013	2014
Low Voltage Connections	90.0%	100.00%	100.00%	100.00%	100.00%	100.00%
High Voltage Connections	90.0%	0.00%	0.00%	0.00%	0.00%	0.00%
Appointment Scheduling	65.0%	99.60%	83.94%	91.60%	100.00%	99.78%
Appointments Met	90.0%	99.81%	97.56%	95.24%	100.00%	100.00%
Rescheduling a Missed Appointment	80.0%	0.00%	0.00%	0.00%	0.00%	0.00%
Telephone Accessibility	80.0%	99.98%	99.99%	100.00%	100.00%	100.00%
Telephone Call Abandon Rate	80.0%	0.02%	0.01%	0.00%	0.00%	0.00%
Written Response to Enquires	10.0%	100.00%	100.00%	100.00%	100.00%	100.00%
Emergency Urban Response	90.0%	100.00%	100.00%	100.00%	100.00%	100.00%
Emergency Rural Response	100.0%	0.00%	0.00%	0.00%	0.00%	0.00%
Reconnection Performance Standard	85.0%			98.00%	100.00%	100.00%

2011 Appointment Scheduling percentage included Maintenance Work Orders that were raised internally by WNP (not requested by a customer) and left open during the year. These internal work orders were closed at the end of the year.

Appendix

List of Appendices

Appendix 2A	Wellington North Power 2015 Distribution System Plan

Appendix 2A – Distribution System Plan

Wellington North Power Inc.
290 Queen Street West, PO Box 359, Mount Forest, ON N0G 2L0
Phone: 519.323.1710 Fax: 519.323.2425
E-mail: wnp@wellingtonnorthpower.com
www.wellingtonnorthpower.com

Wellington North Power

Distribution System Plan

2015

Date: September 2015

Prepared by:	**Wellington North Power Inc.**
Filed With:	**2016 Cost of Service rate application (EB-2015-0110)**
3rd Party Review by:	**AESI – Engineering & Management Consultants**

Table of Contents

5.0 Executive Summary

Wellington North Power Inc. (WNP) submits its 2015 Distribution System Plan as evidence to support its 2016 Cost of Service rate application seeking approval for Distribution Rates effective May 1, 2016. This stand-alone document fulfils the requirements as set out in the Ontario Energy Board's "Filing Requirements for Electricity Transmission and Distribution Applications - Chapter 5 – Consolidated Distribution System Plan Filing Requirement" (March 28, 2013). The LDC has attempted to align their Distribution System Plan to the reference numbers identified in the Chapter 5 filing requirements.

The main themes of this Distribution System Plan include:

a) Paced and prioritized investment planning balancing the requirements of customers versus the needs of the LDC;
b) Identification of Capital Investment projects distinguished between "base" projects and "special" one-off investments. In the five-year forecast period, Wellington North Power Inc. is planning two "special" projects, i.e. capital investments that occur infrequently and are above the LDC's average annual capital expenditure. These "special" projects are planned for 2016 (2nd feeder) and 2018 (substation replacement – which has been included as an Advanced Capital Module seeking regulatory approval). Both projects are described in detail in this Distribution System Plan;
c) Focus on maintaining a reliable and safe distribution system for today and tomorrow as well as looking at mid-term (5 – 10 years) future requirements, including increase in capacity to meet customer demand expectations;
d) "Bottom-up" engagement from a consumer perspective through to regional planning;
e) Identification of assets, asset replacement planning and the decision-making process undertaken;
f) Review of Service Quality Indices and Reliability measures;
g) Inclusion of technology in the system (Smart Grid);
h) Review of historical capital investment spending and confidence of delivering future capital investment projects.

The table below summarizes WNP's capital investment plan showing historic (actual) investment spent for the years 2011 to 2014; current year (2015) planned investment; and forecasted planned investment (2016-2020) group by the investment categories.

Table 1 Capital Investment Overview – Historic, Current and Future

Overview (Base Plan + Special Projects)	Investment Category	2011 Historic	2012 Historic	2013 Historic	2014 Historic	2015 Budget Bridge Year	2016 Forecast Test Year	2017 Forecast	2018 Forecast	2019 Forecast	2020 Forecast
	General Plant	$327,991	$138,275	$361,688	$38,617	$220,000	$70,650	$138,670	$24,470	$421,850	$453,000
	System Access	$42,931	$107,171	$57,730	$239,084	$172,500	$60,000	$240,000	$240,000	$240,000	$60,000
	System Renewal	$192,014	$307,636	$283,467	**$1,847,849**	$155,500	$50,000	$350,000	**$1,924,000**	$250,000	$410,000
	Systems Service	$34,362	$13,375	$54,802	$61,613	$212,000	**$1,729,751**	$0	$0	$0	$0
	Capital Investment Total	**$597,299**	**$566,457**	**$757,686**	**$2,187,163**	**$760,000**	**$1,910,401**	**$728,670**	**$2,188,470**	**$911,850**	**$923,000**

The above table includes "special" projects (the shaded values in years 2014, 2016 and 2018). These special projects are:

- 2014 – in its 2013 Incentive Rate Mechanism (IRM) rate application seeking approval for 2014 distribution rates, WNP included an Incremental Capital Module (ICM) requesting approval and recovery for building a new substation to replace an existing station that, in a 3rd party assessment, had major deficiencies. The ICM was approved as per Decision and Order EB-2013-0178 dated March 13th 2014. The LDC spent $1,433,955 on this ICM project that was energized and in-service in December 2014 (as planned).

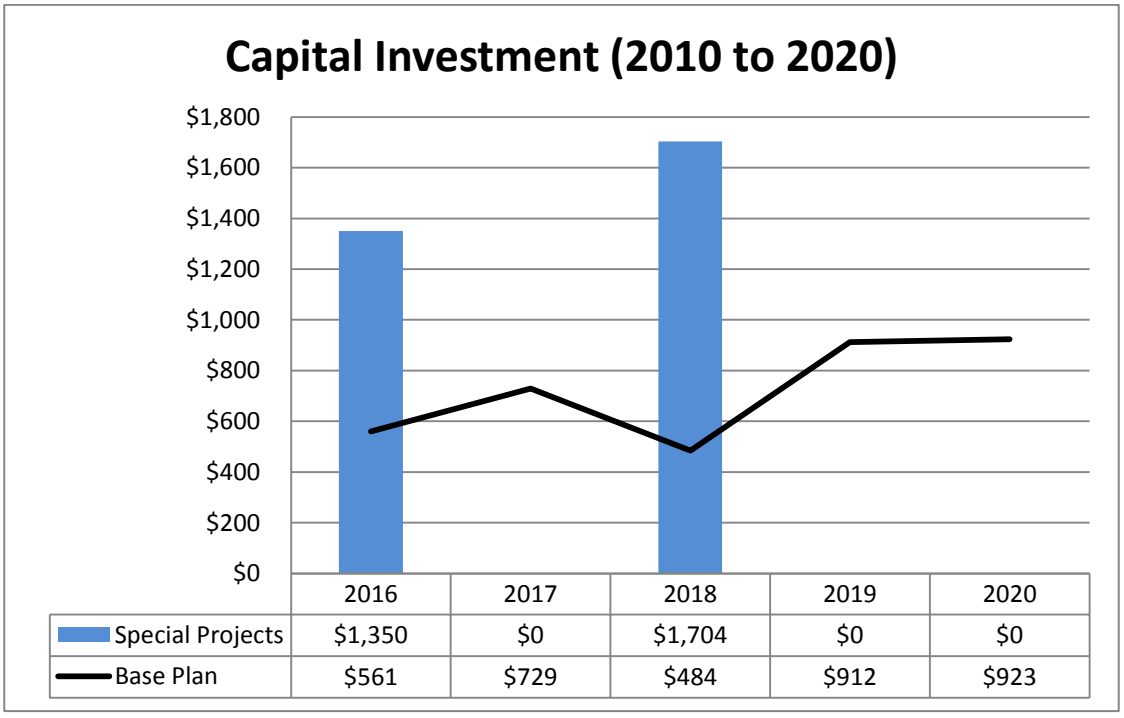
  [Note: the total amount spent by the WNP was $1,673,955 of which $240,000 was already approved for substation investment and included in LDC's 2014 CapEx plan as per 2012 Cost of Service rate application EB-2011-0249].
- 2016 – as discussed in this Distribution System Plan, WNP are seeking regulatory approval to build a 2nd feeder line to one of its service territories (the Town of Mount Forest). Currently, there is only one feeder to this area which is at its demand capacity and has been affected by reliability in recent years. This project is in conjunction with Hydro One.
- 2018 – as discussed in this Distribution System Plan, WNP are seeking regulatory approval to replace a municipal substation due to age and deficiencies (as identified in a 3rd party assessment study).

It should be noted that in preparing its capital investment plans and reviewing the needs for the "special" projects, WNP considers discretionary and non-discretionary spending (i.e. are there capital projects that can be shifted to another period or does the project need to be completed in that particular year.) To that extent, WNP has prioritized its plans and where possible, for the years of 2016 and 2018 when "special" projects have been planned, has moved discretionary capital projects into other years. The LDC demonstrated this discretionary versus non-discretionary spending practice effectively in its 2013 Incentive Rate Mechanism

(IRM) rate application (file number EB-2013-0178) which included an Incremental Capital Module for building a new substation – this application was approved by the regulator as per the LDC's Decision and Order EB-2013-0178 dated March 13th 2014.

The chart below summarizes WNP's capital investment by "base" plan and "special" projects for the period 2011 to 2020 and clearly shows the effect of discretionary spending (reduced spending) in the years when special projects are planned:

Table 2 Capital Investment Overview by Special Projects and Base Plan



	2016	2017	2018	2019	2020
Special Projects	$1,350	$0	$1,704	$0	$0
Base Plan	$561	$729	$484	$912	$923

In the LDC's most recent approved Cost of Service rate application (case number EB-2011-0249 approval for May 1st 2012 distribution rates), Wellington North Power Inc. was approved for an annual capital budget for $760,000 for the period 2012 to 2015 inclusive. In preparing this Distribution System Plan, the average annual Capital Expenditure for the period 2016 to 2020 is:

a) "Base" projects (i.e. excluding "special projects") gives an average annual capital budget $645,728 per year. The LDC's "base" plan are capital projects that have been prioritized and include "normal" asset investment activities (such as pole-line re-build) to replace aged and deteriorated equipment.
b) Including "special" projects, the annual capital budget increases to an average of $1,326,066 per year.

Note: It needs to be recognized that in preparing its capital plan:

(i) Wellington North Power Inc. has applied discretionary spending for the years of 2016 and 2018 (i.e. those years when "special" projects are planned); and

(ii) Wellington North Power Inc. has planned to replace an RBD bucket truck in 2019 (estimated cost is $250,000 and at this date, the current vehicle will be 15 years old) and a single bucket truck in 2020 (estimated cost is $310,000 and at this date, the current vehicle will be 12 years old).

In preparing this Distribution System Plan, the LDC has engaged with customers, intensive-energy consumers, the Municipality shareholder as well as the Independent Electricity Systems Operator and Hydro One. In WNP's opinion, the 2015 Distribution System Plan gives a concise overview of the LDC's system, identifies the safety inspections that are performed, documents the planning process in prioritizing capital investment and balances the needs of the customer versus the wants of the LDC. Wellington North Power Inc. strives to deliver value to its customers and communities in which it operates, fulfilling the organizations' values of:

- Vision Statement:

  To be regarded within the province of Ontario as an industry leader in the safe, reliable and cost efficient distribution of electricity.

- Mission Statement:

  WNP (WNP) shall provide its customers with the most cost effective delivery of electricity safely, reliably and efficiently. This will be done while providing superior customer service and promoting customer education and green initiatives within its service area.

The above statements correlate to the company's asset management goal of optimizing performance of its assets with consideration for safety, reliability and customer service expectations. (i.e. balancing the needs of the customer versus the wants of the LDC.) Furthermore, these statements compliment the OEB's Renewed Regulatory Framework for Electricity (RRFE) performance outcomes, namely:

- ✓ Customer focus – "….providing superior customer service" as demonstrated by WNP's service quality indices for the last 5 years which have all exceeded the industry targets (as illustrated within this document).
- ✓ Operational Effectiveness – "….cost effective delivery of electricity" as demonstrated by WNP's capital expenditure for the last two years which has been in-line with the CapEx budget approved by the OEB in the LDC's most recent Cost of Service rate application (EB-2011-0249) (as illustrated within this document). And further demonstrated by maintaining assets and equipment to achieve their maximum typical useful life as confirmed by the LDC replacing a substation in 2014 that was over 50 years old (as per IRM application EB-2013-0178).

- ✓ Public Policy Responsiveness – "…promoting customer education and green initiatives" emphasized by the fulfilling the mandated requirements set by the Ministry of Energy (e.g. Smart Meter implementation & roll-out and Conservation and Demand Management); and
- ✓ Financial Performance – "…cost effective delivery of electricity safely, reliably and efficiently" as demonstrated by the utility's leverage (i.e. total debt to equity ratio) moving closer to the OEB's preferred 60:40 debt to equity ratio from 2010 to 2014 (as illustrated within the LDC's Scorecard as discussed in this document.)

WNP's prioritization and planning process aims to maintain the reliability of the distribution system within the service area whilst making investments today for the future. Such an example is the company's plan for a second feeder to the Town of Mount Forest in 2016 which will offer the following benefits:

Benefit	Stakeholder Benefitted
Load capacity for economic development and growth	• Intensive energy consumers who have identified they are going to increase their current energy demand requirements • Energy users are planning to increase their future energy demands • Municipality – to attract growth and development in the area
Reliability	• Critical load customer (e.g. a local hospital and a nursing home) as load can be switched in the event of an outage • Customers – maintain current levels of reliability

3rd Party Assessment of Distribution System Plan

WNP commissioned a third party, AESI – Engineering & Management Consultants, to review the LDC's 2015 Distribution System Plan. A copy of AESI's letter following its review the Distribution System Plan is contained within Appendix C

5.1 LDC System Summary Overview

5.1.1 System Overview

The table below illustrates the scale of service are and assets managed by Wellington North Power Inc. (WNP)

Table 3 LDC System Summary Overview

	2014	Supporting Information
Maximum Monthly Peak *(with embedded generation)*	17,897 kW	January 2014
Service Area (sq. km)	14	
Kilometres of Line	86	
Total Customers	3,731	
Residential	3,213	
General Service <50kW	478	
General Service 50-999 kW	40	
General Service 1000-4999 kW	5	
Unmetered Scattered Load *(connections)*	1	
Sentinel Lights *(connections)*	27	
Street Lighting *(connections)*	905	
Generation	301,047 kWh	Generated energy during 2014 from: • 18 MicroFIT accounts and; • 1 FIT account (as at 31-Dec-2014)
Number of Substations (<50 kV)	6	
Wholesale Meter Points	3	
Poles	1841	
Primary Lines (km)		
Overhead	72	
Underground	14	
Transformers (units)		
OH	518	
UG	122	
44kV Switches Load Break	6	

Notes:

I. The information in the above table represents the data as at December 31st 2014.

Background

Wellington North Power Inc. (WNP) is an embedded distributor within Hydro One's service territory and is connected under 115kV, from two of Hydro Ones Transmissions Station feeders.

Transformer Substation Owner	Transformer Name	Community Served within Wellington North Power Service Territory
Hydro One Networks Inc.	NA73 - Fergus TS	Urban Area of Arthur
Hydro One Networks Inc.	NA36 - Hanover TS	Urban Areas of Holstein and Mount Forest

WNP is a registered Market Participant, dealing directly with the Independent Electricity System Operator (IESO) for the electricity which is passed through our distribution system to consumers.
As an embedded utility, WNP is billed monthly by Hydro One for all Transmission related charges including Low Voltage. Transmission and Low Voltages charges are passed through to WNP's customers.

WNP's service area consists of 44kV, 8kV, and 4kV high voltage systems.

WNP has two Hydro One 44kV feeders serving its distribution territory. WNP owns and operates the electricity distribution system in its licensed service area including parts of the Township of Wellington North and the Township of Southgate, serving approximately 4,500 Residential, General Service, Street Lighting, Sentinel Light and Unmetered Scattered Load customers/connections.

WNP's distribution assets include:

- Four municipal distribution stations that steps voltage from 44kV to 4kV for distribution within the town of Mount Forest;
- Two municipal distribution stations that steps voltage from 44kV to 4kV for distribution within the village of Arthur, and;
- Distribution assets supplied by a Hydro One shared distribution station which service our customer's in the village of Holstein.

WNP receives power from two Hydro One 44kV circuits, one from Fergus TS and one from Hanover TS. These 44kV circuits are used to supply our distribution assets described above. Electricity is then distributed through WNP's service area of 14 square kilometers through the company's 72km of overhead conductors and 14km of underground cable.

The distribution voltage of 4kV is stepped down by approximately 640 transformers, both overhead and underground, to the service voltage provided to our customers. WNP monitors its distribution system using a station monitoring system at its main office building at 290 Queen Street West in Mount Forest, ON.

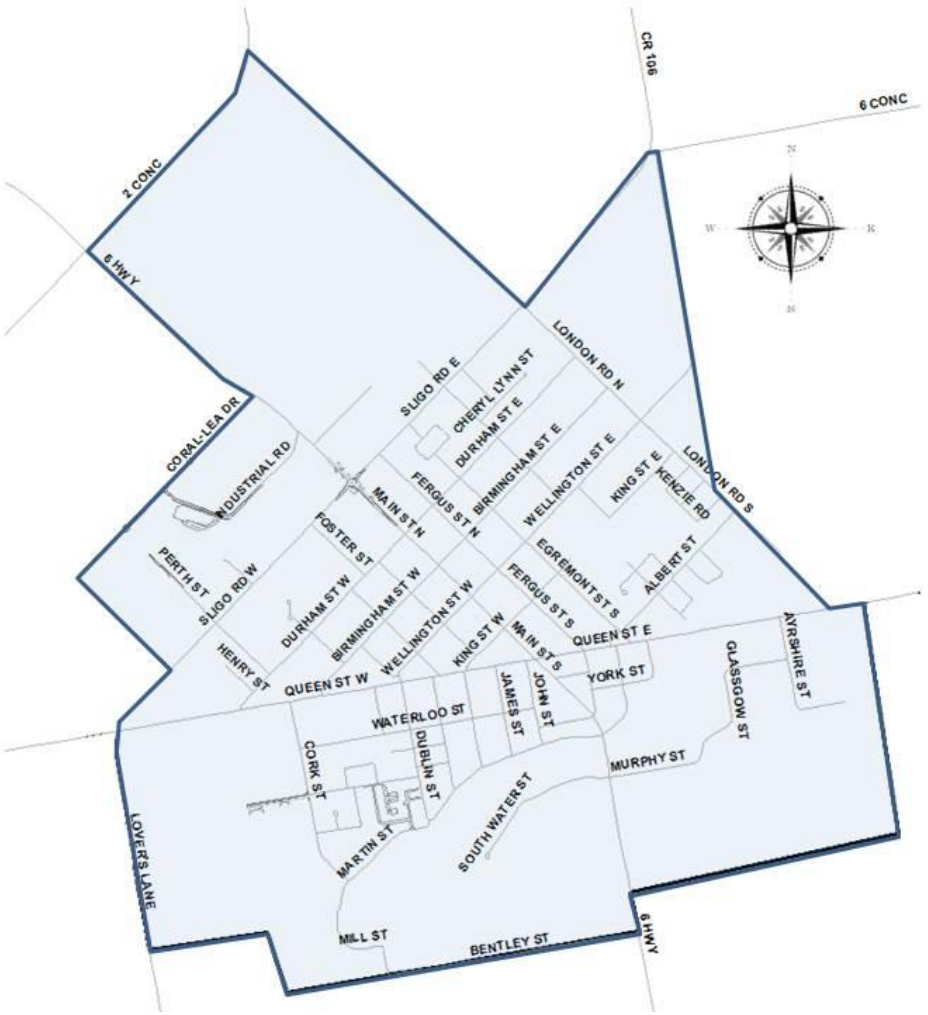
WNP owns and maintains approximately 3,736 meters installed on its customers' premises for the purpose of measuring energy consumption of electricity for billing purposes. Meters vary in type by customer and include meters capable of measuring kWh consumption, kW demand and kVA, as well as hourly interval data. WNP completed the installation of all of its Residential and General Service <50kW Smart Meters by December 2010 as part of the Province of Ontario's Smart Meter initiative. On June 25, 2008, Ontario Regulation 235/08 was filed by the Ontario Provincial Government giving WNP authorization to proceed with its first phase of Smart Meter installation.

In managing its distribution system assets, WNP's main objective is to optimize performance of the assets at a reasonable cost with due regard for system reliability, public and worker safety and customer service requirements.

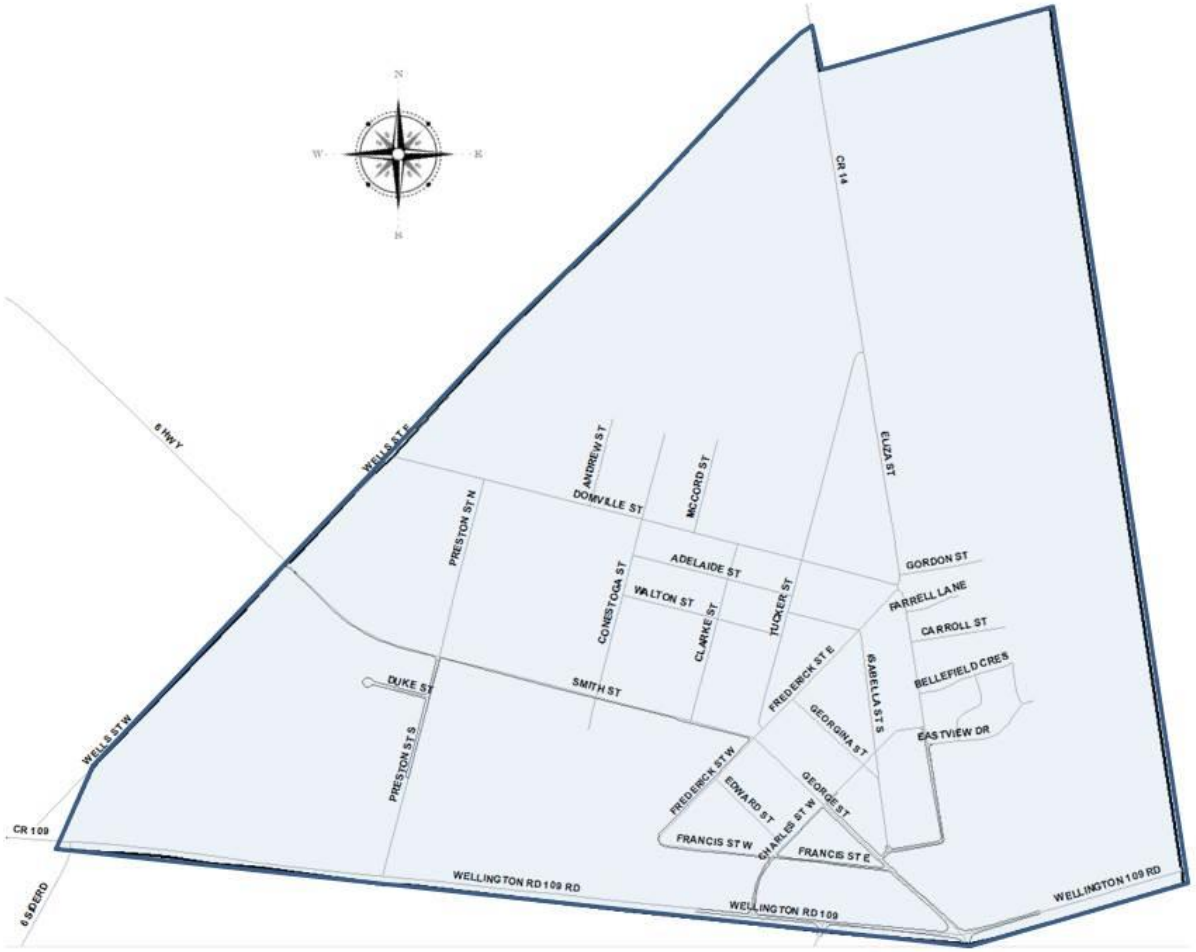
In addition to the capital needs of the network, WNP provides for maintenance planning for the assets. WNP's assets fall into two broad categories – distribution plant, which includes assets such as substation building, wires, overhead and underground electricity distribution infrastructure, transformers, meters and substations; and general plant which includes assets such as, office building and service centre, computer equipment and software. General Plant also includes the company's fleet of six vehicles and stores equipment.

The following pages illustrate WNP service area maps and single-line diagrams:

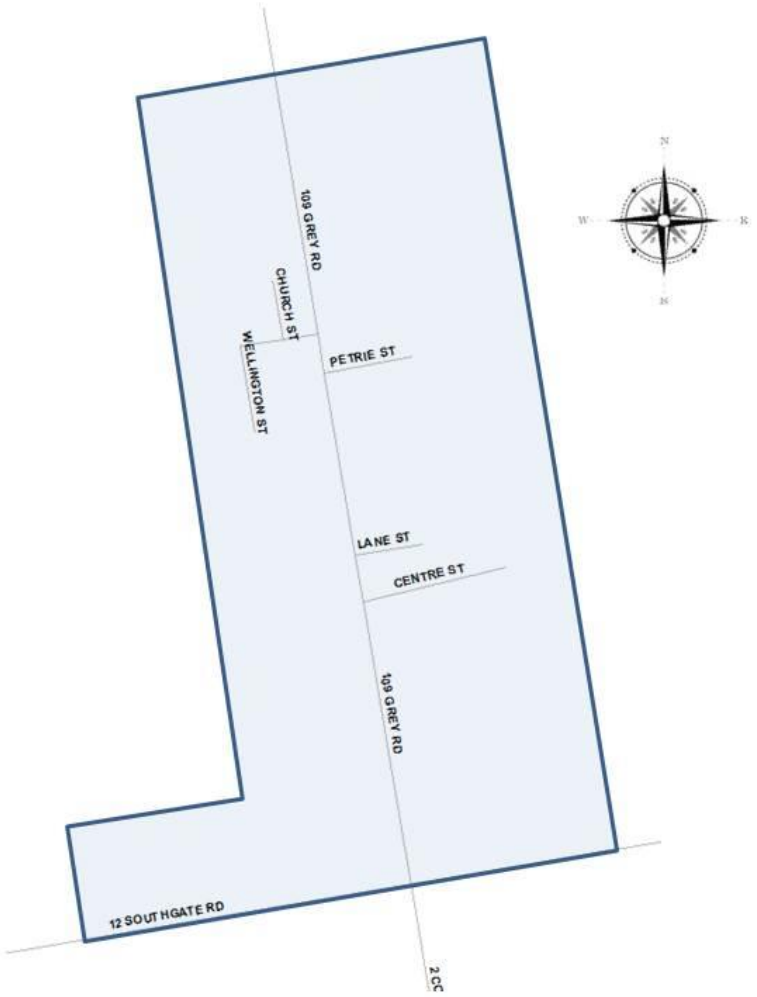
WNP Service Territory Map – **Mount Forest**



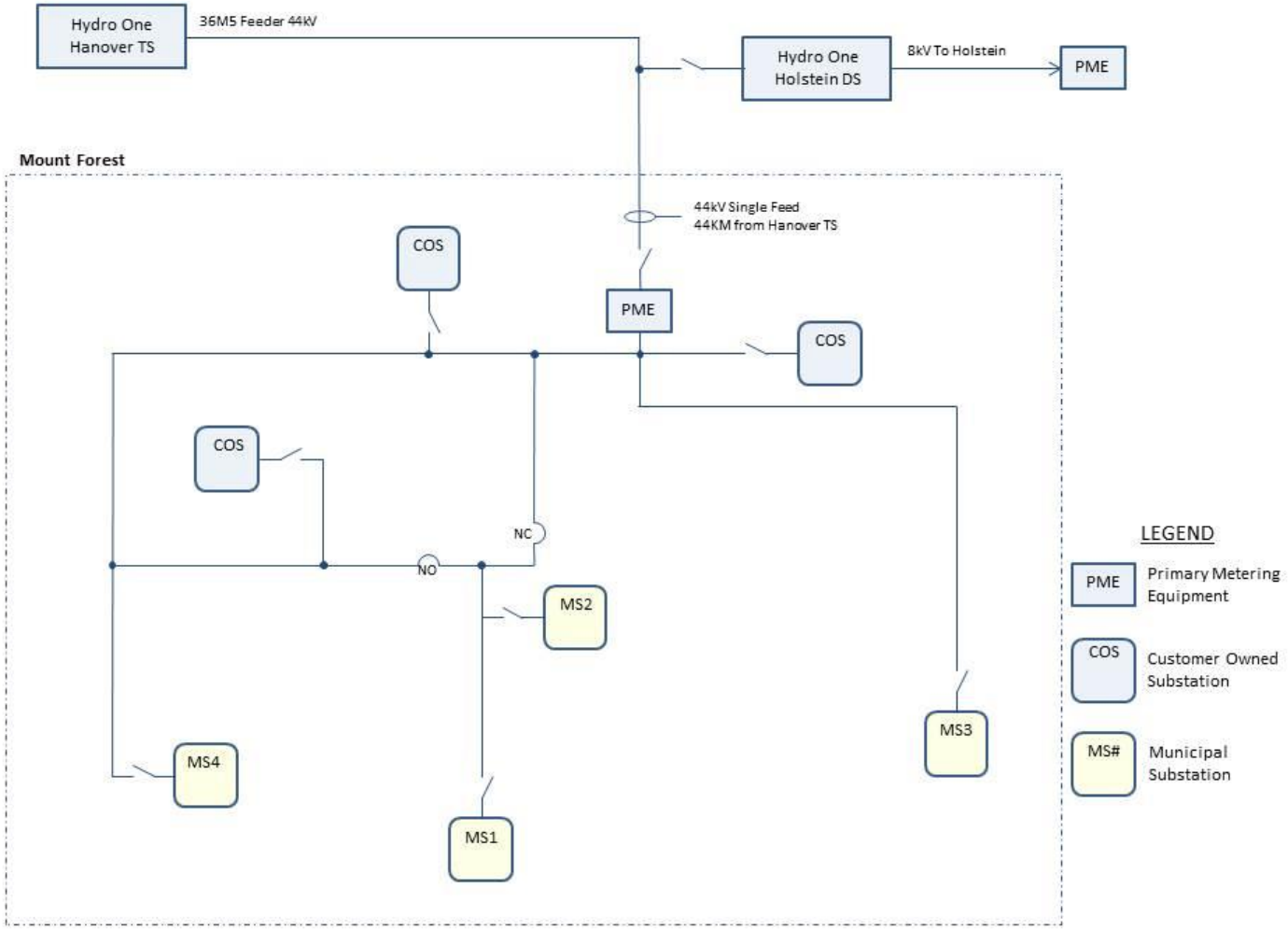
WNP Service Territory Map – **Arthur**



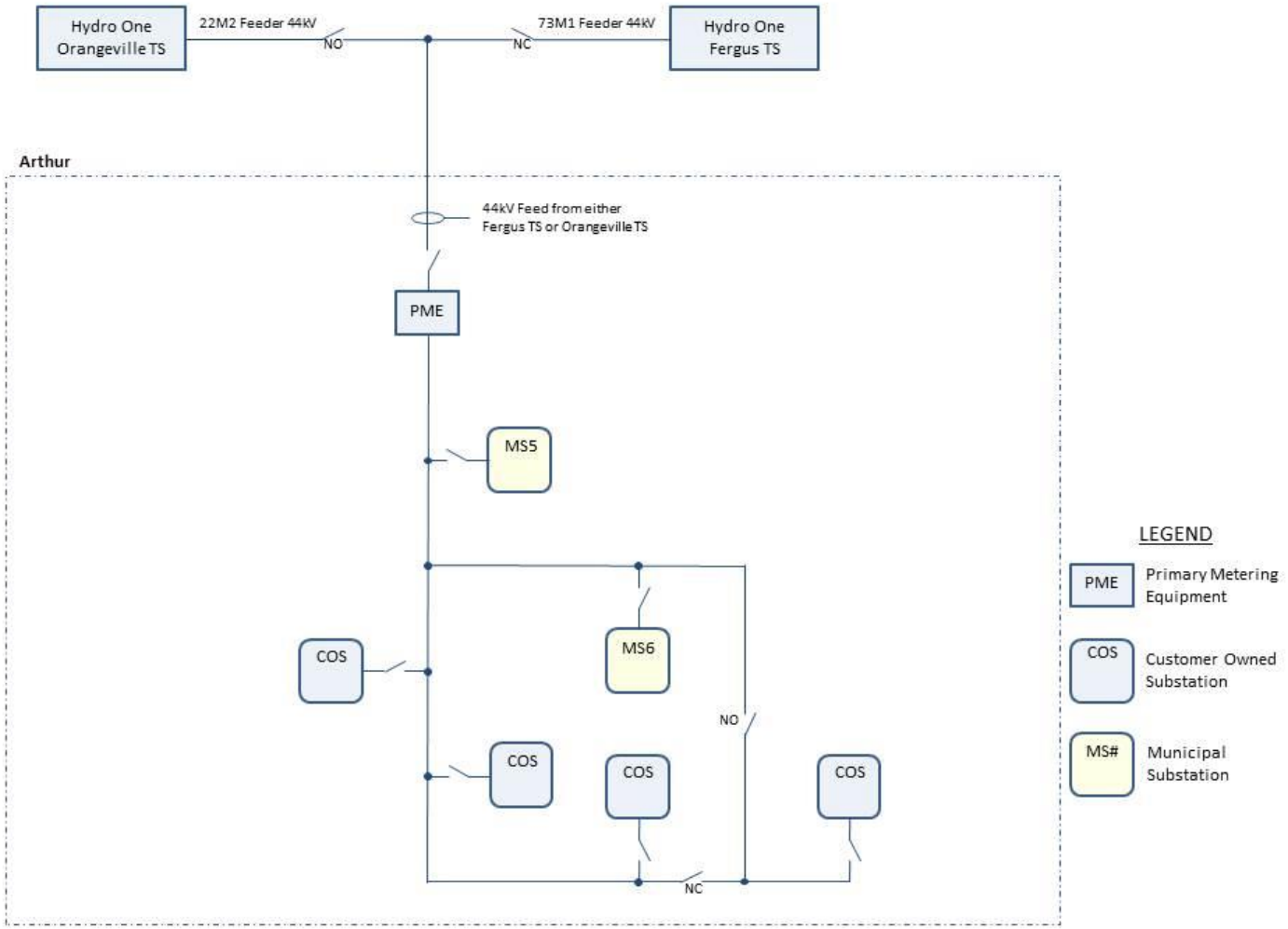
WNP Service Territory Map – **Holstein**



Mount Forest & Holstein Single Line Diagram showing 44kV – LDC Owned versus. Customer Owned Substations (COS)



Arthur Single Line Diagram showing 44kV – LDC Owned versus. Customer Owned Substations (COS)



Utility Characteristics

Table 4 below summarizes the characteristics of WNP over the most recent five-year period:

Table 4 WNP's Utility Characteristics 2010 - 2014

Characteristics	2010	2011	2012	2013	2014
Population Served	7,200	7,200	7,200	7,200	7,200
Municipal Population	11,500	11,500	11,500	11,500	11,500
Seasonal Population	0	0	0	0	0
Total Customers	3,613	3,626	3,649	3,695	3,731
Residential Customers	3,095	3,103	3,126	3,178	3,213
General Service <50 kW Customers	473	478	478	472	478
General Service >50 kW Customers	45	45	45	45	45
Large User (>5000 kW) Customers	0	0	0	0	0
Total Service Area (km²)	14	14	14	14	14
Rural Service Area (km²)	0	0	0	0	0
Urban Service Area (km²)	14	14	14	14	14
Total km of line	76	76	76	76	76
Km of Overhead line	66	66	66	66	66
Km of Underground line	10	10	10	10	10
Total kWh Purchased	102,608,289	105,625,698	108,411,817	110,314,060	112,420,512
Total kWh sold *(excluding losses)*	96,062,450	99,140,087	101,548,388	103,789,320	105,637,369
Total Distribution Losses (kWh)	6,545,839	6,485,611	6,863,429	6,542,740	6,783,143
Winter Peak (kW) *(with embedded generation)*	17,452	17,539	17,146	17,714	17,897
Summer Peak (kW) *(with embedded generation)*	16,834	16,621	17,225	16,920	16,357
Average Peak (kW) *(with embedded generation)*	16,134	16,373	16,294	16,027	16,309
Capital Additions (Gross)	**$388,852**	**$576,440**	**$1,473,103**	**$766,428**	**$756,715**

Notes:

I. The information in the above table represents the data at the end of each year (i.e. as at December 31st);

II. Total kWh Purchases and Total kWh Sold include generated kWhs from MicroFIT and FIT accounts connected within the LDC's service territory; and

III. 2012 Capital Additions (Gross) includes the addition of Smart Meters and associated computer hardware/software that was recognized and approved for inclusion as per the Applicant's 2012 Cost of Service rate application (EB-2011-049).

Observations:

a) Customer Trend

Over the past 5-years, WNP has experienced a stable customer base, with steady growth in its Residential customer class of approximately 1% increase year-over year. The General Service 50-999kW and General Service 1000-4999kW classes have remained static over the period, with the movement of one account (the same customer) between these classes in 2013 and 2014 – this was an outcome of the annual review of all kW Demand Customers managed by the LDC. (This particular customer account showed a steady monthly kW demand increase during 2012, with ten out of twelve months above 1000 kW demand. The customer was notified and account was transferred to GS 1000-4999 kW class. The customer participated in a CDM program during Quarter 3 of 2013 resulting in a reduction of kW monthly demand in 2014 and the customer was transferred to the GS 50-999kW class in Quarter 4 of 2014.)

The table below illustrates WNP's customer trend for its Residential and General Service rate classes:

Table 5 WNP's Customer Trend 2010 - 2014

Customers	2010	2011	2012	2013	2014	Average
Total Customers	3,613	3,626	3,649	3,695	3,731	
Change (year-over –year)		0.36%	0.63%	1.26%	0.97%	**0.81%**
Residential Customers	3,095	3,103	3,126	3,178	3,213	
Change (year-over –year)		0.26%	0.74%	1.66%	1.10%	**0.94%**
General Service <50 kW Customers	473	478	478	472	478	
Change (year-over –year)		1.06%	0.00%	-1.26%	1.27%	**0.27%**
General Service 50 - 999 kW Customers	40	40	40	39	40	
Change (year-over –year)		0.00%	0.00%	-2.50%	2.56%	**0.02%**
General Service 1000 - 4999 kW Customers	5	5	5	6	5	
Change (year-over –year)		0.00%	0.00%	20.00%	-16.67%	**0.83%**
Large User (>5000 kW) Customers	0	0	0	0	0	

b) Total kWh Purchased

WNP's Total kWh Purchased has steadily increased year-over-year by an average of 2.31% (equivalent to approximately 2,523,065 kWh per year) as illustrated in the table below:

Table 6 WNP's kWh Energy Purchases 2010 - 2014

Energy (kWh)	2010	2011	2012	2013	2014	Average
Total kWh Purchased	102,608,289	105,625,698	108,411,817	110,314,060	112,420,512	
Change (Year over year)		**2.94%**	**2.64%**	**1.75%**	**1.91%**	**2.31%**

The table below shows the kWh Purchases by month and year:

Table 7 WNP's kWh Energy Purchases by Month for 2010 - 2014

kWh Purchased	2010	2011	2012	2013	2014
Jan	9,555,507	9,903,572	9,972,298	10,233,667	10,802,165
Feb	8,513,222	9,131,887	9,271,454	9,386,329	9,713,837
Mar	8,793,380	9,830,569	9,419,790	9,844,444	10,411,368
Apr	7,779,667	8,007,602	8,532,736	8,384,378	9,211,204
May	8,100,891	7,978,404	8,628,741	8,924,156	9,045,768
Jun	7,984,499	7,956,701	8,655,297	8,570,390	8,608,785
Jul	8,350,976	8,305,370	8,786,351	8,833,492	8,511,532
Aug	8,692,122	8,892,663	9,221,561	8,921,170	8,969,486
Sep	8,099,938	8,391,725	8,467,393	8,528,477	8,920,999
Oct	8,501,578	8,952,307	9,163,547	9,317,564	9,412,613
Nov	8,832,882	8,881,318	9,022,713	9,567,660	9,376,999
Dec	9,403,627	9,393,581	9,269,936	9,802,333	9,435,758
Total	**102,608,289**	**105,625,698**	**108,411,817**	**110,314,060**	**112,420,512**

Note: The monthly kWh purchases above include the addition of generation data

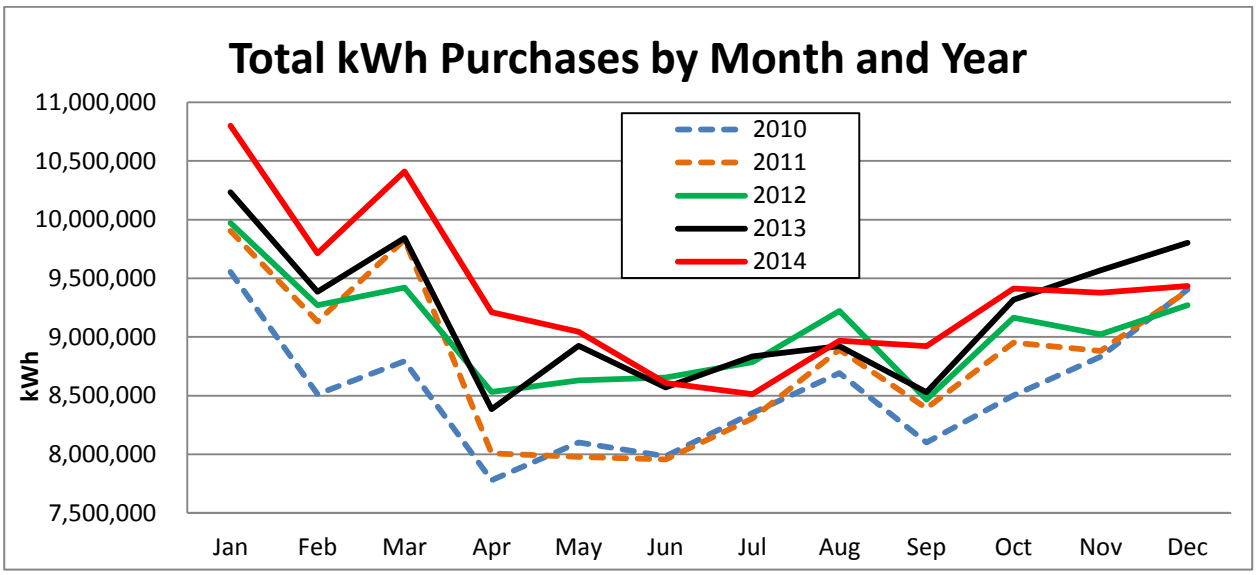
In the above table, the shaded months represent events that contributed to the continual increase in the LDC's kWh energy purchases:

- 2011 Jan - Mar – kWh purchases for these months are 4%, 7% and 12% higher than the same months of the previous year. The LDC noted that in the service area, three manufacturing customers' energy usage was steadily increasing and indicating signs of recovery from the 2008/2009 Global Recession – such customers had reduced shift patterns resulting in lower usage since October 2008.

- 2012 Apr – Aug – The LDC noted that these months recorded higher than normal weather temperatures and assumes that air-conditioning and cooling units were running earlier and longer than under "normal conditions" weather conditions. Also, the LDC observed that during this period, the manufacturing customers in the area energy usage had increased, again a further sign of post-Global recession recovery.
- 2013 Jan - Mar & Nov - Dec – Seasonal weather temperatures were lower than normal averages. On April 12th and 13th, a major Ice Storm caused power outages in the LDC's service area of Mount Forest and Holstein with an outage from 3:00am to 9:20pm (18 hours) due to downed Hydro One 44KV power line that supplies these communities. There were numerous tree related issues in WNP system, largely on the secondary side; however, WNP was fairly fortunate given the severity of the storm. There was another power outage on December 22nd in the LDC's service area of Arthur caused by another winter ice-storm – this outage lasted three hours.
- 2014 Jan - Apr – the LDC noted that temperatures for these months were lower than normal, particularly March and April.

The chart below illustrates the monthly kWh purchases and shows the variances month-by-month over the 5-year period:

Table 8 WNP's kWh Energy Purchases by Month for 2010 - 2014



c) Capital Additions

In the Applicant's most recent Cost of Service application (EB-2011-0249), the following items were approved by the OEB and Intervenor:

I. Smart Meters and Smart Meters Equipment (hardware and software) could be added to the rate-base and included in the Applicant's 2012 Fixed Asset Continuity Schedule;

II. The approved annual Capital Expenditure (CapEx) was $760,000

In considering the above comments, in 2012, the LDC's Capital Addition (Gross) includes the addition of the Smart Meters and Smart Meters hardware/software at the net book value at that time. This explains why the annual Capital Expenditure (CapEx) is above the $760,000 that was approved in the rate application. Not including the Smart Meters and Smart Meters hardware/software, the LDC capital expenditure was $571,148.

In 2014, the OEB approved WNP's IRM application (EB-2013-0178) for 2014 Distribution Rates which included an Incremental Capital Module (ICM) for the building of a new substation to replace an aged and fully depreciated substation. The Capital Addition (Gross) for 2014 does not include the costs associated for building the new substation as approved in the ICM component of the IRM Application EB-2013-0178.

5.1.2 Investments Related to Renewable Generation Connections

WNP has experienced a slow to moderate interest in renewable generation installations. Based on the expected interest and remaining capacity, WNP does not expect significant capital or OM&A expenditures over the next five years to accommodate the forecasted renewable generation.

WNP will continue to purchase and stock the required bi-directional metering equipment for future renewable generation customers. This is required to ensure that WNP is capable of meeting the customer connection timelines within the Distribution System Code.

There are currently no requirements for capital expenditure to support FIT projects.

5.2 Distribution System Plan

5.2.1 Distribution System Plan Overview

This document outlines WNP (WNP) Distribution System Plan (DSP) covering the historical period of 2010-2014, the current year of 2015 and the future period of 2016 to 2020. The report identifies recommendations to improve on the available asset data and the potential to implement a more structured and analytical asset management strategy. This plan incorporates the following:

1. Asset inspection and maintenance;
2. Capital expenditure planning process;
3. Required supporting information management systems; and
4. The effect of renewable generation on WNP's distribution system.

In developing the Distribution System plan, the following factors were considered:

a) Asset condition based on the current inspection processes;
b) Current and proposed FIT and microFIT projects;
c) Current capital expense programs, as identified by WNP staff; and
d) Customer expectations versus LDC requirements.

The main themes of this Distribution System Plan include:

- Paced and prioritized investment planning balancing the requirements of customers versus the needs of the LDC;
- Identification of Capital Investment projects distinguished between "base" projects and "special" one-off investments. WNP has two "special" projects planned over the five-year forecast horizon:
    - A 2nd feeder line in 2016 and is included in 2016 Capital Planned Expenditures; and
    - A replacement substation planned for 2018 and is included as Advanced Capital Module seeking regulatory approval;
- Focus on maintaining a reliable and safe distribution system for today and tomorrow as well as looking at mid-term (5 – 10 years) future requirements, including increase in capacity to meet customer demand expectations;
- "Bottom-up" engagement from a consumer perspective through to regional planning;
- Identification of assets, asset replacement planning and the decision-making process undertaken;

- Review of Service Quality Indices and Reliability measures;
- Inclusion of technology in the system (Smart Grid);
- Review of historical capital investment spending and confidence of delivering future capital investment projects.

WNP's Distribution System Plan covers a ten-year period comprising of:

- Historical period for the 5 years of 2011 to 2014 inclusive;
- Current Year (Bridge Year) -2015; and
- Forecast period for the 5 years of 2016 (Test Year) to 2020

In preparing the LDC's Distribution System Plan, WNP has relied upon the following sources:

- ✓ The Ontario Energy Board's "Filing Requirements for Electricity Transmission and Distribution Applications - Chapter 5 – Consolidated Distribution System Plan Filing Requirement" (March 28, 2013);
- ✓ Feedback presented at the OEB's 2016 Orientation session for 2016 Cost of Service applicants (July 23, 2015);
- ✓ Feedback from WNP stakeholders (customers, Independent Electricity Systems Operator, Township and Shareholders) collected from a variety of engagement methods (including meetings, customer visits, customer office visits and surveys);
- ✓ Discussions with LDC employees and service providers (e.g. IS service provider);
- ✓ Independent reviews of the LDC's system including a 3rd party assessment of substations, feeder capacity review by Hydro One; and
- ✓ Independent review of the LDC's Distribution System Plan by a creditable 3rd part engineering consultancy.

Measurement of the Distribution System Plan

Once WNP's Distribution System Plan (DSP) is reviewed and accepted by the Ontario Energy Board, the LDC will report annually using the LDC's Scorecard meaning that information will be available to both the regulator and customers. WNP is proposing that measurement of the DSP will be of a combination of actual spending versus planned spending as well as project completion group by investment categories. This is discussed in section 5.2. 3.

5.2.2 Coordinated Planning with Third Parties

5.2.2.1 Regional Planning Consultations - IESO

The 2012 "Renewed Regulatory Framework for Electricity: A Performance-Based Approach" (RRFE) released by the Ontario Energy Board (OEB) provided direction to develop a more formalized process for regional planning. Regional system planning looks at reliability at the regional or local level and considers any overlapping or bulk or distribution planning, as well as any Municipal Energy Plans underway. Regional planning is a continual process, evaluated every five years, with plans developed for a 20-year outlook. It identifies local electricity needs and develops recommendations to maintain a reliable electricity supply to the region.

The Independent Electricity System Operator (IESO) has segmented the Province into 21 electricity regions placed into three groups. The table below shows WNP residing in 2 groups and the current status (as at July 2015) of the planning activity:

Table 9 Regional Planning Status for Group 1 and Group 3

Planning Group	Zone	Distributor	Station Name	Connection	Current Status
Group 3	Greater Bruce / Huron	WNP Service area: • Mount Forest • Holstein	Hanover TS	Dx	Current Status: It is expected that regional planning will start by September 2015 for the Greater Bruce/Huron Region. Hydro One will initiate the process with a Needs Screening.
Group 1	Kitchener-Waterloo-Cambridge-Guelph	WNP Service area: • Arthur	Fergus TS	Dx	Current status: An Integrated Regional Resource Plan (IRRP) has been released for this region.

Source: IESO (http://www.ieso.ca/Pages/Participate/Regional-Planning/default.aspx)

Regarding Group 1 - Kitchener-Waterloo-Cambridge-Guelph, WNP has reviewed the Integrated Regional Resource Plan (IRRP). The IESO's Planner for this initiative has shared information with WNP and initiated conference calls. At this time, WNP has advised the IESO Planner of the following:

- At this time, there is no impact to the LDC;

- The LDC forecasts limited but steady growth in customers numbers, predominately Residential, to the service area of Arthur;
- Demand forecast projections for the LDC have been shared with Hydro One who is aware of our electricity demand requirements.

WNP will continue to monitor the progress of Group 1 planning as well as engage with the IESO Planner as and when required. The IESO Planner is effectively sharing updates of the projects as the plan moves forward.

IESO Letter of Comment

As per the OEB's "Filing Requirements for Electricity Transmission and Distribution Applications; Chapter 5 – Consolidated Distribution System Plan Filing Requirements", issued March 28, 2013, Section 5.1.4.2 – "Renewable energy generation investments", WNP submitted a copy of its 2015 Distribution System Plan to the Independent System Electricity Operator (formerly OPA) for review. Below is a copy of the response received from the IESO in review of the LDC's plan:

IESO Letter of Comment

WNP

Renewable Energy Generation Investments Plan 2016 – 2020

August 31, 2015

WNP – Distribution System Plan

On August 11, 2015, WNP ("WNP") provided its Renewable Energy Generation Investments Information ("Plan") to the IESO as part of its 5-year Distribution System Plan from 2016-2020. The IESO has reviewed WNP's Plan and provides the following comments.

OPA FIT/microFIT Applications Received

WNP's Plan identifies 18 microFIT projects totalling 179.89 kW of capacity, and 1 FIT project totalling 100 kW in capacity that are connected to its distribution system (as of December 31, 2014).

The renewable energy generation connections information of the IESO, as of June 30, 2015, is consistent with the information presented in the Plan. The IESO has offered contracts to 18 microFIT projects representing a capacity of 179.89 kW, and 1 FIT project totalling 100 kW of capacity.

WNP's Plan conveys that there has been little interest in FIT and micro-FIT projects to date. With no planned or expected FIT projects, 1 microFIT project planned in 2015, and only 1 microFIT project expected per year, the utility does not anticipate reaching the current available capacity on its system for

REG connections in the near term. WNP is therefore not expecting any significant capital expenditures to accommodate REG connections over the 5-year period (2016 to 2020).

Consultation / Participation in Planning Meetings; Coordination with Distributors / Transmitters / Others; Consistency with Regional Plans

For regional planning purposes, the IESO notes that WNP belongs to two regions: Kitchener-Waterloo-Cambridge-Guelph "Group 1", and Greater Bruce/Huron region "Group 3".

In the KWCG region, WNP is a fully embedded utility of Hydro One Distribution but was not part of the working group for the Integrated Regional Resource Plan ("IRRP") published on April 28, 2015.[2]

Under the new regional planning process endorsed by the OEB in August 2013, the host distributor (in this case Hydro One Distribution) is required to gather information from their respective embedded LDCs for regional planning purposes. Although the regional planning process does not require that the embedded LDCs be directly involved in the regional planning process, the IESO and WNP have had conference calls to share updates on the KWCG regional planning activities and local developments in WNP service area.

Going forward, the IESO will maintain on-going communication with WNP and will provide updates on the regional planning activities in the KWCG area. Recently, all the embedded LDCs in the KWCG region have been invited to Hydro One's KWCG Regional Infrastructure Plan meetings. However, their participation is not mandatory. WNP is nonetheless informed of developments in regional planning activities within its territory.

Regarding the status of regional planning for the Greater Bruce/Huron region, WNP received a letter from Hydro One in November 2014[3] indicating that regional planning for this region may be initiated in Q3 2015. Hydro One's letter indicates that it will notify WNP and other stakeholders in advance of launching the regional planning process for this region.

The IESO looks forward to participating with WNP on regional planning activities and appreciates the opportunity to comment on the renewable energy generation information provided as part of its Distribution System Plan.

Note: A copy of the IESO Letter of Comment is included in Appendix A

The above information addresses the OEB's "Filing Requirements for Electricity Transmission and Distribution Applications; Chapter 5 – Consolidated Distribution System Plan Filing Requirements", issued March 28, 2013, Sections "5.0.3.1 – Integrated Planning" and "5.0.3.3 – Regional Considerations."

5.2.2.2 Consultations with Regionally Interconnected Distributors and Transmitters

WNP shares a feeder with Hydro One's distribution business. Hydro One is owner of the transformer station and feeder to the limits of WNP service area, at which point, all distribution lines within our service area are owned and operated by WNP. Appendix B contains Hydro One's planning letter of comment regarding regional plans.

In 2013, WNP approached Hydro One to look at the options of supplying a second 44kV supply point for the former Town of Mount Forest to address capacity limitations as well as reliability issues. (For instance in April 2013, the Town of Mount Forest experienced a power outage for 18 hours due to an ice storm sweeping through the area resulting in downed Hydro One 44kV poles.) During 2014 WNP and Hydro One met to discuss requirements, review options and exchange information. WNP provided an updated Demand Load Forecast to Hydro One and commissioned a Hydro One study to assess options and a copy of this study is filed in Appendix D.

5.2.2.3 Consultations with Customers

WNP meets regularly with customers to discuss our services. These meetings include informal conversation in the local community, formal conversations at our office and lunch meetings with our large-users. WNP has actively engaged the community to promote conservation initiatives, such as having a manned information booth at local community events such as Spring and Fall Fairs.

The LDC publishes regular communications in the local newspapers aimed directly to our customers. These communications are focus on a variety of aspects including promoting public safety with reminders of electrical hazards throughout the years or conserving energy by implementing a provincially offered incentive program through the Independent Electricity Systems Operator (IESO).

WNP also publishes annual summary articles in the local newspapers to better inform the community of the activities undertaken and future projects with the theme of providing a safer and reliable distribution system.

WNP is a member of the Cornerstone Hydro Electric Concepts (CHEC). In 2013 the LDC members of the CHEC group including WNP collectively funded a telephone satisfaction customer survey conducted by UtilityPULSE.

The survey covered topics in line with customer satisfaction, engagement and loyalty. The CHEC LDC's collectively achieved an "A" satisfaction score from customer responses.

In 2013 and 2014, WNP initiated customer satisfaction surveys conducted by a respected 3rd party survey company, UtilityPULSE. In 2015, the LDC conducted interviews with its General Service 1,000 – 4,999 kW customers. Furthermore, in March 2015, WNP invited consumers from the communities it services (Arthur, Holstein and Mount Forest) to public meetings. The LDC advertised in two local newspapers as well as informing customers when they visited the offices about the two public meetings.

The outcomes of these customer engagement and customer satisfaction initiatives are discussed in "Section 5.2.3.5 – Customer Focus."

The installation of smart meters has provided WNP with better data to present to customers when handling energy usage queries. Prior to the installation of Smart Meter's, outside staff (linemen) would frequently visit the customers premise to verify the accuracy of the meter and assist with the usage complaint. However, with the implementation of Smart Meters and extraction of interval data from Operational Data Store (ODS) databases, inside staff (Customer Service) can print graphs and reports and illustrate abnormalities in energy usage. This has reduced the need for on-site visits, promotes face-to-face engagement between staff and customers, encourages consumers to visit our offices and removes the uncertainty of rogue metered data. In March 2015, WNP released its Online Web Presentment of usage and payment history, providing customers with tools to monitor their usage.

WNP liaises with third party communications companies such as Bell and Rodgers on any projects where the plant and personnel of either party may affect the operation of the other party.

WNP is a member of the Utility Standards Forum (USF) and Cornerstone Hydro Electric Concepts (CHEC) non-profit organization. As a member, WNP participates and supports in in projects, analysis and initiative undertaken by these organizations.

5.2.2.4 Consultations with Municipal Planning Office

WNP receives Municipal information from the Township of Wellington North. The LDC has a copy of the both the County and Township most recent long-term planning document available for our area. The lower-tier municipal government in our area relies on the County for planning activities.

In October 2009, the County of Wellington Planning and Development Department in October 2009 produced a "Comprehensive Review of Residential Growth and Employment Growth in Wellington North" based on the County's forecasts and examined if there are sufficient designated lands available to accommodate future growth. The Wellington Growth Strategy of the County Official Plan contains population, household and employment forecasts for Wellington North and the following recap provides an overview of the Township of Wellington North growth forecasts to 2031:

Table 10 Population, Household and Employment Forecast for Wellington North

	2011	2016	2021	2026	2031	Increase
Wellington North						
Total Population	**11,477**	**12,840**	**13,680**	**14,640**	**15,600**	**4,123**
Households	4,470	4,780	5,110	5,500	5,880	**1,410**
Total Employment	7,470	7,860	8,370	8,695	9,020	**1,550**
Arthur						
Total Population	**2,500**	**2,690**	**2,830**	**3,070**	**3,310**	
Households	930	990	1,050	1,160	1,260	
Mount Forest						
Total Population	**4,877**	**5,610**	**6,280**	**6,950**	**7,620**	
Households	2,070	2,290	2,540	2,800	3,050	
Other/Non-Urban Areas						
Total Population	**4,100**	**4,540**	**4,570**	**4,620**	**4,670**	
Households	1,470	1,500	1,520	1,540	1,570	

Source: Comprehensive Review of Residential and Employment Growth – Township Of Wellington North (October 14, 2009) – prepared by County of Wellington Planning and Development Department.

In the County Plan for Wellington North, in Section 3.1 states that the majority of growth will be directed to urban centers that offer municipal water and sewage services (namely Mount Forest and Arthur). Furthermore, in the "Township of Wellington North Economic Development Office Land Development Update" (December 2014), the Township of Wellington North anticipate that "there is a sufficient supply of designated residential

lands in the Township of Wellington North to meet the Townships requirements and intensification targets to 2031". In the same Economic Development report, the Township predict that "A total of 1,550 jobs are forecast for Wellington North up to the year 2031 and of this total 673 have been designated as industrial employment".

The Ministry of Infrastructure's "Places to Grow - Growth Plan for the Greater Golden Horseshoe" references growth in the County of Wellington in its "Distribution of Population and Employment for Greater Golden Horseshoe to 2041" figures (source: https://www.placestogrow.ca/content/ggh/2013-06-10-Growth-Plan-for-the-GGH-EN.pdf). In June 2013, the "Greater Golden Horseshoe Growth Forecast to 2041 – Technical Report (November 2012 Addendum) was released and table A-1 2041 shows that the revised 2041 population forecast for Wellington County increased by a further 10,000 people (130,000 people in November 2012 report compared to 140,000 people in the June 2013 revision). It may be assumed a proportion of this population growth in Wellington County will encroach into urban areas of Wellington North.

Given the above Municipal and Township Reports cited above, WNP translates this information into steady growth in employment and an increase in residential dwellings specifically in the urban areas of Mount Forest and Arthur – these urban areas are serviced by the LDC. For the purposes of the 2016 Cost of Service Rate Application, the Applicant has forecasted customer increases in the Residential and General Service <50kW rate classes as shown in the table below. (The methodology applied in this customer forecast is described in the Exhibit 3 of the LDC's rate application.)

Table 11 Customer / Connection Count – Actual (2010 – 2014) and Forecast (2015 – 2016)

Yearly Average Customer / Connection Count

Customer Class		2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Forecast	2016 Forecast
Residential	Account	3,073	3,103	3,126	3,161	3,190	3,220	3,251
General Service < 50 kW	Account	479	478	478	474	473	474	476
General Service 50 to 999 kW	Account	40	38	38	39	38	38	38
General Service 1000 to 4,999 kW	Account	5	5	5	5	5	5	5
Street Lights	Connections	900	899	898	900	905	905	905
Sentinel Lights	Connections	28	28	28	28	28	29	29
Unmetered Loads	Connections	1	1	1	2	1	1	1

Year-Over-Year Change by Customer / Connection Count

Customer Class		2010	2011	2012	2013	2014	2015	2016
Residential	Account		30	23	35	29	30	31
General Service < 50 kW	Account		(1)	0	(4)	(1)	1	2
General Service 50 to 999 kW	Account		(2)	0	1	(1)	0	0
General Service 1000 to 4,999 kW	Account		0	0	0	0	0	0
Street Lights	Connections		(1)	(1)	2	5	0	0
Sentinel Lights	Connections		0	0	0	0	1	0
Unmetered Loads	Connections		0	0	1	(1)	0	0

Year-over Year Change by Percentage

Customer Class		2010	2011	2012	2013	2014	2015	2016
Residential	Account		0.98%	0.74%	1.12%	0.92%	0.94%	0.96%
General Service < 50 kW	Account		-0.21%	0.00%	-0.84%	-0.21%	0.21%	0.42%
General Service 50 to 999 kW	Account		-5.00%	0.00%	2.63%	-2.56%	0.00%	0.00%
General Service 1000 to 4,999 kW	Account		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Street Lights	Connections		-0.11%	-0.11%	0.22%	0.56%	0.00%	0.00%
Sentinel Lights	Connections		0.00%	0.00%	0.00%	0.00%	3.57%	0.00%
Unmetered Loads	Connections		0.00%	0.00%	100.00%	-50.00%	0.00%	0.00%

5.2.3 Performance Measurement for Continuous Improvement

5.2.3.1 Locates and Connections

WNP provides locating services for the residents served by WNP and also in response to contractors performing work on and around the WNP's underground system. Although locate activities vary year to year, they remain stable and manageable.

Service layouts are prepared for all new or upgraded services including any new home construction (in-fill) or service upgrade due to expansion of residence on existing lots. This service layout process allows WNP to directly correlate the construction activities associated with a service connection to certified construction standards from within USF's standards library. The table below shows the number of Locates and LV Connections requested and completed over the 5-year period:

Table 12 5-year Locate and Connection Summary

	2010	2011	2012	2013	2014
Customer Count (at year-end)	3,613	3,626	3,649	3,695	3,731
Number of Customers per km of Line	48	48	48	49	49
Number of Locates - Requested				343	532
Number of Locates - Completed				343	530
New LV Connections - Requested	50	34	27	36	48
New LV Connections - Connected	50	34	27	36	48

Note

I. "Connected" means connected or located completed within 5 working days
II. WNP, together with other LDCs, was mandated by Bill 8 to join Ontario One Call by June 2013. The LDC submitted all necessary paperwork, tested internal procedures and implemented Ontario One Call on May 30th 2013.

In 2014, Wellington North Power Inc. connected 48 low-voltage (connections under 750 volts) residential and small business customers within the five business day timeline as prescribed by the Ontario Energy Board. This represents an increase of 30% in the number of connections over 2013 mainly due to new residential properties in our service area.

WNP views "New Services Connected on Time" as an important form of customer engagement because this is our first opportunity to meet and/or exceed customers' expectations which promotes customer satisfaction.

This activity is a clear demonstration of the LDC's "Customer Focus" (a RRFE defined outcome) to provide services that meets customers' preferences and expectations.

Consistent with prior years, WNP connected 100% of these customers on time (i.e. within 5 working days) which significantly exceeds the Ontario Energy Board's mandated target of 90% for this measure. Wellington North Power Inc. expects to maintain the performance of this service.

5.2.3.2 Electrical Service Quality Requirements

WNP records and monitors the Electrical Service Quality Requirements (ESQRs) as specified by the Ontario Energy Board (OEB). The table below demonstrates that WNP has a good record of electrical service quality, meeting or exceeding the minimum standards required by the regulator.

Table 13 5-year Service Quality Requirements Summary

Indicator	OEB Minimum Standard	2010	2011	2012	2013	2014
Low Voltage Connections	90.0%	100.00%	100.00%	100.00%	100.00%	100.00%
High Voltage Connections	90.0%	0.00%	0.00%	0.00%	0.00%	0.00%
Appointment Scheduling	65.0%	99.60%	83.94%	91.60%	100.00%	99.78%
Appointments Met	90.0%	99.81%	97.56%	95.24%	100.00%	100.00%
Rescheduling a Missed Appointment	80.0%	0.00%	0.00%	0.00%	0.00%	0.00%
Telephone Accessibility	80.0%	99.98%	99.99%	100.00%	100.00%	100.00%
Telephone Call Abandon Rate	80.0%	0.02%	0.01%	0.00%	0.00%	0.00%
Written Response to Enquires	10.0%	100.00%	100.00%	100.00%	100.00%	100.00%
Emergency Urban Response	90.0%	100.00%	100.00%	100.00%	100.00%	100.00%
Emergency Rural Response	100.0%	0.00%	0.00%	0.00%	0.00%	0.00%
Reconnection Performance Standard	85.0%			98.00%	100.00%	100.00%

The above table demonstrates that over the past five years, WNP has exceeded the Ontario Energy Board's minimum standards in each metric. Two particular items interest include:

(i) Telephone Calls Answered On Time

In 2014, Wellington North Power Inc. received over 7,473 customer calls. This represents a decrease of 6% in the number of calls over 2013. The decrease in call volumes is attributed to less severe weather during 2014 - in 2013, there were two ice storms (April and December) that affected our service area causing power outages and resulted in a higher number of telephone calls for these months.

Wellington North Power Inc. considers "Telephone Calls" to be an important communication tool for responding to customers' needs. Consistent with prior years, a customer service representative answered 100% of these calls in 30 seconds or less, which significantly exceeds the Ontario Energy Board mandated target of 65% for this measure.

In December 2014, the LDC implemented a new telephone system with reporting software and call recording software. This new reporting software will assist WNP in clearly separating non-electric telephone calls from all calls received as well as support with identifying the number of customer calls escalated to a senior member of staff. Furthermore, the recording software can record telephone calls from dissatisfied customers which could be used when dealing with complaints as well as provided training for Customer Service staff.

(ii) Scheduled Appointments Met On Time

Wellington North Power Inc. scheduled 287 appointments in 2014 to connect services, disconnect services, or otherwise complete work requested by its customers. This represents an increase of 39% in the number of appointments over 2013 which is primarily due to a higher number of service reconnections and service layout requests compared to the previous year.

Wellington North Power Inc. considers "Scheduled Appointments Met" as an important form of customer engagement as customer presence is required for all types of appointments. Consistent with prior years, Wellington North Power Inc. met 100% of these appointments on time, which significantly exceeds the Ontario Energy Board's mandated target of 90% for this measure.

This activity is a clear demonstration of the WNP's "Customer Focus" (a RRFE defined outcome) to provide services that meets customers' preferences and expectations. Wellington North Power Inc. expects to maintain the performance of all the service quality indices.

5.2.3.3 ESA Ontario Regulation 22/04 Compliance Audits

An ESA audit of WNP was performed by L. Stoch and Associates on July 2, 2015 to verify the organization's extent of compliance with Regulation 22/04, to identify any gaps, and to evaluate the effectiveness of procedures in place for compliance purposes.

The audit covered the organizations existing processes and new ones developed in response to the regulation. Standard auditing methods and procedures were used including interviews with personnel, examining documents and records and observing work in progress on a relevant sample of work activities.

As per the LDC's Scorecard implemented by the Ontario Energy Board in 2013, regarding Operational Effectiveness – Safety with reference to "Component B – Compliance with Ontario Regulation 22/04", annual audits conducted by the Electrical Safety Authority have reported that Wellington North Power Inc. was "C" - Compliant with Ontario Regulation 22/04 (Electrical Distribution Safety). This has been achieved and maintained by our resilient commitment to safety coupled with the adherence to company procedures & policies.

Wellington North Power Inc. will continue to construct and maintain the electrical distribution system in accordance with the safety standards set-out by the Ontario Regulation 22/04 code. The results of the last five audits are included in the table below.

Table 14 ESA Audit Results

Audit Year	Non-Compliance	Opportunity for Improvement
May 1, 2010 to April 20, 2011	0	0
May 1, 2011 to April 20, 2012	0	3
May 1, 2012 to April 20, 2013	0	1
May 1, 2013 to April 20, 2014	0	0
May 1, 2014 to April 20, 2015	0	0

[Component B is an evaluation of Wellington North Power Inc.'s compliance with Ontario Regulation 22/04 – "Electrical Distribution Safety". Ontario Regulation 22/04 defines the safety requirements for the design, construction, and maintenance of electrical distribution systems, particularly in relation to the approvals and inspections required prior to putting electrical equipment into service.]

This activity is a clear demonstration of WNP's "Operational Effectiveness" (a RRFE defined outcome) to comply with ESA audits and maintaining a safe and reliable cost-effective distribution system.

5.2.3.4 System Reliability & Performance

WNP records all outage occurrences and lengths in accordance with the Distribution System Code. The following service reliability indices are calculated using this data and provide the listed insights into WNP's reliability and outages over the last five years.

The System Average Interruption Duration Index (SAIDI) represents the average outage duration per customer served by WNP. The formula is:

$$SAIDI = \frac{Sum\ of\ all\ customer\ interruption\ durations}{Total\ number\ of\ customers\ served}$$

The System Average Interruption Frequency Index (SAIFI) represents the average number of interruptions that a customer would experience in a year. The formula for calculating SAIFI is:

$$SAIFI = \frac{Total\ number\ of\ customer\ interruptions}{Total\ number\ of\ customers\ served}$$

The table below illustrates the SAIDI and SAIFI system reliability indices performance for WNP for the past 5 years (2010 – 2014) as well as the 5-year historical average for:

- Outages caused by loss of supply (i.e. outages as a result WNP's equipment or contained within WNP's service area); and
- Excludes outages caused by loss of supply (i.e. excluding outages upstream outages that result in an outage to WNP's service area).

Table 15 5-year System Performance Summary

Index	Includes outages caused by loss of supply					Excludes outages caused by loss of supply				
	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
SAIDI	0.000	1.020	3.380	16.040	2.340	0.000	0.920	0.440	0.140	0.120
SAIFI	2.220	0.470	2.050	3.230	0.710	0.040	0.400	0.150	0.100	0.110
5 Year Historical Average										
SAIDI					4.556					0.324
SAIFI					1.736					0.160

The above results are a clear indication of WNP's "Operational Effectiveness" (a RRFE defined outcome) to comply with Reliability Indices and maintain a safe and reliable cost-effective distribution system.

As per the Board's letter "Initiative to Develop Electricity Distribution System Reliability Performance Targets" (dated August 25, 2015), WNP acknowledges that the Board would use the arithmetic mean average of the LDC's reliability indices for the past five years as a target for the next five-year period. As this measure is yet to be established and issued by the OEB, WNP is not proposing an alternative at this time.

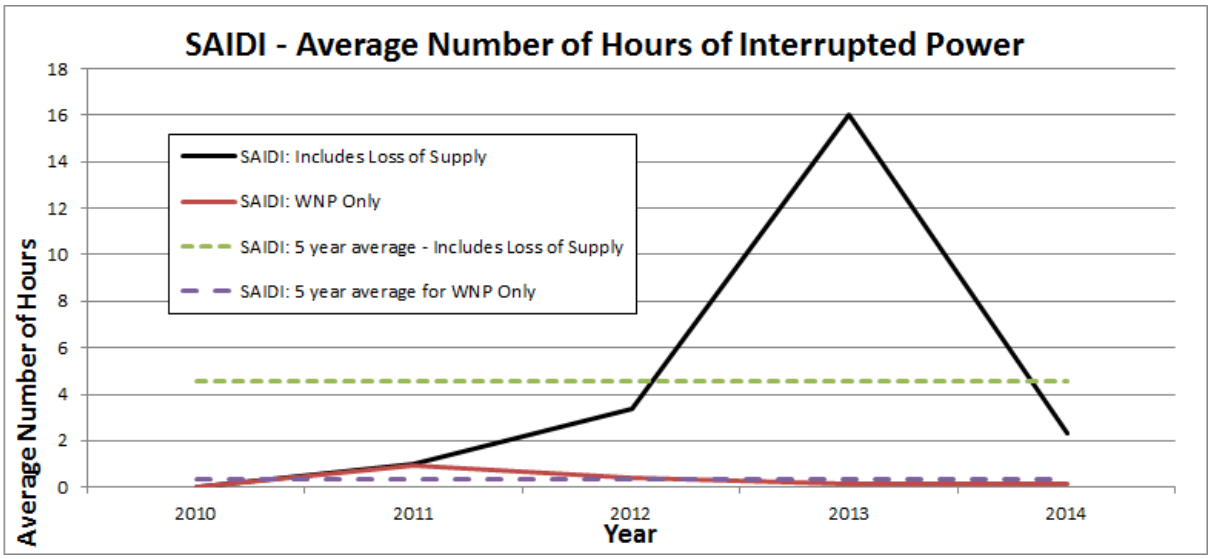
The average number of hours that power to a customer is interrupted is a measure of system reliability or the ability of a system to perform its required function. WNP considers the reliability of electrical service as a high priority for its customers and constantly monitors its distribution system for signs of reliability degradation. Regularly maintenance of equipment is required to ensure the level of reliability is kept as high as possible.

The Ontario Energy Board (OEB) requires a utility to keep its hours of interruption within the range of its historical performance; however, factors such as severe weather, defective equipment, or even regularly scheduled maintenance can greatly impact this measure.

System Average Interruption Duration Index (SAIDI)

As shown in the chart below, in 2014, WNP achieved 0.12 average hours of interrupted power which is within the range of its historical performance for interrupted power and is consistent with other measures over the five-year period between 2010 and 2014. WNP expects to maintain this level of system reliability.

Table 16 5-year SAIDI Performance Summary

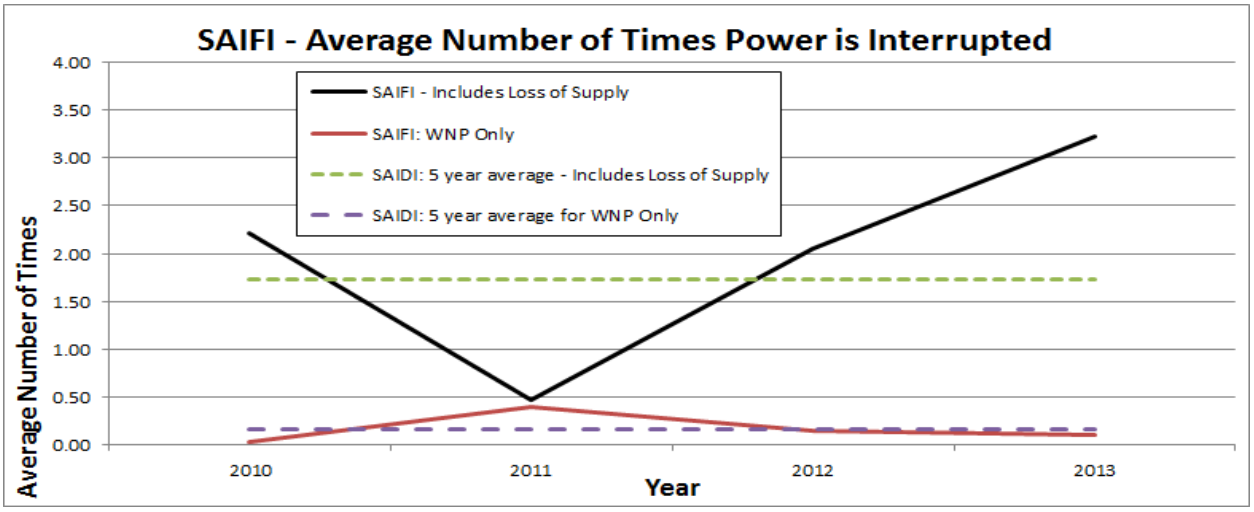


System Average Interruption Frequency Index (SAIFI)

The average number of times that power to a customer is interrupted is also a measure of system reliability and is also a high priority for WNP. As outlined above, the OEB also typically requires a utility to keep this measure within the rage of its historical performance and outside factors can also greatly impact this measure. As shown in the chart below, in WNP experienced interrupted power 0.11 times, which is within the range of its historical

performance for interrupted power and consistent with other measures over the five-year period between 2010 and 2014. This trend is expected to continue into the foreseeable future.

Table 17 5-year SAIFI Performance Summary



Causes of Interruptions

The table below shows the causes of power interruptions for the same corresponding 5-year period.

Table 18 5-year Summary of Causes of Interruptions

Causes of Interruptions											
		2010		2011		2012		2013		2014	
Code	Description	Total Customers Affected	Total Customer Hours	Total Customers Affected	Total Customer Hours	Total Customers Affected	Total Customer Hours	Total Customers Affected	Total Customer Hours	Total Customers Affected	Total Customer Hours
1	Scheduled	10	2.00	96	244.40	473	1,514.44	256	352.21	71	89.52
2	Loss of Supply	7,869	12.00	230	345.00	7,008	10,819.18	11,650	59,152.84	2,258	8,315.25
3	Tree Contact									4	7.32
4	Lightning									0	0.00
5	Defective Equipment	145	3.00	1,132	2,882.97	69	102.68	56	106.63	202	287.21
6	Weather			250	255.54	14	19.25	55	55.00	10	5.97
7	Adverse Environment									0	0.00
8	Human Element									100	25.00
9	Animal							3	0.75	6	47.00
10	Other									1	0.16

The following comments need to be taken into consideration when reviewing the “Causes of Interruptions” information highlighted in the above table:

1. **2011**: Defective Equipment (code 5) – a broken porcelain insulator on December 28th 2011 caused a power outage to the Town of Arthur (serviced by WNP). This single event affected 1,069 customers causing 2,725.95 total customer hours interrupted;
2. **2012**: Scheduled (code 1) – the Total Customers Affected and Total Customer Hours are higher than the previous year's predominately due to a greater number of planned capital projects that required the power being turned off for safety reasons (such jobs included replacing aged transformers and moving services to new poles).
3. **2012**: Loss of Supply (code 2) – On April 23rd 2012, there was severe winter weather that affected Hydro One 44kV feeder line into the towns of Mount Forest and Holstein resulting in 2,611 customers being without power for 6,083.63 customer hours.
4. In the same year, there was a Hydro One power outage (code 2) on February 29th affecting the town of Arthur for 1,078 customers over 2,242 customer hours. The same community was affected by a Hydro One outage on December 20th affecting 1,100 customers for 1,925 customer hours.
5. Also, in 2012, there were 73 planned outages as a result of planned capital activities (including pole-line re-build and replacing transformers.) The number of planned outages in 2012 (and beyond) due to capital projects is far higher than 2010 and 2011 predominately as a result of the company having an Asset Management Plan identifying what assets / activities required attention.
6. **2013**: Loss of Supply (code 2) – on April 12th 2013 and major ice-storm affected the towns of Mount Forest and Holstein due to downed Hydro 44kV to the north of the LDC's service territory. This was a major power outage lasting 18 hours affecting 2,636 customers over 42,966 customer hours. Earlier in the month (April 8th), the same communities had been affected by a Hydro One power outage due to equipment failure affecting 2,700 customers for 9,720 customer hours.
7. In the same year on December 23rd, the service area of Arthur was affected by a Hydro One power outage (code 2) for 2,720 customer hours affecting 1,088 customers.
8. **2014**: Loss of Supply (code 2) – Hydro One outages on January 8th and November 24th resulted in power outages in the community of Arthur affecting 1,060 customers for 2,660 customers hours and 1,080 customers for 5,400 customer hours respectively.

The above comments illustrate that weather events are the primary cause of outages on WNP's system. WNP's service area is located in Southern Ontario and can be subjected to Lake Affect weather. The LDC's performance indexes are worsened when including losses of service from Hydro One.

The unusually high number of outages in 2012, 2013 and 2014 can be attributed mainly to severe weather conditions experienced across the Wellington County and Bruce County. The weather in these two years included heavy rainfall, severe winds and severe ice-storms. Severe weather conditions appear to be increasing in frequency in Ontario; if this trend continues WNP and other utilities may need to consider this when installing overhead systems.

Excluding "Loss of Supply" and "Defective Equipment", the total number of customers affected and total customer hours is fairly low. With this in mind, WNP has taken the following continuous improvement action:

1. Defective Equipment:

   In December 2011, WNP had a broken porcelain insulator that affected 1,069 customers causing 2,725.95 total customer hours interrupted. These are older insulators and have a history of failing and although the number of failures has been modest, they are associated with major power interruptions as demonstrated in December 2011. Starting in 2013, WNP has been replacing porcelain insulators with polymer insulators, starting at locations near to the LDC's municipal stations and spreading out across the service area. This activity is on-going.

2. Switching:

   During 2014, WNP added more Switches to the electrical system thereby providing them with the ability to restore customers through switching. The LDC identified strategic points for the installation of additional switches to maintain focus on system optimization.

   WNP anticipates that the continued practice of installing strategically located switches will help in the reduction of system outage times due to the ability to switch to alternates sources. Continues to maintain a high level of system reliability and customer satisfaction.

3. Loss of Supply:

   The service area of Mount Forest is supplied through a single rural radial 44kV pole line owned and operated by HONI from the Hanover TS approximately 44km away. The existing pole line is constructed through several areas with no road access making inspection, maintenance and repairs difficult and time consuming. An ice storm in April 2013 broke a number of HONI poles resulting in an outage lasting over 18 hours negatively impacting the manufacturing and small business consumers as well as critical load customers in

Mount Forest. The outage demonstrated the need for an alternate power supply to ensure critical loads (hospital, seniors housing complex and warming station) are maintained and switching options are available to transfer loads.

WNP has worked with Hydro One Networks Inc. (HONI) exploring options and after careful consideration has a proposed solution to build a second line to Mount Forest. This is discussed in detail in Section 5.4.5.3.1 of this plan and by way of this DSP and Cost of Service Rate application, WNP is seeking approval for recovery of construction cost through electricity distribution rates for this project to proceed given the materiality, scale and investment related to this initiative. Should this "special" project receive approval to proceed from the Ontario Energy Board, WNP anticipate that once completed:

a) "Loss of Supply" statistics should decrease because the Town of Mount Forest will be fed by two supplies (and not only one supply as currently). Therefore it can be assumed that not all Mount Forest customers will be affected in power outages each supply is fed from a different direction. However, the "Loss of Supply" SAIDI and SAIFI potential improvements will be directly recognized by Hydro One, not by WNP, and with that in mind, WNP is not in a position to state what "Loss of Supply" SAIDI and SAIFI metric improvement will be.

b) A second supply to Mount Forest will also provide WNP with the opportunity to transfer loads therefore providing reassurance to manufacturing and small business consumers as well as critical load customers in Mount Forest. Attached in the Appendix D is a customer letter supporting WNP's plans for an alternate supply to Mount Forest

5.2.3.5 Customer Focus

WNP incorporates customer feedback into its capital planning process. As a local small utility and with many of the employees and Board Directors of the company living in the service area, it means that customer concerns are communicated quite easily just by interaction. WNP prides itself in having an office that is open 5 days a week during business hours meaning that customers have access to LDC employees to answer questions or to raise concerns.

WNP has been conducting surveys of their customer base over the last few years of years, with responses constantly indicating that customers are satisfied with the LDC's service levels, capital spending program and reliability of the distribution system. Customers have also indicated that energy costs have an impact on their budget and that cost of energy is a concern. The surveys conducted and customer engagement events that WNP have participated in include:

a) CHEC (Cornerstone Hydro Electric Concepts Inc.) Joint Utilities Customer Satisfaction Survey utilizing the services of UtilityPULSE (June 2013);
b) WNP Customer Satisfaction Survey utilizing the services of UtilityPULSE (June 2014);
c) Public meetings in March 2015;
d) General Service 1,000 – 4,999kW Survey (December 2014)
e) Attendance at local community events – such as Homeshows and Spring / Fall fairs;
f) Bill inserts and newspaper advertising promoting energy conservation tips and electrical awareness;
g) Annual newspaper adverts informing consumers of projects completed by WNP during the year as well as planned projects;
h) Social media postings promoting energy conservation tips and electrical awareness.

In 2014, as part of the preparing for WNP's 2016 Cost of Service rate application, the LDC commissioned UtilityPULSE to conduct a telephone satisfaction of its customers. In this survey 966 customers (residential and small businesses) were contacted and 366 interviews completed representing a response rate of 37% (providing a confidence level of 95% (+/- 5.1%).

Details of WNP's 2014 Customer Satisfaction results was posted on the LDC's website (http://www.wellingtonnorthpower.com/downloads/WNP_UtilityPULSE_Summary2014.pdf) and a summary

was included as a bill insert in electricity bills issued in September 2014 thanking customers for sharing their opinion of their local hydro company. The table below provides a comprehensive summary of the results of the 2014 Customer Satisfaction survey:

Table 19 2014 Customer Satisfaction Survey - Summary

	Area	Score
1	Electricity bill payers who are "very or fairly" satisfied with Wellington North Power	91%
2	Cost of electricity is reasonable when compared to other utilities	63%
3	Proactive in communicating changes and issues affecting customers	84%
4	Deals professionally with customers' problems	90%
5	Delivers on its service commitments to customers	89%
6	Provides consistent and reliable electricity	93%
7	Quickly handles and restores power	90%
8	Makes electricity safety a top priority for employees and contractors	90%
9	Operates a cost effective electricity system	78%
10	Overall the utility provides excellent quality services	88%

WNP reviewed the above information as a good indicator of how the company is being perceived by its customers. The LDC recognizes that there are areas for improvement, such as improving customer communication and engagement when planning distribution projects because WNP believes this activity will offer consumer awareness and diminish any negative perception towards the company not operating a cost-effective electricity system. With this in mind, WNP organized two public meetings at public locations within the service territory in March 2015 with the objectives of:

a) Presenting WNP's Capital Expenditure projects planned for 2015 together with proposed investment plans for 2016 to 2020;
b) Promoting energy conservation as well as tips and energy saving advice.

Notices advertising the public meetings were placed in two local newspapers. Regrettably, there was no attendance at either meeting. The LDC is disappointed with the response and is now exploring what other initiatives can be used to engage customers to gather input into WNP's capital projects.

As part of the 2014 Customer Satisfaction survey, customers were also asked about WNP's effectiveness during an unplanned outage. The table below summarizes the results:

Table 20 2014 Customer Satisfaction Survey – WNP's Effectiveness during an Unplanned Outage

	Area	Satisfaction Score
1	Responding to questions	72%
2	Providing a reason for the outage	71%
3	Providing an estimate when the power was restored	72%
4	Responding to the power outage	88%
5	Restoring power quickly	91%
6	Communicating updates periodically	71%
7	Posting information to the website	35%
8	Using media channels for providing updates	52%

As an embedded distributor, in "Loss of Supply" unplanned outages, the LDC is reliant upon Hydro One to restore power upstream of the service area. WNP acknowledges this and attempts to impart latest information that is made available by Hydro One. Where the loss of supply is on WNP's distribution system, the Operations team provides periodic updates to Customer Service Representatives (CSRs) who can share information with customers.

WNP acknowledge that its current website has a limited capability, with updates having to be loaded by a 3rd party. With this in mind, in Quarter 4 2015, the LDC is migrating to a new web hosting company and as part of the solution, the LDC will be able to post its own updates to its website – this will be real-time information that the LDC currently posts on social media sites. With this project, it is envisaged that this will address the poor satisfaction score of 35% received during the 2014 Satisfaction Survey for "posting information to the website".
In Quarter 1 of 2015, WNP began posting communication messages to customers using social media (Facebook and Twitter). Messages include weather warnings, notice of planned outages, updates of restoration times during unplanned outages, energy saving tips, electrical safety awareness messages, invitations to events that WNP will be attending (e.g. Homeshows and Spring/Fall Fairs) and notifications that bills have been mailed. This has been implemented as a result of the feedback gathered from the 2014 Scorecard survey regarding use of media channels.

Included in the 2014 Customer Satisfaction survey, customers were also asked about priority investments and the table below summarizes the responses:

Table 21 2014 Customer Satisfaction Survey – Priority Investments

	Area	Satisfaction Score
1	Investing more in the electricity grid to reduce the number of outages	65%
2	Burying overhead wires	55%
3	Developing a smart phone application	27%
4	Maintaining and upgrading equipment	78%
5	Providing sponsorships to local community causes	43%
6	Making better use of social media	31%
7	Providing more self-serve services on the website	28%
8	Educating customers about energy conservation	73%
9	Reducing the time needed to restore power	80%
10	Invest more in tree trimming	59%

WNP appreciates the feedback from its customers and with this information, has implemented or planned the following initiatives:

a) Use of social media - in Quarter 1 of 2015, WNP began posting communication messages to customers using social media (Facebook and Twitter). In WNP's 2015 Communications Plan, the LDC has recorded the messages that are shared with its customers and through what forms of media. This is an evolving document, that throughout 2015, the LDC will update to reflect learnings. For example, the reviewing the 2011 Census statistics for one of the LDC's service area, the urban area of Mount Forest, 33% of the population is over the age of 60; therefore using the social media as forms of communication may not be effective for all consumers.

Table 22 Age Demographics for Mount Forest (2011 Census data)

Age Range	Population: Mount Forest, Ontario	% of Total Population
0 to 19 years	985	21%
20 to 29 years	465	10%
30 to 39 years	440	9%
40 to 49 years	630	13%
50 to 59 years	655	14%
60 years and over	1,580	33%
Total	4,755	
Median age of the population	48	
% of the population aged 20 and over	79%	

b) Self-service website - in March 2015, WNP launched "Customer Connect" which is an on-line portal where customers can view their historic electricity consumption as well as payment history. Furthermore, in Quarter 4 2015, the LDC is migrating to a new web hosting company and as part of the solution, the LDC will

be able to post its own updates to its website – this will be real-time information that the LDC currently posts on social media sites.

c) Smart-phone application – the re-launched website planned for Quarter 4 2015 will be Smart-phone compatible.

d) "Tree-trimming" – in April 2013 and December 2013, the LDC's service territory was affected by major ice-storms causing extensive tree damage and power outages due to "Loss of Supply". Since 2012 to date, WNP has increased the amount of resources committed to line-clearing and vegetation control. WNP adheres to the ESA requirements for tree trimming using EUSA utility best practices. WNP does not perform tree removals. Townships are notified if there is a concern with a particular tree and the Township is involved in any decision regarding tree removal.

e) The planned CapEx initiatives planned for 2015 to 2020 include projects where cables will be buried underground as summarized below:

Table 23 Planned Underground Projects – 2015 to 2020

Year	Project	Category	OEB Invest. Category	Estimated Cost
2015	Frederick Round About	Pole Line Project - Modification due to 3rd party	System Access	$ 88,500
2015	Lucas Subdivision	Underground Distribution Projects - Capital Contribution	System Access - Capital Contribution	-$130,000
2018	UG Rebuild - Holstein Rear-lot Conversion (partial)	Underground Distribution Projects	System Renewal	$ 70,000
2020	Underground Projects to be named nearer date	Pole Line Projects	System Renewal	$ 130,000

f) Investing more to reduce the number of outages - in April 2013 and December 2013, the LDC's service territory was affected by major ice-storms causing extensive tree damage and power outages due to "Loss of Supply". On April 12th 2013 a major ice-storm downed 44kV hydro poles to the north of WNP's service territory and due to the this upstream loss of supply, the Town of Mount Forest (serviced by WNP) has a power outage lasting nearly 18 hours and negatively impacting the manufacturing and small business consumers as well as critical load customers in Mount Forest. The outage further demonstrates the need for an alternate power supply to ensure critical loads (hospital, seniors housing complex and warming station) are maintained and switching options are available to transfer loads. As contained in this Distribution System Plan, in conjunction with Hydro One, WNP has proposed a solution to provide a 2nd feed to the Town of Mount Forest to address current load capacity constraints as well as reliability concerns – this is discussed in Section 5.4.5.3.1.

In Quarter 1 of 2015, the LDC surveyed its General Service 1,000 – 4,999 kW customers with the results illustrated in the table below:

General Service 1,000 -4,999 kW Customer Survey

WNP Survey - Interval Customers (General Service 1000 - 4999kW)

	Question							
1	**How satisfied are you with overall service?**	Very Satisfied	Fairly Satisfied	Fairly Dissatisfied	Very Dissatisfied			
		4						
		Yes	No					
2a	**Have you experienced and power outages in last 12 months?**	3	1					
		Yes	No					
2b	**Did you try to contact WNP about outage?**	4						
		Telephone	Fax	E-Mail	Social Media	Letter	In Person	Other
2c	**What Method did you use to contact WNP?**	4		2			1	
3	**The following items relate to the Operations side. Does WNP**	Agree	Disagree	Undecided	No Comment			
i	Provide consistent, reliable electricity	3			1			
ii	Delivers on its service to customers	4						
iii	Accurate billing	4						
iv	Quickly handles outages	3		1				
v	Makes electricity safety a priority	3			1			
vi	Uses responsible environmental practices	3			1			
vii	Efficient at managing the electric system	2			2			
viii	Provides excellent quality service	4						
4	**The following items relate to the WNP as a company. Is WNP**	Agree	Disagree	Undecided	No Comment			
i	Respected in the Community	4						
ii	Maintain high standards of business ethics	3			1			
iii	A leader in promoting energy conservation	3			1			
iv	Keeps it promises to customers and community	2			2			
v	Is a socially responsible company	2			2			
vi	Is a trusted and trustworthy company	3			1			
vii	Is a company you would recommend	3			1			
viii	Operates a cost-effective hydro system	2			2			
ix	Having a local company a benefit	4						
		One Time	Two Times	3 to 5 Times	6 -1 Times	More then 1 Times	None	
5a	**How many unplanned outages over last 12 months?**			4				
		Less than 15 Minutes	16 - 3 Minutes	31-6 Minutes	1-2 Hours	3-5 Hours	6-12 hours	More then 12 hours
5b	**How long is average outage?**	2		1	2		1	
		Telephone	Fax	Website	Social Media	Main	In Person	
5c	**Primary contact method during outage?**	4			1			
6	**Is WNP effective during unplanned outage?**	Very Effective	Somewhat Effective	Somewhat Ineffective	Very Ineffective	No Comment		
i	Responding to questions	3	1					
ii	Providing reason for outage	3	1					
iii	Providing an estimated for power restoration	3	1					
iv	Responding to power outage	3	1					
v	Communicating updates periodically	3	1					
vi	Posting information on the website	1	1			2		
vii	Using media channels for providing updates	1				3		
7	**Prioritizing investments and activities?**	Very High Priority	High Priority	Low Priority	Very Low Priority	No Comment		
i	Investing more in in electricity grid	3				1		
ii	Burying overhead wires	1	1		1	1		
iii	Maintaining and upgrading equipment	2				2		
iv	Providing sponsorship to causes		1		1	2		
v	Making better use of social media				2	2		
vi	Providing more self-service on website				2	2		
vii	Educating customers about conservation	2			1	1		
viii	Reducing response time to outages	1	1	1		1		
ix	Investing more in tree trimming	1			1	2		

WNP currently has five General Service 1,000 – 4,999 kW customers of which four completed the survey. From reviewing the responses, WNP has made the following observations:

a) Customers are "very satisfied" with the service they receive from WNP;
b) When there is a power outage, General Service 1,000 – 4,999 kW customers contact WNP with their preference being by telephone. These customers have the Chief Operating Officer cell number and contact him directly even when there are momentarily power interruptions. This is very useful information to receive and aids WNP in decision-making – i.e. to perform line patrols across its service area and whether to contact Ontario Grid Control Centre (OGCC) to establish if there are upstream issues.
c) Efficient at managing the electric system – 50% of customer did not comment on this question. In WNP's opinion, there may be customer frustration with their local hydro company not being able to resolve a power outage problem expediently because it is as a result of an issue beyond the LDC's service territory. During the April 2013 major ice storm, WNP is aware that the two General Service 1,000 – 4,999 kW customers operating in the Town of Mount Forest were affected by the 18 hour power outage and the LDC had no ability to switch load to another supply. WNP, working with Hydro One has proposed a 2nd feeder to this area which is discussed in detail in Section 5.4.5.3.1.
d) "Keeps it promises" and "Is a socially responsible company" both had mixed results with 2 customers agreeing with these statements and 2 customers providing no comment.
e) "Operates a cost-effective hydro system" also provided mixed results. These customers incur the Global Adjustment element on their electricity accounts and WNP has explained that, although this represents a significant portion of their total bill, the LDC has not control over this charge. All four customers respect this information yet feel frustrated with the inability to control or predict this fluctuating electricity component. WNP has worked with all its General Service 1,000 – 4,999 kW customers to undertake CDM programs to conserve energy and install energy demand savings devices.
f) "Investing more in the electricity grid" – 75% of respondents rated this as a very high priority. As mentioned above, these intensive energy users are affected by momentary power interruptions. WNP is aware that the two General Service 1,000 – 4,999 kW customers operating in the Town of Mount Forest were affected by the 18 hour power outage and the LDC had no ability to switch load to another supply. WNP, working with Hydro One has proposed a 2nd feeder to this area which is discussed in detail in Section 5.4.5.3.1.

From the responses received, WNP has adapted its operating and capital plans to address the needs and expectations of its General Service 1,000 – 4,999 kW customers.

5.2.3.6 Financial Performance Measures

This section provides a summary of the financial performance of the LDC performance over the past 5 years and uses WNP's Scorecard as published on the LDC's and the regulator's website. A copy of the latest Scorecard is included at the end of this section.

- **Liquidity: Current Ratio (Current Assets/Current Liabilities)**

  As an indicator of financial health, a current ratio indicates a company's ability to pay its short term debts and financial obligations. Typically, a current ratio between 1 and 1.5 is considered good. If the current ratio is below 1, then a company may have problems meeting its current financial obligations. If the current ratio is too high (higher than 1.5) then the company may be inefficient at using its current assets or its short-term financing facilities.

  WNP's current ratio decreased from 1.52 in 2013 to 0.79 in 2014. This is not indicative of a decline in financial performance but as a result of timing.

  WNP completed a major capital investment project in 2014 (replacing one of its six substations - the "old" substation was over 50 years old and was showing signs of age and deterioration.) This project was planned and received approval from the Ontario Energy Board in March 2014. The utility applied for a loan to finance this capital project and, although the financial institution approved the loan amount in early December 2014, the funds were transferred in March 2015. Consequently, WNP used its own assets ("cash") and incurred short-term debt to ensure the substation was in-service by the end of 2014 to meet the expectations of the Ontario Energy Board. As a result, WNP's cash position at year end 31st December 2014 was lower than in previous years, therefore affecting the company's current ratio.

  WNP's current ratio has increased to above 1 in early 2015.

- **Leverage: Total Debt (includes short-term and long-term debt) to Equity Ratio**

  The debt to equity ratio is a financial ratio indicating the relative proportion of shareholders' equity and debt used to finance a company's assets. The Ontario Energy Board uses a capital structure of 60% debt and 40% equity (a debt to equity ratio of 60/40 or 1.5) when setting rates for an electricity utility. A high debt to equity ratio may indicate that an electricity distributor may have difficulty generating sufficient cash flows to make its debt payments, while a low debt-to-equity ratio may indicate that an electricity distributor is not taking advantage of the increased profits that may be had through increased financial debt.

In 2014, WNP's debt to equity ratio was 1.39, which closely resembles the ratio expected by the Ontario Energy Board. WNP expects its debt to equity ratio to increase closer to the Ontario Energy Board's expectations of 1.5 (a debt to equity ratio of 60/40) in 2015. This is due to financial loan for substation (as discussed above) being recognized in 2015's financial statements.

- **Profitability: Regulatory Return on Equity – Deemed (included in rates)**

  Return on Equity (ROE) measures the rate of return on shareholder equity. ROE demonstrates an organization's profitability or how well a company uses its investments to generate earnings growth. A ROE of 10% is generally considered good. WNP's current distribution rates were approved by the OEB in 2012 and include an expected (deemed) regulatory return on equity of 9.12%. The Ontario Energy Board allows a distributor to earn within +/- 3% of the expected return on equity. If a distributor performs outside of this range, it may trigger a regulatory review of the distributor's financial structure by the OEB.

- **Profitability: Regulatory Return on Equity – Achieved**

  WNP achieved a ROE of 5.74% in 2014, which is just beyond the +/-3% range allowed by the Ontario Energy Board (see above paragraph) – a variance of 3.38% lower than the deemed ROE of 9.12%.

  The ROE over the past four years for WNP has continued to steadily increase each year. In 2014, WNP incurred costs that were due to unplanned events, namely:

  a) 3rd party costs incurred in conducting a Customer Satisfaction Survey in 2014;
  b) Higher than forecasted annual regulatory rate application costs. (2014 Incentive Rate Mechanism application included an Incremental Capital Module for a replacement substation which required additional preparation time and incurred Intervenor costs);
  c) Advertising, recruitment and selection process costs incurred to hire and train two new members of staff (these are not additional employees but filling vacancy positions as a result of two staff members leaving the company in 2014);
  d) Advertising costs, 3rd party consultant costs and hiring of a "new" Manager of Operations;
  e) Internal unplanned costs incurred in calculating, testing and implementing accounting (IFRS) changes in the company's Fixed Asset Module;
  f) 3rd party consultancy fees in reviewing account balances and providing staff training.

WNP will continue to strive to meet the ROE of 9.12% and, in 2015, expects to achieve a ROE higher than reported for 2014.

5.2.3.7 Efficiency Assessment

The total costs for Ontario local electricity distribution companies are evaluated by the Pacific Economics Group LLC on behalf of the Ontario Energy Board to produce a single efficiency ranking. The electricity distributors are divided into five groups based on the magnitude of the difference between their respective individual actual and predicted costs. [Five groups efficiency are ranked as: I = Excellent; II = Good; III = Average; IV = Fair; and V = Poor]

In 2014, for the second consecutive year, WNP was placed in Group IV in terms of efficiency – i.e. defined as having actual costs between 10% to 25% above predicted costs. Group IV is considered "fair", in other words, costs are slightly above the average cost range for distributors in the Province of Ontario. It should be noted that in 2014:

a) WNP's Operating Costs reduced by 2.3% compared to 2013 (however, the average operating costs for electricity companies in the Province was an increase of 0.96% from 2013 to 2014); and
b) The percentage difference between actual and predicted cost is the measure of cost performance. Companies with larger negative differences between actual and predicted costs are considered to be better cost performers. WNP's cost performance result for 2014 was 14.2%, a reduction of 3.5% compared to 2013.

Although WNP's forward looking goal is to advance to a "more efficient" group, management's expectation is that its efficiency performance will not decline in the foreseeable future.

5.2.3.8 Total Cost Per Customer

Total cost per customer is calculated as:

$$= \frac{\text{Capital Costs + Operating Expenses}}{\text{Total Number of Customers serviced by WNP}}$$

The cost performance result for 2014 is $785 per customer which is a 0% change compared to 2013.

WNP's Total Cost per Customer has increased on average by 3% ($22.60) per annum over the period 2010 through 2014. Similar to most distributors in the province, WNP has experienced increases in its total costs required to deliver quality and reliable services to customers. Province wide programs such as Time of Use pricing, growth in wage and benefits costs for our employees, as well as investments in new information systems technology and the renewal and growth of the distribution system, have all contributed to increased operating and capital costs. WNP will continue to replace distribution assets balancing system risks and customer rate impacts as demonstrated in upcoming Cost of Service 2016 rate application. In addition, on-going customer engagement initiatives will continue in order to ensure customers have an opportunity to share their viewpoint on their local hydro's capital spending plans.

Using the Pacific Economics Group LLC's 2015 model (the "PEG" model") that was provided to LDC's to assist with forecasting, WNP have forecasted the predicted costs for the next 3 years (2015 to 2017). This forecast is shown in the following table together with the variables applied and the business conditions used:

Table 24 Forecast of Predicted Costs

	Actual 2014	Forecast 2015	Forecast 2016	Forecast 2017
OM&A Portion	$461	$463	$471	$476
Capital Portion	$325	$340	$422	$430
Total Cost/customer	$785	$802	$892	$906
OM&A Portion change	($6) -1%	$2 0%	$8 2%	$5 1%
Capital Portion change	$6 1%	$15 2%	$82 10%	$9 1%
Total Cost/Customer change	($0) 0%	$17 2%	$90 11%	$13 1%

Table 25 Variables Applied in Predicted Cost

Actual Cost	2014	2015	2016	2017
OM&A	1,707,127.86	1,728,931.86	1,774,799.86	1,810,653.20
Capital				
Rate of Return	5.96%	5.96%	5.96%	5.96%
Depreciation Rate	4.59%	4.59%	4.59%	4.59%
Construction Cost Index	165.18	170.21	175.40	180.74
Capital Price	17.14	17.66	18.20	18.75
Gross Plant Additions	$753,208	$760,000	$3,293,600	$728,670
HV Capital Additions	-	-	-	-
Quantity of Capital Additions	$4,560	$4,465	$18,778	$4,032
Quantity of Capital Removed	$3,180	$3,244	$3,300	$4,010
Capital Quantity	$70,671	$71,892	$87,370	$87,392
Capital Cost	$1,210,991	$1,269,436	$1,589,727	$1,638,542
Total Actual Cost	**$2,918,119**	**$2,998,367**	**$3,364,527**	**$3,449,195**

Table 26 Business Conditions in Predicted Costs

Output Quantity	2014	2015	2016	2017
Number of Customers	3,731	3,737	3,770	3,808
Delivery Volume	105,637,369	103,611,373	103,343,435	104,382,054
Annual Peak Demand	17,714	17,714	17,714	17,714
Capacity Proxy	17,714	17,714	17,714	17,714
Input Prices				
GDP IPI [30% Weight]	114.3	117.8	121.3	125.0
Average Hourly Earnings Growth [70% Weight]	948.14	977.02	1,006.77	1,037.43
OM&A Price Index Growth [30% GDPIPI growth + 70% AWE Growth]	3.000%	3.000%	3.000%	3.000%
OM&A Price Index Level	118.40	122.00	125.72	129.55
Capital Price Index	17.14	17.66	18.20	18.75
Business Conditions				
2013 Line km	76.38	76.38	76.38	76.38
2002-2013 Average Line km	97.88	96.09	94.45	92.94
Customers Ten Years Ago	3,349	3,416	3,454	3,486
Ten Year Customer Growth Percentage	11.41%	9.40%	9.15%	9.23%

The above tables show:

- In 2015 total cost per customer is predicted to increase by $17 (2% change compared to 2014) due to the Capital Portion element;
- In 2016, the total cost per customer rises to $892 representing an increase of $90 or 11% compared to 2015's prediction. What should be recognized in this year is the Gross Plant additions of $3,293,600 which comprises of:
    - Recognition and inclusion of MS2 Substation assets with a net book value of $1,383,199 as at 1st January 2016. WNP received approval from the regulator to proceed with the construction of a replacement substation (MS2) in April 2014 as per the Applicant's Incentive Rate Mechanism application which included an Incremental Capital Module component for the substation. As per the Decision and Order (dated March 13th 2014 – EB-2013-0178) for Wellington North Power Inc.'s 2012 distribution rates, the LDC was approved to collect a rate-rider from its customers until the next Cost of Service application. In its 216 Cost of Service Application, WNP is requesting the inclusion of the MS2 substation assets in its rate-base, therefore recognizing an asset addition of $1,383,199.
    - Inclusion of the 2nd feeder line to Mount Forest (as described in this plan as a "special" project) which will see a payment from WNP to Hydro One for approximately $1,269,751. This will be seen as a Contributed Capital payment to Hydro One as this is recognized as an upstream cost, although WNP will have no tangible assets as result of this investment.

- Discretionary capital projects planned to be completed in 2016 equating to $640,650 of asset additions.

- In 2017, the Capital planned additions equate to $728,670 together with Operations, Maintenance & Administration (OM&A) remain steady resulting in a total cost per customer of $905 (a $13 increase or 2% change compared to 2016).

The table below, taken from the PEG model illustrates the percentage and rolling 3-year average change based upon the forecasted OM&A and gross capital additions between 2014 (actual) and predicted for 2015 to 2017.

Table 27 Percentage Difference and 3-year Average

	2014	2015	2016	2017
Actual Cost	2,918,119	2,998,367	3,364,527	3,449,195
Predicted Cost	2,535,319	2,637,331	2,770,852	2,918,341
Actual less Predicted Cost	382,800	361,037	593,675	530,855
Percentage Difference (Arithmetic for Comparison)	15.10%	13.69%	21.43%	18.19%
Percent Difference (Logarithmic)	**14.06%**	**12.83%**	**19.41%**	**16.71%**
Three Year Average				
Current Year	14.06%	12.83%	19.41%	16.71%
Previous Year	17.68%	14.06%	12.83%	19.41%
Two Years Ago	12.78%	17.68%	14.06%	12.83%
Three Year Average Performance	**14.84%**	**14.86%**	**15.44%**	**16.32%**

If WNP did not install the 2nd feeder line to Mount Forest in 2016 and therefore did not incur the estimated $1,269,751 Capital Contribution payment to Hydro One as well as $80,000 (approximately) for the purchase and installation of Primary Metering Equipment (PME), then the total cost per customer changes to $855 in 2016, assuming all other variables remain the same – as shown in the table below:

Table 28 Total Cost per Customer Assuming 2nd line Feeder is Not Installed

	Actual 2014	Forecast 2015	Forecast 2016	Forecast 2017
OM&A Portion	$461	$463	$471	$476
Capital Portion	$325	$340	$385	$394
Total Cost/customer	$785	$802	$855	$870
OM&A Portion change	($6)	$2	$8	$5
	-1%	0%	2%	1%
Capital Portion change	$6	$15	$45	$10
	1%	2%	6%	1%
Total Cost/Customer change	($0)	$17	$53	$14
	0%	2%	7%	2%

If WNP did not install the 2nd feeder line to Mount Forest in 2016, the LDC believes that the efficiency rating would be the same (i.e. remaining in Cohort IV).

If WNP did not install the 2nd feeder line to Mount Forest in 2016, the LDC has not addressed the load capacity issues that imminently will constrain future growth and development in the area. Based upon customer feedback and in WNP's opinion, the 2nd feeder to Mount Forest is a priority. Furthermore, the town of Mount Forest is currently supplied through a single rural radial 44kV pole line owned and operated by Hydro One Networks Inc. (HONI) from the Hanover TS approximately 44km away. The existing pole line is constructed through several areas with no road access making inspection, maintenance and repairs difficult and time consuming. An ice storm in April 2013 broke a number of HONI poles resulting in an outage lasting over 18 hours negatively impacting the manufacturing and small business consumers as well as critical load customers in Mount Forest. The outage demonstrated the need for an alternate power supply to ensure critical loads (hospital, seniors housing complex and warming station) are maintained and switching options are available to transfer loads. Section 5.4.5.3.1.discusses the 2nd feeder line to Mount Forest as a "special" project for 2016.

Assuming that due to this Distribution System Plan and WNP's 2016 Cost of Service rate application, the LDC receives approval to recover construction costs for a second line feeder through electricity distribution rates, the LDC believes that efficiency rating would also remain the same (i.e. remaining in Cohort IV), yet there would be a potential improvement in the System Reliability indicators of SAIDI and SAIFI (not Loss of Supply Adjusted) because Hydro One and WNP could alternate loads between two different feeders in the event of a major power outage. However, the "Loss of Supply" SAIDI and SAIFI potential improvements will be directly recognized by Hydro One, not by WNP, and with that in mind, WNP is not in a position to state what "Loss of Supply" SAIDI and SAIFI metric improvement will be. The ability to switch loads during major power outages will mean that system

reliability metrics for WNP should remain the same and, the LDC believes based on consumer feedback (see the section: Customer Focus above), this will maintain the level of customer satisfaction.

Measurement of the Distribution System Plan

Once WNP's Distribution System Plan (DSP) is reviewed and accepted by the Ontario Energy Board, the LDC will report annually using the LDC's Scorecard meaning that information will be available to both the regulator and customers.

WNP is proposing that measurement of the DSP will be of a combination of actual spending versus planned spending as well as project completion group by investment categories. The example below shows in 2016, WNP achieved a result of 77% in terms of implementing its DSP:

	2016 Planned Spend	2016 Actual Spent	Spend Variance		Maximum Possible Result	LDC Result
General Plant	$70,650	$65,000	($5,650)	-8.0%	5	5
System Access	$60,000	$50,000	($10,000)	-16.7%	5	4
System Renewal	$50,000	$60,000	$10,000	20.0%	5	4
System Service	$1,729,751	$1,750,000	$20,249	1.2%	5	5
Total	**$1,910,401**	**$1,925,000**	**$14,599**	**0.8%**	20	**18**

Range	Result
-10% to 10%	5
-20% to -11% or 11% to 20%	4
-30% to -21% or 21% to 30%	3
-40% to -31% or 31% to 40%	2
-50% to -41% or 41% to 50%	1
Below -50% or Above 50%	0

Note: Result for spending and completing projects is the same

	2016 # of Planned Projects	Number of 2016 Projects Completed in 2016	Variance	Maximum Possible Result	Score
General Plant	5	4	-20%	5	4
System Access	6	5	-17%	5	4
System Renewal	7	6	-14%	5	4
System Service	4	4	0%	5	5
Total	**22**	**19**	**-51%**	20	**17**

Where a capital project is over the materiality threshold of the LDC (for WNP it would be $50,000)

	Actual Spent (A)	Projects Completed (B)	Maximum Score (C) = (A) x (B)
Maximum Achievable Result	20	20	400
LDC 2016 Result	18	17	306
	DSP Implementation Outcome		**77%**

Note: The above is an illustration and WNP acknowledges that the Board has yet to define the methodology for LDC's to measure DSP implementation.

Below is a copy of Wellington North Power's 2014 published Scorecard summarizing the LDC's performance over the past 5 years (2010 to 2014).

Scorecard - Wellington North Power Inc.

9/2/2015

Performance Outcomes	Performance Categories	Measures		2010	2011	2012	2013	2014	Trend	Target: Industry	Target: Distributor
Customer Focus Services are provided in a manner that responds to identified customer preferences.	Service Quality	New Residential/Small Business Services Connected on Time		100.00%	100.00%	100.00%	100.00%	100.00%	flat	90.00%	
		Scheduled Appointments Met On Time		99.80%	97.60%	95.20%	100.00%	100.00%	up	90.00%	
		Telephone Calls Answered On Time		100.00%	100.00%	100.00%	100.00%	100.00%	flat	65.00%	
	Customer Satisfaction	First Contact Resolution						99.91%			
		Billing Accuracy						99.73%	flat	98.00%	
		Customer Satisfaction Survey Results						A			
Operational Effectiveness Continuous improvement in productivity and cost performance is achieved; and distributors deliver on system reliability and quality objectives.	Safety	Level of Public awareness [measure to be determined]									
		Level of Compliance with Ontario Regulation 22/04		C	C	C	C	C	flat		C
		Serious Electrical Incident Index	Number of General Public Incidents	0	0	0	0	0	flat		0
			Rate per 10, 100, 1000 km of line	0.000	0.000	0.000	0.000	0.000	flat		0.000
	System Reliability	Average Number of Hours that Power to a Customer is Interrupted		0.00	0.92	0.44	0.14	0.12	down		at least within 0.00 - 0.92
		Average Number of Times that Power to a Customer is Interrupted		0.04	0.40	0.15	0.10	0.11	down		at least within 0.04 - 0.40
	Asset Management	Distribution System Plan Implementation Progress						On Target			
	Cost Control	Efficiency Assessment				4	4	4			
		Total Cost per Customer [1]		$672	$764	$740	$785	$785			
		Total Cost per Km of Line [1]		$31,929	$36,441	$35,543	$38,175	$38,552			
Public Policy Responsiveness Distributors deliver on obligations mandated by government (e.g., in legislation and in regulatory requirements imposed further to Ministerial directives to the Board).	Conservation & Demand Management	Net Annual Peak Demand Savings (Percent of target achieved) [2]			3.96%	18.42%	24.98%	51.70%	target not met		0.93MW
		Net Cumulative Energy Savings (Percent of target achieved)			13.07%	46.35%	65.49%	73.24%	target not met		4.52GWh
	Connection of Renewable Generation	Renewable Generation Connection Impact Assessments Completed On Time					100.00%				
		New Micro-embedded Generation Facilities Connected On Time								90.00%	
Financial Performance Financial viability is maintained; and savings from operational effectiveness are sustainable.	Financial Ratios	Liquidity: Current Ratio (Current Assets/Current Liabilities)		1.18	1.12	1.01	1.52	0.79			
		Leverage: Total Debt (includes short-term and long-term debt) to Equity Ratio		0.74	0.84	0.84	1.30	1.39			
		Profitability: Regulatory Return on Equity	Deemed (included in rates)		8.57%	9.12%	9.12%	9.12%			
			Achieved		-7.59%	1.66%	4.35%	5.74%			

Notes:
1. These figures were generated by the Board based on the total cost benchmarking analysis conducted by Pacific Economics Group Research, LLC and based on the distributor's annual reported information.
2. The Conservation & Demand Management net annual peak demand savings include any persisting peak demand savings from the previous years.

Legend: up, down, flat; target met, target not met

5.3 Asset Management Process

Asset Management Process Objectives

The key objective of the asset management plan is to develop a paced and prioritized replacement plan that is cost effective taking into consideration the age of the equipment, safety, regulatory requirements, customer service requirements and reliability.

Integration of Geospatial Information System (GIS) into Asset Management

WNP has implemented the ESRI ArcGIS software system for mapping and distribution system data management. All electrical distribution system components have been entered into the system. Data such as date of manufacture, in service date, and condition are stored in the system. Reports on specific pieces of equipment are generated and are used to assist in the management of WNP assets. Below is an illustration of a GIS screen-shot and data tables maintained within the system

Table 29 Screen-shot of GIS

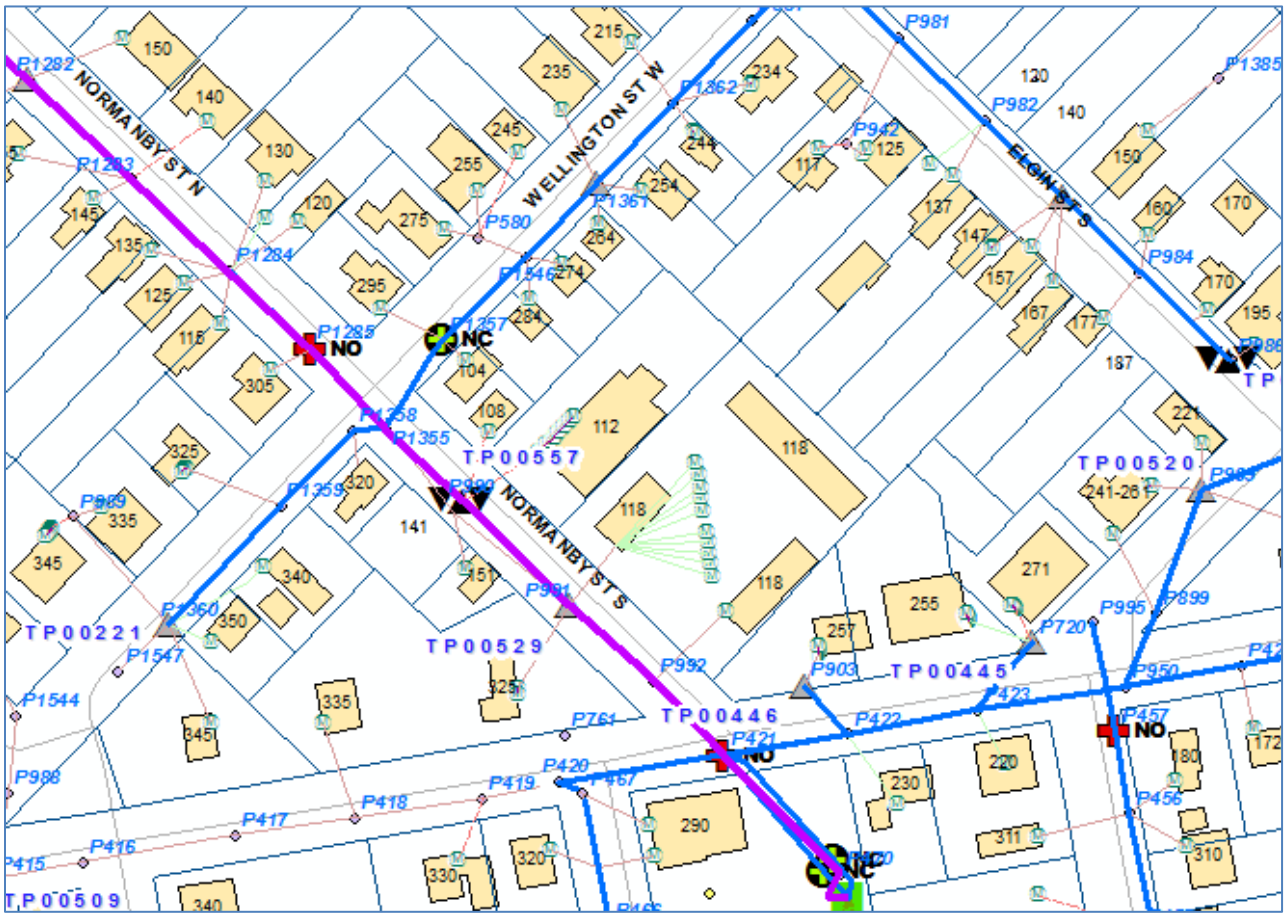
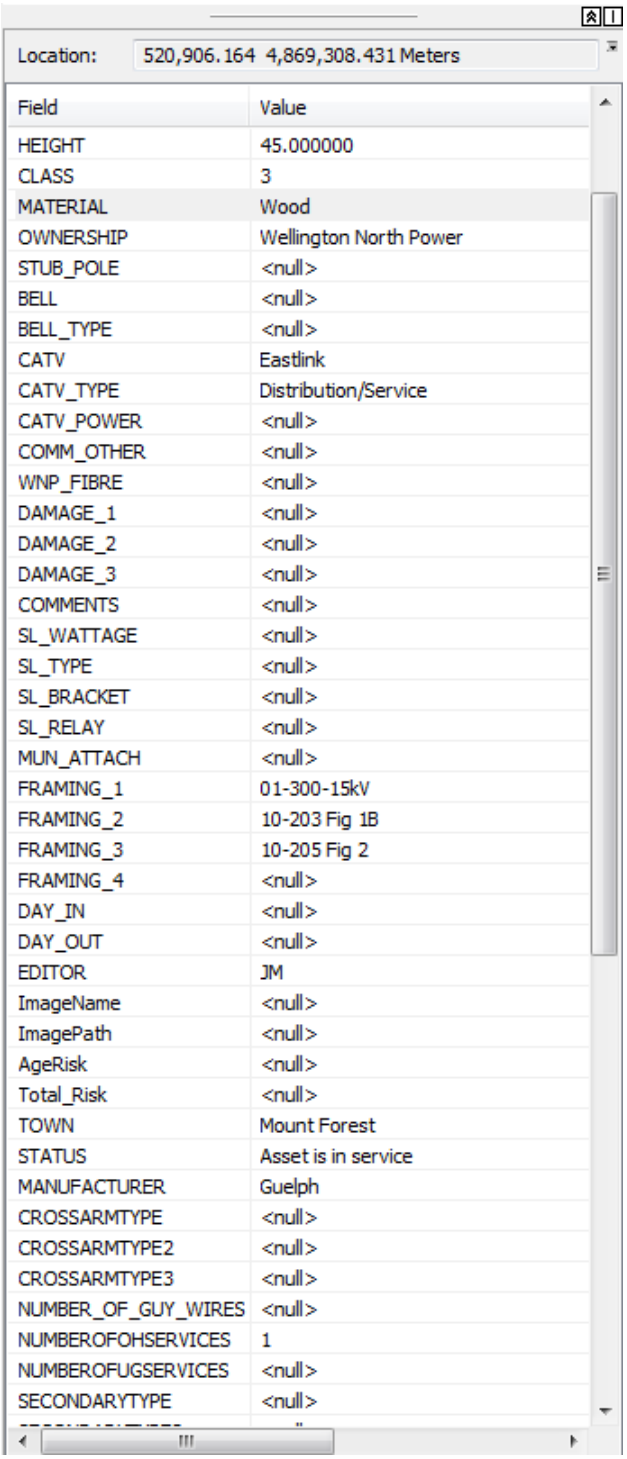


Table 30 Example WNP Pole Asset Data within GIS



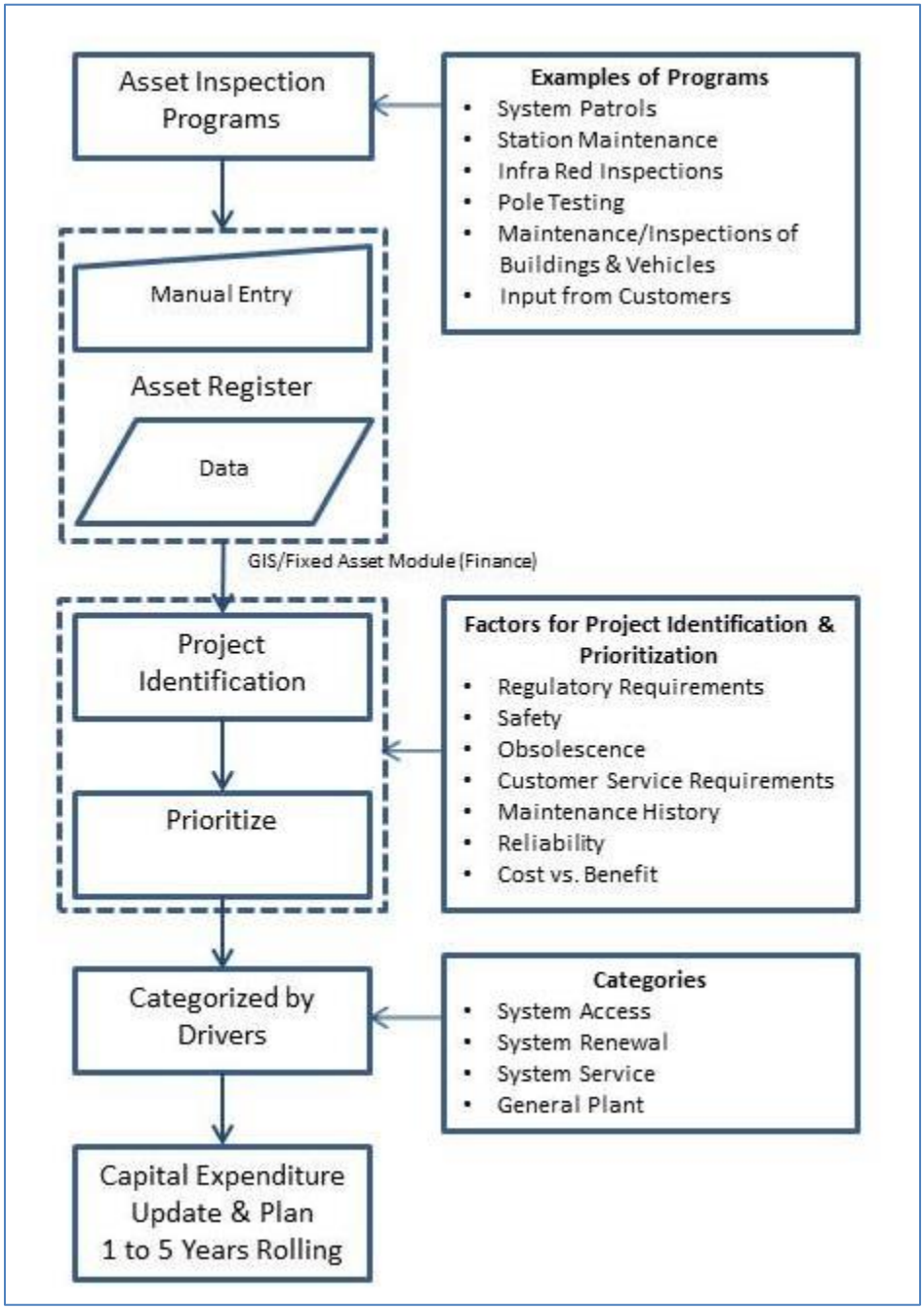
Location: 520,906.164 4,869,308.431 Meters

Field	Value
HEIGHT	45.000000
CLASS	3
MATERIAL	Wood
OWNERSHIP	Wellington North Power
STUB_POLE	<null>
BELL	<null>
BELL_TYPE	<null>
CATV	Eastlink
CATV_TYPE	Distribution/Service
CATV_POWER	<null>
COMM_OTHER	<null>
WNP_FIBRE	<null>
DAMAGE_1	<null>
DAMAGE_2	<null>
DAMAGE_3	<null>
COMMENTS	<null>
SL_WATTAGE	<null>
SL_TYPE	<null>
SL_BRACKET	<null>
SL_RELAY	<null>
MUN_ATTACH	<null>
FRAMING_1	01-300-15kV
FRAMING_2	10-203 Fig 1B
FRAMING_3	10-205 Fig 2
FRAMING_4	<null>
DAY_IN	<null>
DAY_OUT	<null>
EDITOR	JM
ImageName	<null>
ImagePath	<null>
AgeRisk	<null>
Total_Risk	<null>
TOWN	Mount Forest
STATUS	Asset is in service
MANUFACTURER	Guelph
CROSSARMTYPE	<null>
CROSSARMTYPE2	<null>
CROSSARMTYPE3	<null>
NUMBER_OF_GUY_WIRES	<null>
NUMBEROFOHSERVICES	1
NUMBEROFUGSERVICES	<null>
SECONDARYTYPE	<null>

5.3.1 Asset Management Process Overview

The flowchart below summarizes the Asset Management Process stages and activities involved in determining whether a capital project is added to the company's Capital Expenditure plan.

Table 31 Asset Management Process Flowchart



"Section 5.3.2 – Overview of WNP's Assets" provides details of the LDC's distribution system asset components together with the inspection programs that are routinely conducted by the Operations team. In addition, the company also receives information from local residents and business owners who contact the company to report items that they have noticed, such as a damaged hydro pole. Such observations are usually received at WNP by means of a telephone call or an e-mail which a Customer Service Representative (CSR) would create a work order for the Operations team who could then visit the location to assess the situation. This approach was demonstrated numerous times during the April 2013 ice storm affecting Mount Forest and December 2013 winter storm that affected Arthur. WNP received many calls from concerned citizens advising of extensive tree damage and tree limbs hanging on hydro poles. CSRs recorded the location and created work orders for the Operations team who subsequently sorted the work orders by area (location) and assigned them to the appropriate patrol to assess the damage. In an emergency situation, the CSR will contact the Operating Officer or Lead Hand who will determine the course of action for his team.

During patrols, maintenance activities and inspections, should a lineman identify a damaged asset, he would note the location and asset identification (e.g. pole or transformer asset number) and liaise with the Operations Technician. The Operations Technician will find the particular asset in the GIS system and retrieve the data (i.e. age, date last inspected). Collectively the Operations Technician, Chief Operating Officer and Lead-Hand determine whether the asset needs to be replaced (or can it be monitored), and if so, when considering the following factors:

a) Safety – is there any risk to the public or workers (e.g. could a damage pole break and fall);
b) Reliability and maintenance history – has the asset shown signs of deterioration or poor performance and is this degrading;
c) Obsolescence – is the asset dated and been replaced with a "better" product? For example replacing porcelain insulators with polymer insulators. (WNP is in the process of replacing all ceramic conductors in its distribution system proactively or when they fail);
d) Cost versus benefit – is the asset already scheduled for replacement and included within WNP's CapEx plan? For example, a damaged pole may be repaired as a short-term fix because the pole is part of a pole-line replacement project that has already been planned.

The Operations team maintains a list of assets that are being monitored for performance degradation. It is the responsibility of the Chief Operating Officer to add asset replacement projects to the company's CapEx plan.

Asset Management – Useful Life

WNP reviewed the useful life of its assets with the aid of the Asset Depreciation Study by Kinectrics (Kinectrics Report) and the LDC adopted the mid-range typical useful life for its assets effective from January 1st 2012, as stated in the LDC's 2012 Cost of Service application (EB-2011-0249, Exhibit 11, Schedule 2). The table below summarizes the mid-range useful life adopted by the LDC as per the Kinectrics Report Table F

Table 32 – Asset Service Life Adopted by WNP January 1st 2012

Table F-2 from Kinetrics Report[1]

#	Asset Details		Useful Life Range	USoA Account Number	USoA Account Description	Previous		Current	
	Category| Component | Type					Years	Rate	Years	Rate
1	Office Equipment		5-15	1915	Office Furniture & Equipment	10	10%	8	13%
2	Vehicles	Trucks & Buckets	5-15	1930	Transportation Equipment	8	13%	10	10%
		Trailers	5-20	1930	Transportation Equipment	8	13%	10	10%
		Vans	5-10	1930	Transportation Equipment	5	20%	5	20%
3	Administrative Buildings		50-75	200/201	Building & Fixtures	60	2%	60	2%
4	Leasehold Improvements		Lease dependent			0		0	
5	Station Buildings	Station Buildings	50-75	1808	Building & Fixtures	50	2%	60	2%
		Parking	25-30	1808	Building & Fixtures	25	4%	25	4%
		Fence	25-60	1808	Building & Fixtures	25	4%	25	4%
		Roof	20-30	1808	Building & Fixtures	20	5%	25	4%
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						
		Stores	5-10	1935	Stores Equipment	8	13%	8	13%
		Tools, Shop, Garage Equipment	5-10	1940	Tools, Shops Garage Equipment	8	13%	8	13%
		Measurement & Testing Equipment	5-10	1945	Measurement and Testing Equipment	8	13%	8	13%
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 - Mechanical	25	4%	25	4%
10	Industrial/Commercial Energy Meters		25-35	1860	Industrial/Commercial Energy Meters	25	4%	25	4%
11	Wholesale Energy Meters		15-30	1860	Wholesale Energy Meters	15	7%	15	7%
12	Current & Potential Transformer (CT & PT)		35-50	1860	Current & Potential Transformer (CT & P	40	3%	40	3%
13	Smart Meters		5-15	1860	Smart Meters	15	7%	15	7%
14	Repeaters - Smart Metering		10-15	1860	Repeaters - Smart Metering	15	7%	15	7%
15	Data Collectors - Smart Metering		15-20	1860	Data Collectors - Smart Metering	15	7%	15	7%

Table 32 / continued – Asset Service Life Adopted by WNP January 1st 2012

Service Life Comparison Table F-1 from Kinetrics Report

		Asset Details			Useful Life			USoA Account Number	USoA Account Description	Previous		Current	
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%	45	2%
			Cross Arm	Wood	20	40	55	1830	Poles, Towers and Fixtures	25	4%	45	2%
				Steel	30	70	95	1830	Poles, Towers and Fixtures	25	4%	45	2%
	2	Fully Dressed Concrete Poles	Overall		50	60	80	1830	Poles, Towers and Fixtures	25	4%	60	2%
			Cross Arm	Wood	20	40	55	1830	Poles, Towers and Fixtures	25	4%	60	2%
				Steel	30	70	95	1830	Poles, Towers and Fixtures	25	4%	60	2%
	3	Fully Dressed Steel Poles	Overall		60	60	80	1830	Poles, Towers and Fixtures	25	4%	60	2%
			Cross Arm	Wood	20	40	55	1830	Poles, Towers and Fixtures	25	4%	60	2%
				Steel	30	70	95	1830	Poles, Towers and Fixtures	25	4%	60	2%
	4	OH Line Switch			30	45	55	1835	Overhead Conductors & Devices	25	4%	45	2%
	5	OH Line Switch Motor			15	25	25	1835	Overhead Conductors & Devices	25	4%	25	4%
	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%	45	2%
	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	1820	Distribution Station Equipment	40	3%	40	3%
	15	Station DC System	Overall		10	20	30	1820	Distribution Station Equipment	20	5%	20	5%
			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 Breaker		25	40	60						
	17	Station Independent Breakers			35	45	65	1820	Distribution Station Equipment	40	3%	45	2%
	18	Station Switch			30	50	60	1820	Distribution Station Equipment	50	2%	50	2%
	19	Electromechanical Relays			25	35	50	1820	Distribution Station Equipment	25	4%	35	3%
	20	Solid State Relays			10	30	45	1820	Distribution Station Equipment	25	4%	30	3%
	21	Digital & Numeric Relays			15	20	20	1820	Distribution Station Equipment			20	5%
	22	Rigid Busbars			30	55	60	1820	Distribution Station Equipment	50	2%	55	2%
	23	Steel Structure			35	50	90	1820	Distribution Station Equipment	50	2%	50	2%
UG	24	Primary Paper Insulated Lead Covered (PILC) Cables			60	65	75	N/A					
	25	Primary Ethylene-Propylene Rubber (EPR) Cables			20	25	25	1845	Underground Conductors & Devices	25	4%	65	2%
	26	Primary Non-Tree Retardant (TR) Cross Linked			20	25	30	1845	Underground Conductors & Devices	25	4%	25	4%
	27	Primary Non-TR XLPE Cables in Duct			20	25	30	1845	Underground Conductors & Devices	25	4%	25	4%
	28	Primary TR XLPE Cables Direct Buried			25	30	35	1845	Underground Conductors & Devices	25	4%	30	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						
	31	Secondary Cables Direct Buried			25	35	40	1855	Services	25	4%	35	3%
	32	Secondary Cables in Duct			35	40	60	1855	Services	25	4%	40	3%
	33	Network Tranformers	Overall		20	35	50						
			Protector		20	35	40						
	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%	35	3%
	36	UG Foundation			35	55	70	1840	Underground Conduit	25	4%	55	2%
	37	UG Vaults	Overall		40	60	80						
			Roof		20	30	45						
	38	UG Vault Switches			20	35	50	1845	Underground Conductors & Devices	25	4%	35	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%	50	2%
	41	Concrete Encased Duct Banks			35	55	80	1840	Underground Conduit	25	4%	55	2%
	42	Cable Chambers			50	60	80	1840	Underground Conduit	25	4%	60	2%
S	43	Remote SCADA			15	20	30						

5.3.2 Overview of Asset Managed

5.3.2.1 Substations and Feeders

WNP owns and operates six municipal sub-stations. The station data is summarized below in Table 6. They are located within the Village of Arthur and Town of Mount Forest, as shown in Figure 3. Each station is controlled by appropriately rated load break and/or air break switches.

Table 33 - Substation Data

Station	Year	Voltage	Transformer Size	Number of Feeders	HV Protection	LV Protection
Mount Forest MS1	1986	44 - 4.16kV	5.0MVA	4	SMD-2C 85A Type E Fuse	SM-5 400A Type E Fuse
Mount Forest MS2	2014	44 - 4.16kV	5.0MVA	4	SMD-2C 100A Type E Fuse	SEL 351R Recloser & Relay
Mount Forest MS3	1988	44 - 4.16kV	5.0MVA	4①	SMD-2C 100A Type E Fuse	SM-5 400A Type E Fuse
Mount Forest MS4	1964	44 - 4.16kV	2.0MVA	4②	SMD-2C 100A Type E Fuse	SM-5 400A Type E Fuse
Arthur MS5	1994	44 - 4.16kV	5.0MVA	3	SMD-2C 100A Type E Fuse	SM-5 400A Type E Fuse
Arthur MS6	2010	44 - 4.16kV	5.0MVA	2	SMD-2C 100A Type E Fuse	SM-5 400A Type E Fuse

① Feeder F1 is not in service due to catastrophic failure in the switch enclosure
② Feeder F3 is the only feeder connected and in service

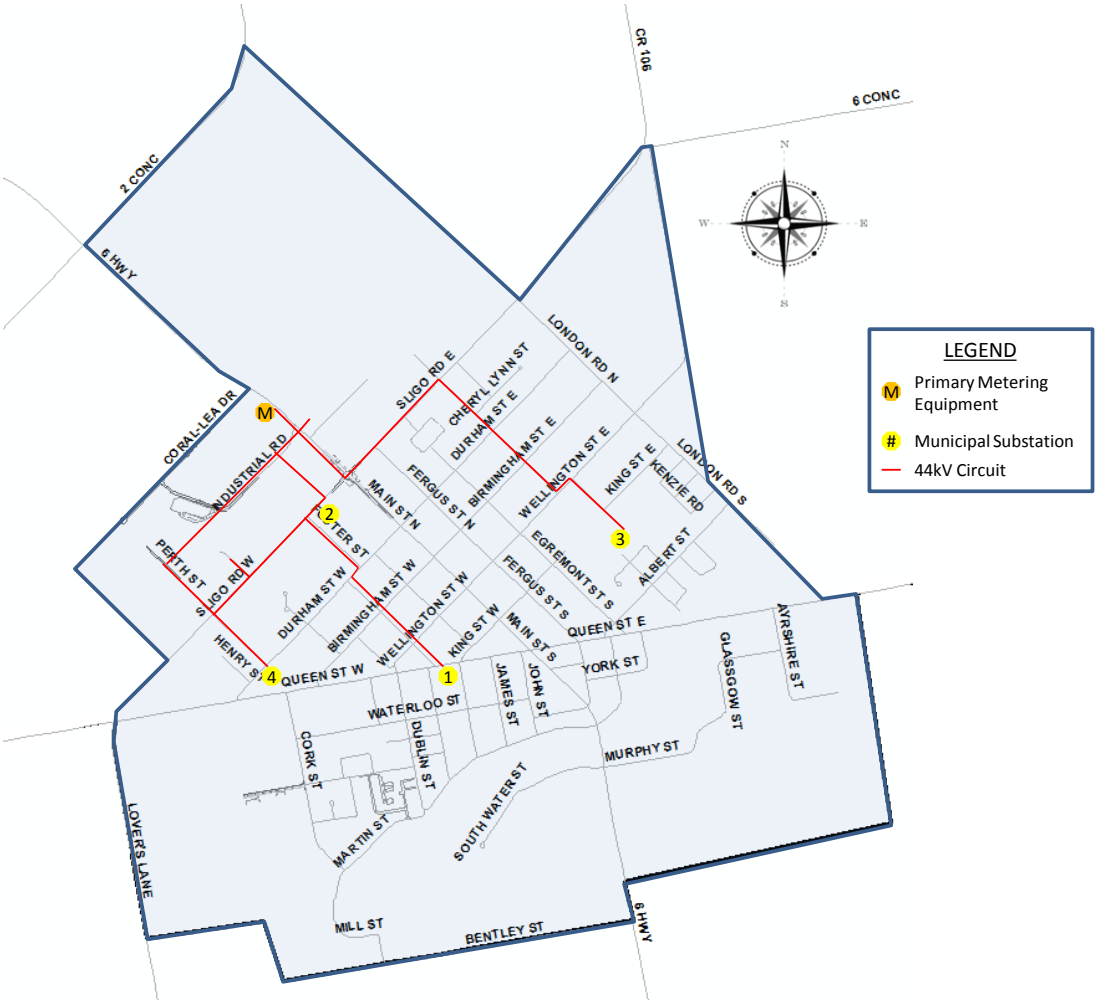
Mount Forest

The Town of Mount Forest is supplied by a single 44kV HONI M Class feeder. The 44kV feeder running through the town of Mount Forest supplies four 44 to 4.16kV municipal stations owned and operated by WNP, as well as three private stations owned by businesses.

The four municipal stations, fed by the 44kV sub-transmission system, are being replaced in a proactive manner as they reach their end of life. Municipal Station Two “MS2” was replaced in 2014.

The 44kV sub-transmission within the town is fed directly from HONI by feeder 36M5, a radial supply from Hanover TS approximately 44km away. The Town of Mount Forest does not have a redundant supply; this can result in longer power outages such as experienced by WNP customers during an ice storm in April 2013. During the storm, customers in Mount Forest were without power for over 18 hours. In addition to being a reliability concern, the 36M5 is at capacity thereby limiting the ability of the distribution system to service the anticipated growth and future capacity required by the town. As a result, WNP had HONI investigate the options available to maintain supply and address future capacity in Mount Forest.

Figure 34 – 44kV System in Mount Forest



Mount Forest - Substation MS1

WNP MS1 provides service to the south portion of Mount Forest and serves primarily residential customers. The transformer is a 5.0 MVA unit with four 4.16kV feeders. The station is currently protected by SMD-2C, 85A Type E fuses on the HV side and by SM-5 400A Type E fuses on the LV side. The power transformer and switchgear at this station is stamped with a manufactured date of 1986.

WNP has redundancy built into its distribution feeder network:

Distribution Feeder	Contingency Feeder (Switch)
MS1 F1	MS4 F2 (SPM046 at Cork & Queen W)
MS1 F2	MS1 F3 (SPM019 at 340 John St) or MS3 F2 (SPM007 at 383 Parkside Dr)
MS1 F3	MS1 F2 (SPM019 at 340 John St) or MS3 F2 (SPM006 at Peel St)
MS1 F4	MS2 F3 (SPM016 at Normanby & Wellington W)

Mount Forest – Substation MS2

WNP MS2 provides service to the central-north portion of Mount Forest and serves both residential and small business customers. The station was energized in December of 2014. The station consists of a 44kV enclosed fused load break switch, 5MVA power transformer, a 5 bay 4.16kV switchgear assembly, four (4) auto-recloser units one per feeder, pad mount station service transformer and a 10 x 10 control enclosure.

Distribution Feeder	Contingency Feeder (Switch)
MS2 F1	MS3 F4 (SPM031 at Sligo and Irwin Lytle Dr)
MS2 F2	MS3 F4 (SPM047 on Mount Forest Dr)
MS2 F3	MS1 F4 (SPM016 on Normanby St)
MS2 F4	MS4 F2 (SPM022 on Perth St)

Mount Forest - Substation MS3

WNP MS3 provides service to a central-east portion of Mount Forest and serves primarily residential loads. The transformer is a 5.0MVA unit with three feeders, all of which currently carry load. The station is currently protected by SMD-2C, 80A Type E fuses on the HV side and by SM-5, 400A Type E fuses on the LV side. The power transformer was manufactured in 1988 and the station switchgear was manufactured in 1976.

Distribution Feeder	Contingency Feeder (Switch)
MS3 F1	Not In Service
MS3 F2	MS1 F3 (SPM006 at Peel Street)
MS3 F3	MS1 F2 (SPM007 at 383 Parkside Dr)
MS3 F4	MS2 F1 (SPM031 at Sligo & Irwin Lytle) or MS2 F2 (SPM047 at Mt Forest Dr)

Mount Forest - Substation MS4

WNP MS4 provides service to a west portion of Mount Forest and serves primarily residential loads. The transformer is a 2.0MVA unit with one feeder currently carrying load. The station is currently protected by SMD-2C, 40A Type E fuses on the HV side and by SM-5, 400A Type E fuses on the LV side. The power transformer was manufactured in 1964 and the station switchgear was manufactured in 1991.

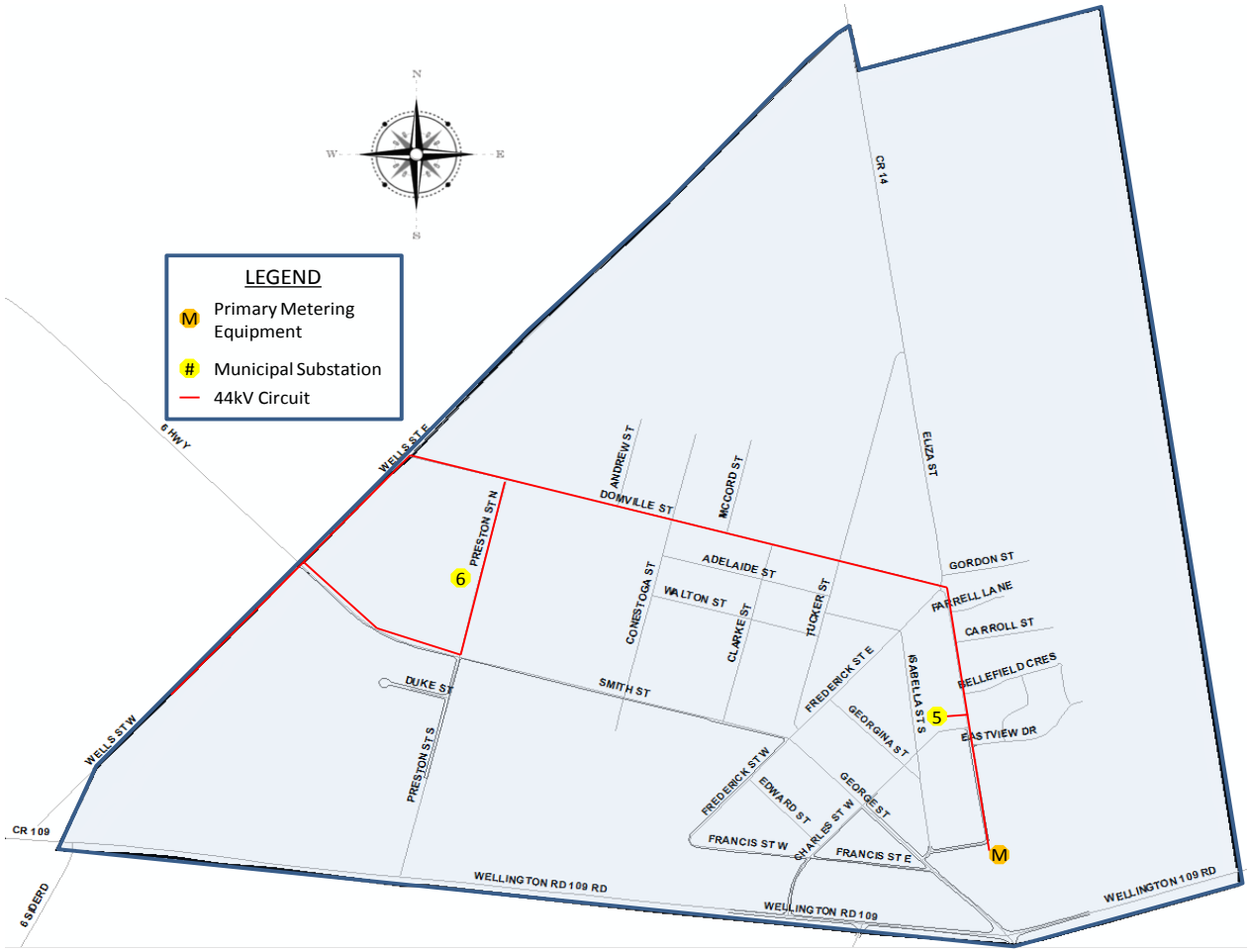
Distribution Feeder	Contingency Feeder (Switch)
MS4 F2	MS2 F4 (SPM046 at Cork & Queen W) or MS1 F1 (SPM022 at Perth and Sligo)

Arthur

The Village of Arthur is supplied by HONI with an M-class feeder supplying 44kV. Two 4.16kV stations, fed by the 44kV sub-transmission system, are being maintained in a proactive manner as HONI only offers 44kV feeders in our service area.

The 44kV feeder is fed directly from HONI by 73M1 from Fergus TS. This feeder is a looped supply between Fergus TS and Orangeville TS. This means the Village of Arthur does have a redundant supply, however, the switching required to switch between feeders is owned and controlled by HONI. In order to improve system reliability, WNP recently had HONI comment on the capacity on the Fergus and Orangeville feeders. As a result of this discussion, WNP does not foresee a capacity issue in the Village of Arthur in the foreseeable future.

Figure 35 – 44kV System Arthur



Arthur - Substation MS5

WNP MS5 provides service to a south portion of the village of Arthur and serves both residential and small business loads. The Transformer is a 5.0MVA unit with two feeders, all of which currently carry load. The station is currently protected by SMD-2C, 100A Type E fuses on the HV side and by SM-5, 400A Type E fuses on the LV side. The power transformer at this station was manufactured in 1994.

Distribution Feeder	Contingency Feeder (Switch)
MS5 F1	MS5 F2 (SPA010 at Isabella St)
MS5 F2	MS5 F1 (SPA010 at Isabella St) or MS6 F2 (SPA002 on Smith St)
MS5 F3	MS6 F1 (SPA001 at Domville St)

Arthur – Substation MS6

WNP MS6 provides service to a northern portion of the village of Arthur and serves both residential and small business loads. The Transformer is a 5.0MVA unit with three 4.16kV feeders, all of which currently carry load. The station is currently protected by SMD-2C, 100A Type E fuses on the HV side and by SM-5, 400A Type E fuses on the LV side. The power transformer at this station was manufactured in 2010.

Distribution Feeder	Contingency Feeder (Switch)
MS6 F1	MS5 F3 (SPA001 at Domville St)
MS6 F2	MS5 F2 (SPA002 on Smith St)

Holstein

There are currently no municipal stations in Holstein. Holstein is supplied from HONI's Holstein DS F3, a shared distribution feeder. Within WNP's service area, all distribution assets associated with Holstein DS F3 are owned and operated by WNP. Holstein currently has no contingency or back-up feeder.

Substation Inspections

WNP owns and operates 6 substations, which are patrolled once a month in accordance with the requirements of WNP's Engineering and Operations Policy #19. Patrols at substations require the use of the *Patrol Deficiency Record* to record any defects or areas of concern which are identified during the visual inspection. Monthly visual inspections for station equipment include the following:

Transformer:

- Paint condition and corrosion
- Leaking oil
- Flashed or Cracked Insulators

- Ground lead attachments

Switches and Protective Devices:

- Bent, broken bushings and cutouts
- Damaged lightning arresters
- Ground wire on arresters unattached
- Electrical clearances are maintained

Hardware and Attachments:

- Loose or missing hardware
- Locks are secured
- Insulators flashed over or obviously contaminated
- Ground wire broken or removed
- Ground wire guards removed or broken
- Condition of Gate
- Condition of Fence

Switchgear:

- Paint condition and corrosion
- Locks are secured

Vegetation:

- Vegetation growth interference (line or fence clearance)
- Bird or animal nests

In addition to monthly visual inspections performed by WNP staff, all stations are inspected by a 3rd party every three years which includes oil testing for the station transformers. These inspections are performed by a reputable station electrical contractor. In late 2013, WNP issued a competitive request for proposal that saw Eaton Electric being awarded the preventative maintenance work for 2013 and 2014.

Major Station Maintenance

Preventive station maintenance is conducted periodically according to the WNP Inspection and Testing Specification based on ANSI/NETA MTS-2007, developed for WNP by Costello and Associates in 2013, and includes the following:

- Testing of Substation Transformers
- Arrester testing
- Breaker and Protection Testing and Maintenance
- General station maintenance

The following station preventative maintenance is planned for 2015:

- WNP MS2
- WNP MS4

Overhead Feeders/Distribution System

In addition to regular patrols, WNP subcontracts infrared inspection of the overhead feeders and distribution system on a yearly basis. An infrared inspection is the use of infrared imaging equipment to provide specific thermal information about the distribution system specifically abnormally high temperatures indicating poor or damaged connections and imminent failure. Typical findings include damaged connection points, switch points and fuse points.

The infrared inspection of the WNP system is performed on a yearly basis.

Station Metering and Monitoring

WNP owns and operates an ION Power Measurement metering system installed at each of its six sub-stations to track energy usage on each feeder. The ION Power Measurement metering system accumulates meter data for future decision making and provides real-time access to sub-station meter information from head office.

The ION Power Measurement System which was installed in 1998 has reached its useful life. The system is being replaced by SCADA to facilitate SMART Grid Technology. The new SCADA system will connect to all the substations and be able to provide control at the new MS2 substation where reclosers are installed.

Substation and Feeder Capital Plans

WNP is planning to rebuild its existing station infrastructure during the next few years in order to maintain system reliability and modernize the equipment used to operate and control our stations.

In 2014, WNP received approval to recover the costs of replacing Municipal Substation 2 through distribution rates from the Ontario Energy Board on March 13th 2014 (Decision and Order for case number EB-2013-0178, IRM application with Incremental Capital Module identifying the projected costs for replacing MS2 substation). Included in the rebuild was the installation of SMART Grid technology facilitating connection to SCADA. The technology will allow us to monitor the equipment, gather load data and control the feeder circuits remotely.

MS3 is planned for replacement in 2018 and will include the addition of feeder reclosure equipment, which will allow momentary power outages to be restored automatically. Also, the control relays that will be installed at the rebuilt station will allow for advanced protection schemes as well as SCADA-control of the station. MS3's

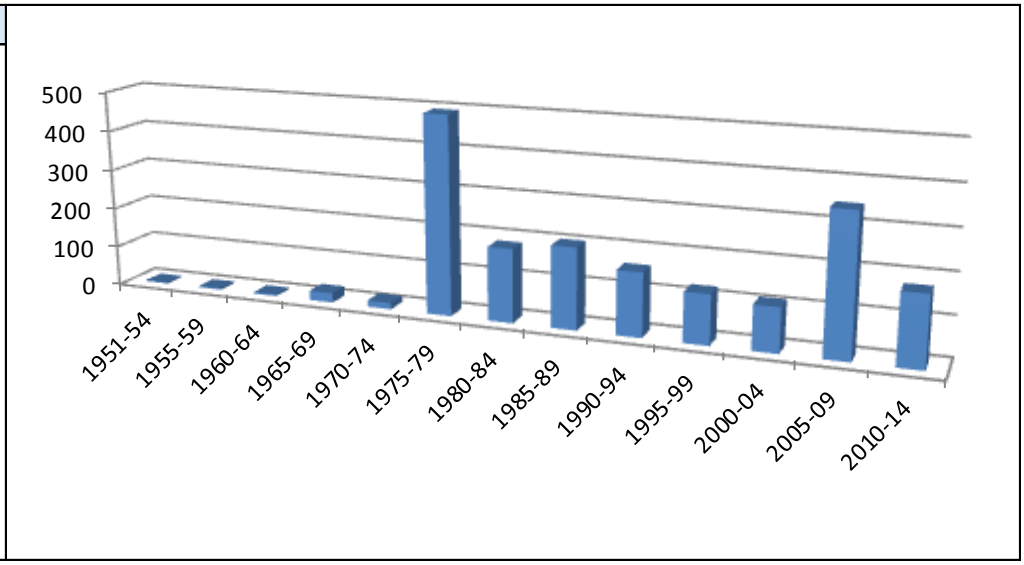
power transformer was refurbished in 1988; however, recent oil analysis testing has shown the transformer has experienced internal faults in the past.

5.3.2.2 Poles

The WNP overhead distribution system is supported by approximately 1,841 primarily wood type poles. These poles are divided throughout the towns of Arthur, Holstein and Mount Forest. Historically, prior to the use of GIS, little pole information was recorded or maintained. In 2011, Rodan Energy Solutions was contracted to complete an Asset Management Plan and Strategy including inventory which forms the basis of WNP pole management. Further, for new installations, the GIS system is now updated and maintained to include age as well as condition data.

Table 36 WNP Poles by Year and Count

Year	In Service
1951-54	3
1955-59	4
1960-64	4
1965-69	24
1970-74	16
1975-79	493
1980-84	183
1985-89	202
1990-94	158
1995-99	123
2000-04	110
2005-09	346
2010-14	175
Total:	1841



The spike in poles numbers in the 1975 to 1979 is due to lack of data on specific poles at the time of the assessment. Aged poles with unknown dates were assigned a 1975-79 vintage. Older vintage poles beyond the life expectancy are secondary service poles located away from major roads and generally service one to two customers.

The table below summarizes the number of poles that have been replaced over the past 5 years:

Table 37 WNP Poles Replaced By Year

Year	Replaced	Percentage
2010	5	0.3%
2011	40	2.2%
2012	55	3.0%
2013	53	2.9%
2014	22	1.2%
5 Year Average:		1.9%

Pole Inspection

Line patrols, conducted in accordance with the WNP's Engineering and Operations Policy #18, include a visual inspection of poles for the following:

- Bent, cracked, rotted or broken poles
- Excessive surface wear or scaling
- Loose, cracked or broken cross arms and brackets
- Woodpecker or insect damage, bird nests
- Loose or unattached guy wires or stubs
- Guy strain insulators pulled apart or broken
- Guy guards out of position or missing
- Grading changes, or washouts
- Indications of burning

Pole Maintenance

The stress placed on a pole is important when considering its lifespan; generally the greater the stress the shorter the lifespan. The stress increases with equipment, such as transformers or utilization, such as dead ended or line angle installations. It is therefore important that they be more monitored. Poles demonstrating damage which has been verified through hammer testing (if applicable) are replaced prior to failure.

Pole Capital

WNP replaces poles as planned due to age, condition or as required functionality changes. Additional poles are replaced as required due to storm damage and foreign interference such as vehicle collisions. Based on the

available data and industry norms, WNP anticipates the need to replace approximately 2.0% of the pole population or approximately 37 poles annually. A replacement cycle of 40 to 50 years will be targeted.

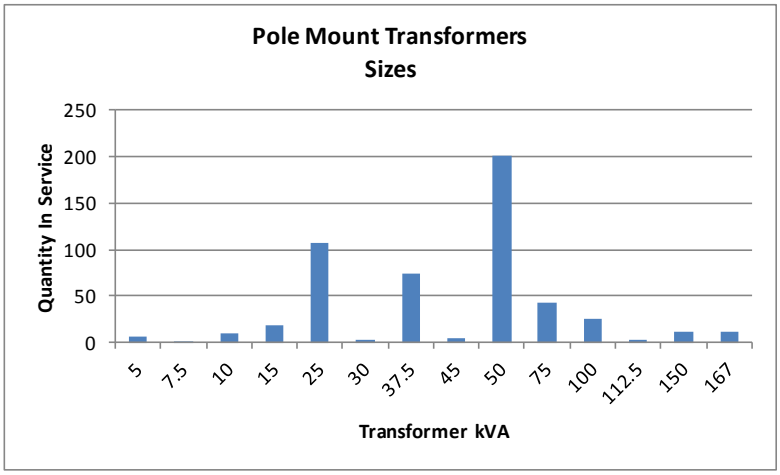
5.3.2.3 Transformers

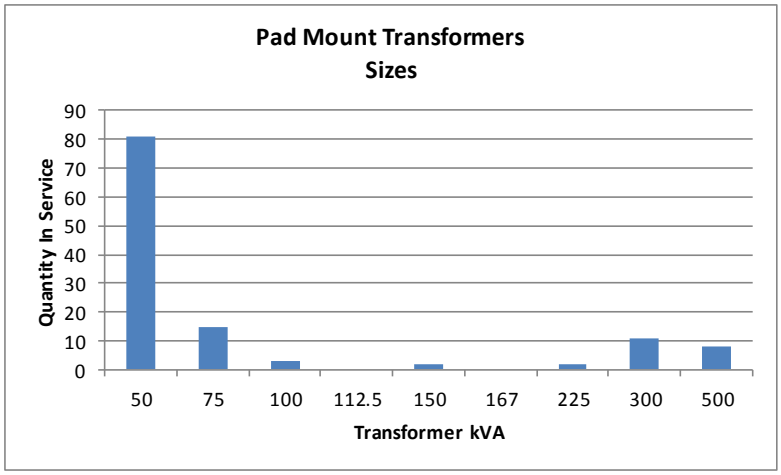
The distribution system consists of 122 pad mount and 518 pole mount transformers of applicable primary and secondary voltages and sizes. The majority of the transformers are 50kVA servicing a largely residential customer base.

WNP records all relevant information on its transformers at time of installation and stores the information in its GIS system. The data recorded includes but not limited to mount type, size, age, voltage, condition, and location. Historically not all data was recorded however all data is currently being captured in new construction or replacements.

Table 38 WNP Transformer Information

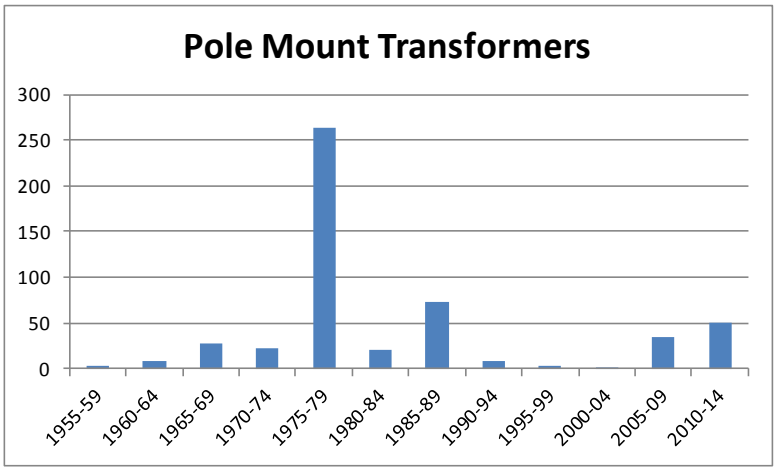
Transformer Sizes		
kVA	**Pole**	**Pad**
5	6	-
7.5	1	-
10	10	-
15	19	-
25	107	-
30	3	-
37.5	74	-
45	4	-
50	201	81
75	42	15
100	25	3
112.5	2	0
150	12	2
167	12	0
225	0	2
300	0	11
500	0	8
Total	**518**	**122**

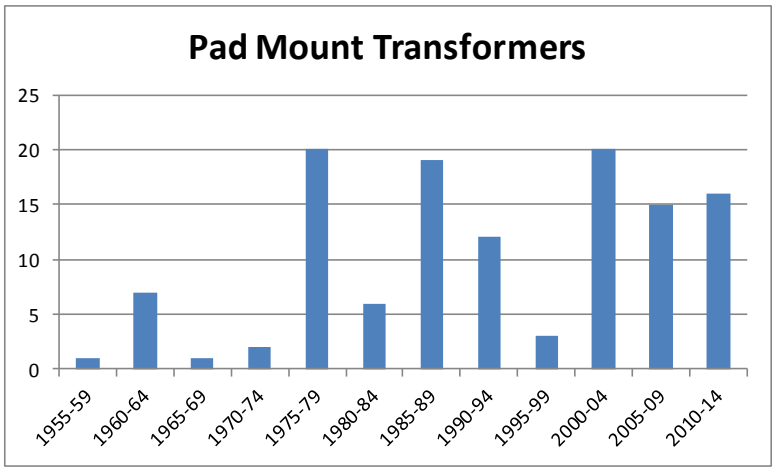




According to industry standards transformers have a useful life of approximately 45 years, which requires that transformers be replaced at an annual rate of 2.22%. In WNP's system a replacement rate of 2.22% results in approximately 14 transformers per year being replaced.

Table 39 WNP Transformer Count by Vintage





Year	2011	2012	2013	2014
Transformers	14	20	19	11
Approx %	2.2%	3.1%	3.0%	1.7%

Transformer Inspection

WNP visually inspects transformers during system patrols. In addition to visual inspection WNP covers all of its transformers in its annual infra-red inspections as described in Section 5.3.3.3. These inspections look for hot spots on transformers and their primary/secondary connections.

The inspection of transformers includes:

Polemount Transformers:

- Paint condition and corrosion
- Phase indicators and unit numbers match operating map
- Leaking oil
- Flashed or cracked insulators
- Contamination/discolouration of bushings
- Ground lead attachments
- Damaged disconnect switches or lightning arresters
- Ground wire on arresters unattached

Padmount Transformers:

- Paint condition and corrosion
- Placement on pad or vault
- Check for lock and penta bolt in place or damage
- Grading changes
- Access changes (Shrubs, trees etc.)
- Phase indicators and unit numbers match operating map (where used)
- Leaking oil
- Lid Damage, missing bolts, cabinet damage
- Cable connections
- Ground connections
- Nomenclature
- Animal nests/damage
- General Condition

Transformer Maintenance

WNP performs maintenance on any transformers which are identified by either visual or infra-red inspection as needing work. This work may include replacement of connections if found to be hot, painting or replacement of unit if leaking.

Transformer Capital

A number of units are replaced annually, as part of projects driven by ongoing system improvements, wherever possible these replacements occur in parallel with other work being done on the same portion of the circuit.

5.3.2.4 Switches and Cutouts

WNP uses switches and cut-outs to provide switching and control to Arthur, Holstein, and Mount Forest at the applicable voltages.

Loadbreak

Developments, typical subdivisions, with underground systems are controlled by PME or CamTran padmount load break switches. WNP has both metal enclosed and fiberglass units on its 4.16kV system.

Gang Operated Switches

WNP controls power to its six municipal substances with gang operated switches, that is, each station has a single 44kV gang operated load break switch control power to the main distribution transformer.

Each feeder in Arthur and Mount Forest are controlled by either a fused or non-fused metal enclosed gang operated load break switch. WNP's MS1, MS3, MS4, MS5 and MS6 feeders

Station	44kV Primary	4.16kV Feeder
MS1	Gang Operated Air Load Break Switch	Gang Operated Metal Enclosed Fused Load Break Switch
MS2[1]	Gang Operated Metal Enclosed Load Break Switch	Gang Operated Metal Enclosed Non-Fused Load Break Switch
MS3	Gang Operated Air Load Break Switch	Gang Operated Metal Enclosed Fused Load Break Switch
MS4	Gang Operated Air Load Break Switch	Gang Operated Metal Enclosed Fused Load Break Switch
MS5	Gang Operated Air Load Break Switch	Gang Operated Metal Enclosed Fused Load Break Switch
MS6	Gang Operated Air Load Break Switch	Gang Operated Metal Enclosed Fused Load Break Switch

1 MS2 was placed into severice December 18, 2014 equipped with smart grid technology including feeder reclosers replacing fuses.

Cutouts and Non-Loadbreak Switches

WNP uses fused cutouts on all its transformers and branch circuits for the control, sectionalization and downstream protection coordination of its 8.4kV and 4.16kV systems. Cutouts are used in single, two or three phase installations with two phase installations being the least common. Given the mixture of overhead and underground infrastructure in the WNP system cutouts are commonly found providing isolation between the two.

Solid blade switches installed in cutouts and inline switching units are used for switching between circuits and isolation.

Cutouts	Solid Blade
151	175

Switch and Cutout Inspection

WNP has been conducting switch inspection on all Gang operated switches every three years. Each year these switches are inspected for damage and wear.

Additionally Visual inspections are carried out on all switches as part of the Line Patrols and Thermographic Inspection Program.

- Bent, Broken bushings and cutouts
- Damaged lightning arresters
- Ground wire on arresters unattached

Inspection of underground switching equipment is also carried out on a three year cycle, in accordance with the Distribution System Code and includes the following:

- Paint condition and corrosion
- Placement on pad or vault
- Check for lock and penta bolt in place or damage
- Grading changes
- Access changes (Shrubs, trees etc.)
- Phase indicators and unit numbers match operating map (where used)
- Leaking oil
- Lid damage, missing bolts, cabinet damage
- Cable connections
- Ground connections
- Nomenclature
- Animal nests/damage
- General Condition

Records of inspection, recorded and stored in a digital format shall be reviewed and priority of follow up scheduling of maintenance and/or corrective action activities will be completed accordingly.

Switch and Cutout Maintenance

Gang operated switches in WNP's system or which control the entrance to a station are maintained periodically. This involves cleaning of the contacts and lubrication on moving parts where required. Additional work is performed wherever the above inspections indicate deficiencies.

Non-gang operated switches are visually inspected according to the inspection program and are maintained as required.

WNP replaces cutouts upon failure and preemptively replaces porcelain cutouts with polymer cutouts when already working on the pole upon which the cutout is mounted.

Switch and Cutout Capital

Additional 44kV switches planned for in the construction of the second 44kV feeder in Mount Forest. The switches will facilitate switching operations between the two feeds. The project is subject to approval.

Cutouts and solid blade disconnects will be added in new developments and system upgrade projects as identified in the WNP capital plans.

5.3.2.5 Conductor

Primary

The distribution system managed and maintained by WNP consists of overhead and underground conductor at 44kV, 8.32kV and 4.16kV with single phase taps of 4.8kV and 2.4kV.

Overhead

WNP has standardized on the following conductor sizes:

1. 556 AAC 44kV Subtransmission
2. 336 AAC 8.32kV and 4.8kV

Underground

Underground construction is now used for new developments. WNP has installed all of its underground primary cable in conduit for protection and ease of replacement. WNP installs conduit using either open trenching or directional boring. Open trenching is used in new developments or where the disturbance of the surface is not a concern. Directional boring is used by contractors in built up areas for road crossings. WNP has standardized on the following Cable sizes for underground construction.

1. 250MCM Cu Station Feeder
2. 1/0 Radial feed or single phase streets

Secondary

Secondary voltages range from 240/120V single phase to 600/347V three phase. Secondary bus is not always replaced when one customer upgrades their service, should a number of customers supplied by the same transformer upgrade, the secondary would be assessed and replaced based on current standards.

Underground secondary conductor and services are installed in either 75mm or 100mm DB-2 conduit in accordance to the Utility Standard Forum (USF) document 12-001. WNP performs trench inspections prior to backfill to ensure the standards are adhered to by the developers.

WNP has standardized on the following conductor sizes for single phase applications:

1. 3/0 secondary Bus
2. #2 Residential Overhead
3. 1/0 Residential with road crossing
4. 3/0 Underground residential

Conductor Inspection

Line patrols are conducted annually in accordance with the WNP Procedures. The line patrols include a visual inspection of the following:

Conductors and Cables

- Low conductor clearance
- Broken/frayed conductors or tie wires
- Exposed broken ground conductors
- Broken strands, bird caging, and excessive or inadequate sag
- Insulation fraying on secondary

Hardware and Attachments

- Loose or missing hardware
- Insulators unattached from pins
- Conductor unattached from insulators
- Insulators flashed over or obviously contaminated (difficult to see)
- Tie wires unraveled
- Ground wire broken or removed
- Ground wire guards removed or broken

General Conditions and Vegetation

- Leaning or broken “danger” trees
- Growth into line of “climbing” plants
- Accessibility compromised
- Vines or bush growth interference (line clearance)
- Bird or animal nests

Vegetation and Right of Way

- Accessibility compromised
- Grade changes that could expose cable
- Excessive vegetation on right of way

Line Patrol

WNP patrols its entire distribution system every three years, in accordance with the WNP Engineering and Operations Policy #18 as well as the Distribution System Code. Distribution system line patrols are tracked using the "Record of Inspection". WNP line staff performs line patrols. WNP staff also inspects the condition of lines whenever they are working in an area.

In addition to (over and above the DSC requirements) the DSC requirements, WNP encourages its staff to continually inspect their local work area. Due to the size of the service area and the repetitive attention to localized areas in the day to day activities, attention is given to small issues before they can become problems. This proactive approach has resulted in a wealth of detail regarding system conditions that can be used in system planning to allow staff to proactively and predictively resolve system issues before they become problems.

In addition to visual inspections WNP conducts annual infrared scans. These scans are performed by a contractor. These scans allow WNP to identify problem areas and turn unplanned outages into shorter planned outages, or eliminate the outage completely. This is reflected in both WNP system reliability statistics and in the customer survey responses and feedback.

Overhead System - Line-Trimming

As part of the regular maintenance plan for the pole line assets, WNP schedules regular tree-trimming activities, as described below:

Vegetation and Right of Way control is required under the Minimum Inspection Requirements of the Distribution System Code and good utility practice. WNP has a relatively heavy mature tree cover where overhead hydro lines are in the proximity to trees. Tree contact with energized lines can cause the following:

- Interruption of power due to short circuit to ground or between phases
- Damage to conductors, hardware and poles
- Danger to persons and property within the vicinity due to falling conductors, hardware, poles and trees
- Danger of electric shock potential from electricity energizing vegetation

Care must be taken to balance the requirements of customers and stakeholders and safe and reliable operation of the distribution system.

Tree Trimming inspections have been incorporated into the other inspection programs included in this plan and additional verification will be performed by work crews in the area in which regular work is performed.

To mitigate direct contact between trees and distribution assets, WNP conducts tree trimming in accordance with the WNP Procedures. Depending on the size, shape and growth pattern of each tree species, the tree trimmers remove sufficient material from the tree to limit the possibility of contact during high wind situations. The WNP service area is trimmed on a two year cycle as per formal requirements and lead hand judgment. This work is primarily carried out by WNP employees, but contractors may be hired, based on cost and availability of resources.

All debris is removed and the site is returned to as-found condition. Any pole line damage or anomaly noticed by the tree trimming crew is reported to WNP"s Chief Operating Officer for remedial action.

5.3.2.6 Metering and Monitoring

WNP owns and maintains approximately 3,731 meters installed on its customers' premises for the purpose of measuring energy consumption of electricity for billing purposes. Meters vary in type by customer and include meters capable of measuring kWh consumption, kW demand and kVA, as well as hourly interval data. WNP invoices its customers monthly, on a calendar billing cycle.

Wholesale Metering

WNP receives its power from HONI by two 44kV subtransmission feeders and an 8.3kV distribution feeder. The three feeders are metered at the borders of Arthur (44kV), Mount Forest (44kV) and Holstein (8.3kV).

Retail Metering

WNP uses Elster meters across its service territory and has contractual agreements with:

- Rodan Energy Solutions as the LDC's Meter Services Provider (MSP);
- Savage Data Systems for Operational Data Store (ODS) which involves the validation, estimation and editing (VEE) of metered data;
- UtiliSmart as the LDC's appointed Advanced Metering Infrastructure (AMI) Operator and;

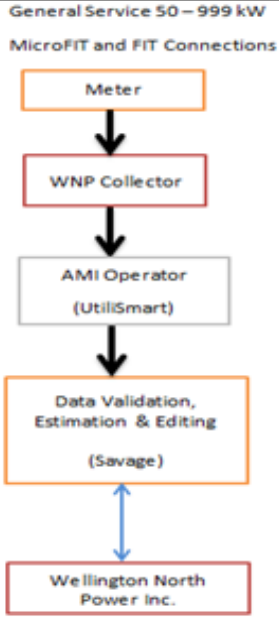
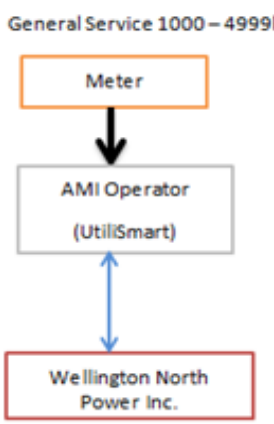
- UtiliSmart for settlement services and web presentment of Wholesale, Retail, Embedded Generation interval data.

All Smart metered data (Residential and General Service <50kW customers) is provided to the Meter Data Management and Repository (MDM/R) who process, store and manage the data. The MDM/R metered data is shared with the LDC who, with support from Savage Data Systems, validates the interval usage and ensures completeness of data.

General Service 50-999kW interval data and MicroFIT/FIT metered data follows a similar data process as Smart metered data with the exception of not providing this data to MDM/R. Each night, all General Services 1000-4999 kW customer meters are dialed and whereby interval data is downloaded into MV90 and shared with UtiliSmart.

The table summarizes the metered data flow and parties involved in validation:

Table 40 Meter Data Flow for WNP's Customer Classes.

Smart Meters (Residential and General Service <50kW)	General Service <50kW meters and FIT/MicroFIT meters	General Service 1000 – 4999 kW meters
		

Smart Meters

WNP completed the installation of smart meters throughout the service territory in summer of 2011. At the end of spring 2011 all installed smart meters were registered with the Meter Data Management and Repository ("MDM/R"). Time of use ("TOU") billing began in January 2012.

Table 41 Smart Meter Implementation.

	2008	2009	2010	2011	Total
Residential	73	141	2,888	19	3,121
General Service < 50 kW	17	102	358	1	478
Total Smart Meters Installed	**90**	**243**	**3,246**	**20**	**3,599**
% Complete	3%	9%	99%	100%	

Over the past two years (2013 and 2014), WNP has observed an increase in the failure rate of Smart Meters. During the period, the LDC has replaced nearly 200 Smart Meters per year due to technical faults and failures. The removed meters are scrapped because the one-year warranty period has passed and it is most cost-effective to purchase a new meter (at approximately $98 per meter) compared to sending the meter back to the manufacturer for investigation (approximate cost $200). The table below shows the number of meters that have been withdrawn and replaced over the past two years as well as the count as at June 30th 2015:

Table 42 – Number of Faulty Smart Meters Scrapped – January 2013 to June 2015

Year Retired	2013					2013 Total	2014				2014 Total	2015			2015 Total	Grand Total
Year of Meter	2008	2009	2010	2011	2012		2008	2009	2010	2012		2008	2009	2010		
Meter Type																
Smart Meter - A3RL 16S	0	0	1	0	0	5	0	0	0	0	0	0	0	0	0	5
Smart Meter - A3RL 16S15	0	0	5	0	0	6	0	0	4	0	4	0	0	2	2	12
Smart Meter - A3RL 35	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Smart Meter - A3RL 35-15	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	3
Smart Meter - A3RL 9S	0	0	0	0	0	13	0	0	0	0	3	0	0	0	0	16
Smart Meter - A3RL 9S-15	0	0	3	0	0	4	0	0	2	0	3	0	0	0	0	7
Smart Meter - A3TL 12S	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	2
Smart Meter - R2S	4	1	88	0	3	98	10	7	150	3	172	5	3	46	56	326
Smart Meter - R2S 12S	0	0	30	0	0	30	0	0	1	0	1	0	0	1	1	32
Smart Meter - R2S 1S	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	3
Smart Meter - R2S 3S	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	2
Smart Meter - R2S 600	0	0	2	0	0	2	0	0	2	0	2	0	0	0	0	4
Smart Meter - R2SD2S	0	0	15	0	0	15	0	0	14	0	14	0	0	0	0	29
Smart Meter - R2SGEN 2S	0	0	1	2	0	3	0	0	0	0	0	0	0	0	0	3
Total	**4**	**1**	**151**	**5**	**3**	**187**	**10**	**7**	**173**	**3**	**199**	**5**	**3**	**49**	**59**	**445**

MIST Meter

WNP is compliant to the MIST (Metering Inside the Settlement Timeframe) requirement – reference EB2013-0311, which is the requirement for the LDC to install interval meters for customers with a monthly average peak demand of 50kW during a calendar year but less than / or equal to 500kW

Meter Inspection and Maintenance

All maintenance activities related to meters follow the requirements of Measurement Canada guidelines.

Meter Capital

WNP has included in its Capital Expenses a plan to replace all meters prior to their expiry date. The replacement will take place over a three year period beginning in 2017. A more reasonable and level spend is obtained by spreading the cost of replacement over a three year period.

In addition, capital is set aside to upgrade the wholesale meters to cellular in response to a new requirement. The wholesale meter in Holstein was upgraded in 2015 by the LDC's metering service provider.

5.3.2.7 General Plant

Transportation Equipment

The vehicle replacement program is based on annual condition surveys and life cycle planning. New vehicles and equipment support productivity through innovation, improve crew response time, reduce fuel costs, lower maintenance costs, and increase environmental responsibility through fuel reduction and alternate fuel usage. Consideration is given to the amount of mileage on the vehicle, body shape and if there are costly repairs prior to replacement.

Allowing for the historical usage and track record of the previous fleet types of vehicles, the following replacement schedule is used as a guide:

- Pickup Trucks – 5 Years
- Bucket Trucks – 12 Years
- RBD Trucks – 15 Years

Vehicles less than 3 tons

Investigate and price suitable vehicles from the selection of dealerships in the immediate area. Consider the purchase of an older model depending on the mileage, condition or prior use of the vehicle and price quoted.

Vehicles over 3 tons:

Ensure vehicles meet functional requirements to perform meet the near term and expected long term requirements. In order to achieve a lower cost, explore the following:

- Initially investigate the known manufacturers that meet the specifications and requirements that may have an existing used or demonstration vehicle in their inventory. If no suitable vehicle is available;
- Prepare a specification list and proceed with a request for quotes.

ID	Description	Year	Expected Life	Replacement
TR20	Ford Pickup	2008	5 Years	2015
TR35	Double Bucket (Intern'l)	2013	12 Years	2025
TR51	Dodge Pickup	2014	5 Years	2020
TR55	Single Bucket (FreightL)	2008	12 Years	2020
TR60	RBD (Intern'l)	2004	15 Years	2019
TR62	Dodge Pickup Crew	2009	5 Years	2017

IS (Computer Hardware/Software/GIS)

WNP has recently completed a review the current and future business requirements and priorities in consideration of LDC's Capital Budget Information Systems (IS) Expenditures. The requirements include all hardware and software currently within the organization and the anticipated needs over the next five year (2016-2020) period. The table below summarizes the projected IS Capital Expenditure (CapEx) over the next years:

Table 43 IT Projected Expenditure (2016 – 2020)

IT Component	2016	2017	2018	2019	2020	Total
Hardware	$ 31,180	$63,750	$ 9,150	$61,150	$58,000	$ 223,230
Network	$ 6,250	$ 3,000	$ 8,400	$ 6,500	$ -	$ 24,150
Software	$ 1,300	$ -	$ -	$ -	$ -	$ 1,300
Smart Meter Communication	$ 1,920	$ 1,920	$ 1,920	$19,200	$ -	$ 24,960
Total	**$ 40,650**	**$68,670**	**$19,470**	**$86,850**	**$58,000**	**$ 273,640**

The planned IS expenditure has been included in the LDC's five-year Capital Investment plan which is detailed in Section 5.4.4 of this document.

Summarized below is an overview of the current IS infrastructure in place at WNP as well as the LDC's five year plan for the company's information technology and systems

Current Information System Technology:

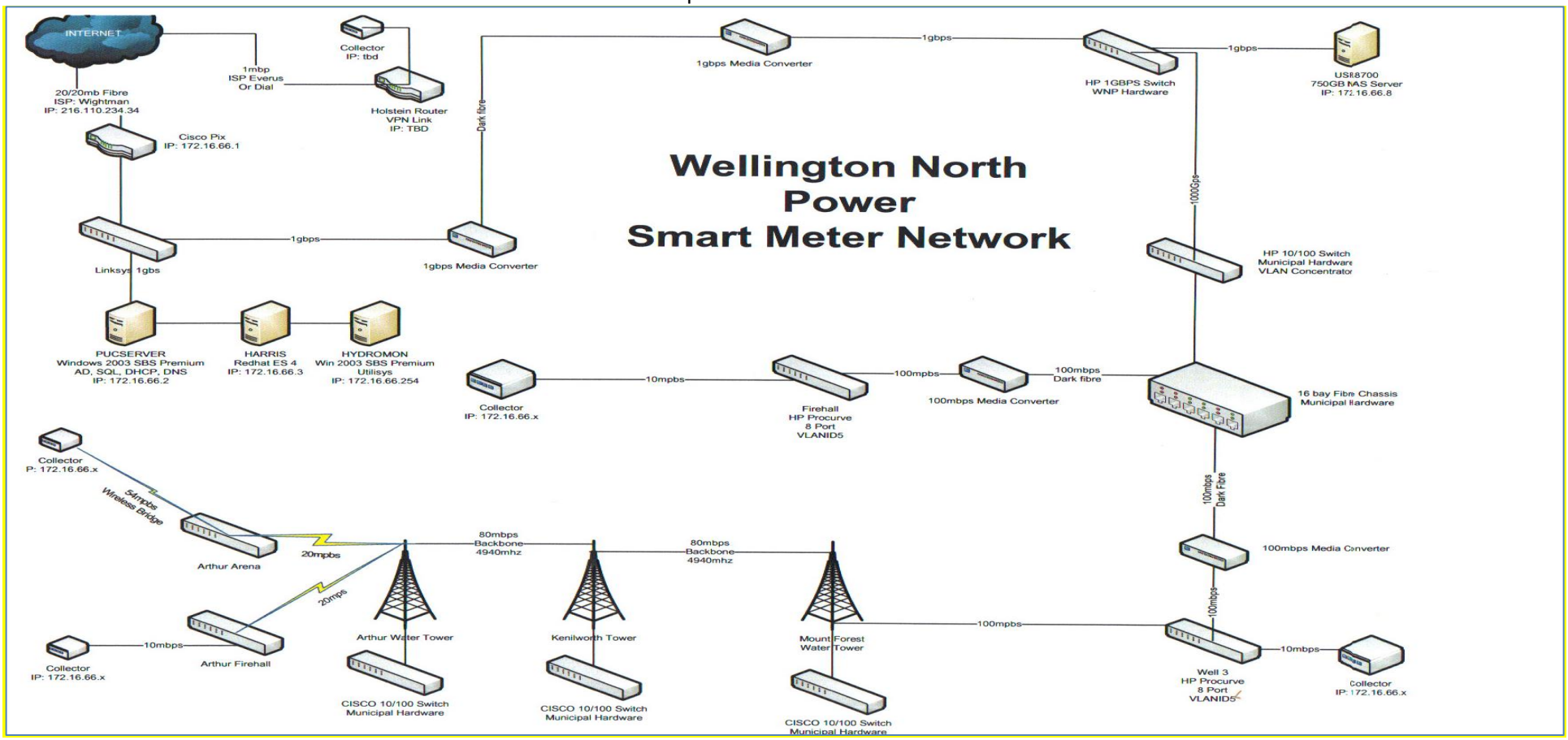
WNP retains the service of a local company, to provide the required expertize for its' IS hardware and system networks. In the LDC's opinion, this relationship is effective and cost efficient solution while not having to have expense of maintaining a full-time IS resource. Our third party vendor has been the LDC's IS service provider for eleven years working with management to meet the needs of the company.

The LDC's relationship, with both hardware and software service providers, has assisted WNP in meeting all required system changes and mandates quickly. The company has met all regulatory or government mandates, within the required timelines (for instance, purchasing, installing and implementing Smart Meters across the LDC's service area; and, testing and implementation of a web-hosted solution for consumers to view their energy usage and bill payment history.)

Network Configuration:

The schematic below summarizes highlights the network path implemented and maintained by WNP

Table 44 Fibre Optic Private Area Network and Ethernet Schematic:



Current Hardware:

Current hardware utilized by WNP includes:

- Communications Tower – shared with Township of Wellington North.
- Physical Servers – three components planned for redundancy in 2015 following implementation of virtual servers
- Virtual Servers being implemented in Q3 of 2015 comprising of:
    - Harris Server (CIS System)
    - Backup Energy Axis Server (on-site backup for risk management and disaster recovery)
    - Loris Technology Server (Document Archiving)
    - Hydro Monitoring Server (Distribution System Supervisory Equipment)
    - Internal Company Server
- Energy Axis Server (Elster AMI System) secure off-site location

Equipment:

- Workstations x 13
- Laptops x6
- Bill stuffing and bill insert machine x 1
- Postage machine x 1
- Printers x 4
- Receipt printer x 1
- Photocopier/scanner/printer x 1

Current Software and Licensing:

Current software utilized by WNP includes:

- Microsoft Office
- Adobe Creative Suite
- Customer Information System – Harris NorthStar
- Customer Connect
- eCare
- mCare
- Purchase Orders

- Work Orders
- Cognos
- System and workstation tracking program to manage software licensing renewals and upgrade requirement dates

Telephone and Call Tracking.

In Quarter 4 of 2014, WNP migrated to V-Ware with RSI software to enhance call recording and call tracking to maintain regulatory compliance when reporting Service Quality indices

Financial System

In preparation for adoption of changing accounting policy, International Financial Reporting Standards (IFRS), WNP migrated to Great Plains, a Microsoft solution, in 2010. This software solution includes:

- General Ledger
- Asset Management
- Inventory
- WennSoft Job Cost
- Accounts Payable/Accounts Receivable
- Management Reporter

Miscellaneous Software System

The LDC also utilizes the following IS equipment:

- Quadra – construction project estimating -
- ESRI - mapping of assets
- Hydro Monitoring System – Power Measurement
- File Nexus (Loris Technology) - document scanning and archiving
- AutoCAD – layout and design work
- Elster Energy Axis AMI System (Smart Meter AMI)
- Symantec Virus Software

Business Continuity:

The goal of the business continuity and disaster recovery plan is to ensure immediate, seamless access to company data and Customer Information System. Data is mirrored daily and secured on a "Hot Site" which accessible with a secure internet connection. WNP also does secondary off-site nightly backup and storage of system data to mirror daily input.

To ensure continuity and mitigate risk, a third tape back-up is taken daily and taken off-site by management.

WNP adheres to Technical user acceptance and security policies.

Information Systems – Strategy

Information technology expenditures ensure business goals are aligned to technological solutions. These expenditures include hardware, network infrastructure, switches, servers, equipment, workstations, tablets, laptops, printers, projectors, telephone and telecommunications, software, including licensing and web based solutions. Ensuring business needs are met, including resiliency and redundant integration and secure solutions have been put in place, to safeguard business continuity and sustainability.

Information Systems Five Year Plan - 2016-2020:

Technical solutions address redundancy, business continuity and security. The company's Information Technology capital expenditures will ensure improved business continuity and redundancy to meet customer needs. There are four areas for IS Capital Budget expenditures:

a) Hardware
b) Software
c) Network
d) Communication

The requirements within each of these areas allow for the continued resiliency in the company's systems:

- Effective and efficient business processes
- Support of risk and compliance management
- Network reliability and security
- Continued business continuity and ongoing update and testing of disaster recovery abilities

WNP ensures technical solutions contribute to meeting the Ontario Energy Board's established utility performance outcomes:

- Customer Focus: Technical solutions are provided in a manner that responds to customer needs and preference – Access to consumption and usage information, account information, billing information and company contact information.
- Operational Effectiveness: Continuous improvement in the delivery of safe reliable electricity to customers
- Public Policy Responsiveness: Current and future technical requirements are reviewed and solutions developed to meet all obligations mandated by the government.
- Financial Performance: Financial viability is maintained; to ensure ongoing operational effectiveness

Planning of IS capital expenditures is based on establishing lifecycle of both hardware and software, annual IS capital project planning enables the company to leveraging new and existing information system technology.

WNP's annual maintenance plan, ensure the latest software updates are installed and tested, before implementing in our production environment. The company maintains a test system for both the Customer Information System (CIS) and the Meter Data Management Repository (MDM/R).

Information Systems lifecycle encompasses investigation, requirement review and documentation, development, testing and procedural workflow, followed by end user acceptance testing and training of other staff members.

WNP's has included IS investment within its 5-year Capital Investment Plan (2016 to 2020), with the objective of addressing the following business and customer requirements:

- ✓ Software maintenance and upgrade to meet regulatory obligations, customer value and operational efficiencies, upgrades are address in each business unit. Financial System, Customer Information System, Customer Connect interface, Geospatial Information System, AutoCAD;
- ✓ Website update to extend life and enhance customer accessibility and focus on customer requirements to obtain information and data;

- ✓ Review and enhance WNP's Business Continuity, Disaster Recovery risk mitigation plan;
- ✓ Server renewal for end of useful life (Elster Energy Axis Server and Backup Energy Axis Server)
- ✓ Workstation renewal and replacement – rotation three pc computers and two laptops per year
- ✓ Printer renewal and replacement to meet end of life cycle
- ✓ Outage Management, SCADA, Distribution System communication
- ✓ Field level tools such as tablets or in-truck laptops for improved customer response, using internal work orders and mCare for Operations staff
- ✓ CDM program web portal software to integrate customer information and consumption usage as well as energy savings
- ✓ Security Audits to responsibly address technical risk associated with loss of data, cyber security, policy review and adherence

5.3.2.8 Other Equipment

This category fulfills the requirements of the office structure, office equipment, stores, major tools, measurement and testing equipment plus any miscellaneous equipment. In order to reduce failure risk or safety issues, the Chief Operating Officer and the Chief Administrative Officer prepare a review of aging, obsolete and necessity to update equipment to current standards in these areas of the business. The review is completed on a yearly basis during the budgeting process.

Buildings

WNP has two building locations:

a) Arthur - an operations shop for storage of equipment and a bucket truck
b) Mount Forest - an office (open 5 days a week for customers to visit, discuss concerns / queries , pay their bills) accommodating the workplace for staff, two truck bays to house fleet vehicles and two barns for storage of distribution equipment.

In its 5-year Capital Investment Plan, WNP has included building renovation costs as summarized below:

Table 45 Projected Building Renovation Expenditure (2016 – 2020)

	2016	2017	2018	2019	2020	Total
Building Renovations	$30,000	$30,000	$5,000	$50,000	$50,000	**$165,000**

It should be noted that in the LDC's last approved Cost of Service application (approval for 2012 Distribution Rates – file number EB-2011-0249), there was acceptance for the Applicant to secure financing through long-term debt to gut or build-new the building at the Mount Forest location. (During the Interrogatory phase of the application, the Intervenor for Energy Probe in IR#31 and Supplementary IR #12 indicated that the LDC's long-term debt is currently at $2m with capacity to be $4.5m. And as per the Applicant's Decision and Order (dated September 20th 2012, file number #EB-2011-0249) page 16 Section 2.3 –"Is the capital expenditure forecast for the test year appropriate?" it is noted that:

> "The Applicant removed $200,000 of capital investment planned for renovation and added $40,000 to pay for a Professional and independent assessment of WNP's main building at Queen St, Mount Forest. Independent assessment to assess whether the existing structure and foundations can be adapted to meet obligations and safety standards OR whether new-build is the more viable option".)

However, a 3rd party study completed in Q2 of 2013 and commissioned by WNP performed an assessment of the LDC's substations and identified deficiencies that required attention, especially given two substations are over 40 years old and hence the requirement of a strategy for replacement.

As a result of this substation assessment, WNP prioritized the building a new substation instead of a new office at Mount Forest. The LDC filed an IRM application for 2014 Distribution Rates (file number EB-2013-0178 including an Incremental Capital Module (ICM) to replace and build a new substation (MS2 Substation). Application EB-2013-017 was approved and the Decision and Order of March 13th 2014 included approval of the ICM for WNP to proceed with replacing the aged and deteriorated MS2 Substation.

With the above, the deficiencies identified in the building study commission by the LDC and filed with its 2012 Cost of Service rate application (EB-2011-0249) still persist (with the exception of the gas furnace which was replaced in 2012) and hence the inclusion of capital investment for building renovations / improvements over the next five years to address the following:

- Compliance with Ontario Accessibility Act for a washroom and building access for a person with disabilities (or less abled);

- Ability to navigate a stretcher throughout the building;
- Air flow and cooling in the building to provide a steady working temperature for employees and customers;
- Repairs to stop or prevent water leakages including replacing small sections of the flat roof;
- Security measures to protect both employees and customers (e.g. installation of security cameras, and replacing damaged perimeter fencing);
- Barrier proofing between the offices and the truck bay to prevent the spread of vehicle exhaust emissions.

As discussed in Section 5.4.5 of this document, for the planning period 2016 to 2020, the LDC has prioritized other major capital projects instead of a new building.

5.3.3 Asset Lifecycle

5.3.3.1 Adoption of Kinectrics Typical Useful Life.

As stated in its Report on Transition to International Financial Reporting Standards (IFRS) of July 2009 ("Board Report") (EB-2008-0408), the Board commissioned a depreciation study to assist electricity distributors in Ontario in their transition to IFRS. The study was undertaken by Kinectrics Inc. and provides a generic depreciation study for distributors and concerning how it would be used.

WNP reviewed the useful life of its assets with the aid of the Asset Depreciation Study by Kinectrics (Kinectrics Report) and the LDC adopted the mid-range typical useful life for its assets effective from January 1st 2012, as presented in the LDC's 2012 Cost of Service application (EB-2011-0249, Exhibit 11, Schedule 2). The LDC has did not undertake or commission a study to justify why the mid-range period was selected. The effective date for implementing the mid-range typical useful life for its assets of January 1st 2012 was chosen on the basis of:

a) To meet the obligations of the regulator (either to implement in 2012 or 2013) and;
b) The timing of the rate application seeking approval for May 1st 2012 distribution rates (i.e. to present the Test Year of 2012 Fixed Asset Continuity Schedule showing the application of adopting the mid-range typical useful life for assets.)

The tables below summarizes the mid-range useful life adopted by the LDC as per the Kinectrics Report Table F

Asset Management – Useful Life

Table 46 – Asset Service Life Adopted by WNP January 1st 2012

Table F-2 from Kinetrics Report[1]

#	Asset Details: Category	Component	Type	Useful Life Range	USoA Account Number	USoA Account Description	Previous: Years	Previous: Rate	Current: Years	Current: Rate
1	Office Equipment			5-15	1915	Office Furniture & Equipment	10	10%	8	13%
2	Vehicles		Trucks & Buckets	5-15	1930	Transportation Equipment	8	13%	10	10%
			Trailers	5-20	1930	Transportation Equipment	8	13%	10	10%
			Vans	5-10	1930	Transportation Equipment	5	20%	5	20%
3	Administrative Buildings			50-75	200/201	Building & Fixtures	60	2%	60	2%
4	Leasehold Improvements			Lease dependent			0		0	
5	Station Buildings		Station Buildings	50-75	1808	Building & Fixtures	50	2%	60	2%
			Parking	25-30	1808	Building & Fixtures	25	4%	25	4%
			Fence	25-60	1808	Building & Fixtures	25	4%	25	4%
			Roof	20-30	1808	Building & Fixtures	20	5%	25	4%
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						
			Stores	5-10	1935	Stores Equipment	8	13%	8	13%
			Tools, Shop, Garage Equipment	5-10	1940	Tools, Shops Garage Equipment	8	13%	8	13%
			Measurement & Testing Equipment	5-10	1945	Measurement and Testing Equipment	8	13%	8	13%
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 - Mechanical	25	4%	25	4%
10	Industrial/Commercial Energy Meters			25-35	1860	Industrial/Commercial Energy Meters	25	4%	25	4%
11	Wholesale Energy Meters			15-30	1860	Wholesale Energy Meters	15	7%	15	7%
12	Current & Potential Transformer (CT & PT)			35-50	1860	Current & Potential Transformer (CT & P	40	3%	40	3%
13	Smart Meters			5-15	1860	Smart Meters	15	7%	15	7%
14	Repeaters - Smart Metering			10-15	1860	Repeaters - Smart Metering	15	7%	15	7%
15	Data Collectors - Smart Metering			15-20	1860	Data Collectors - Smart Metering	15	7%	15	7%

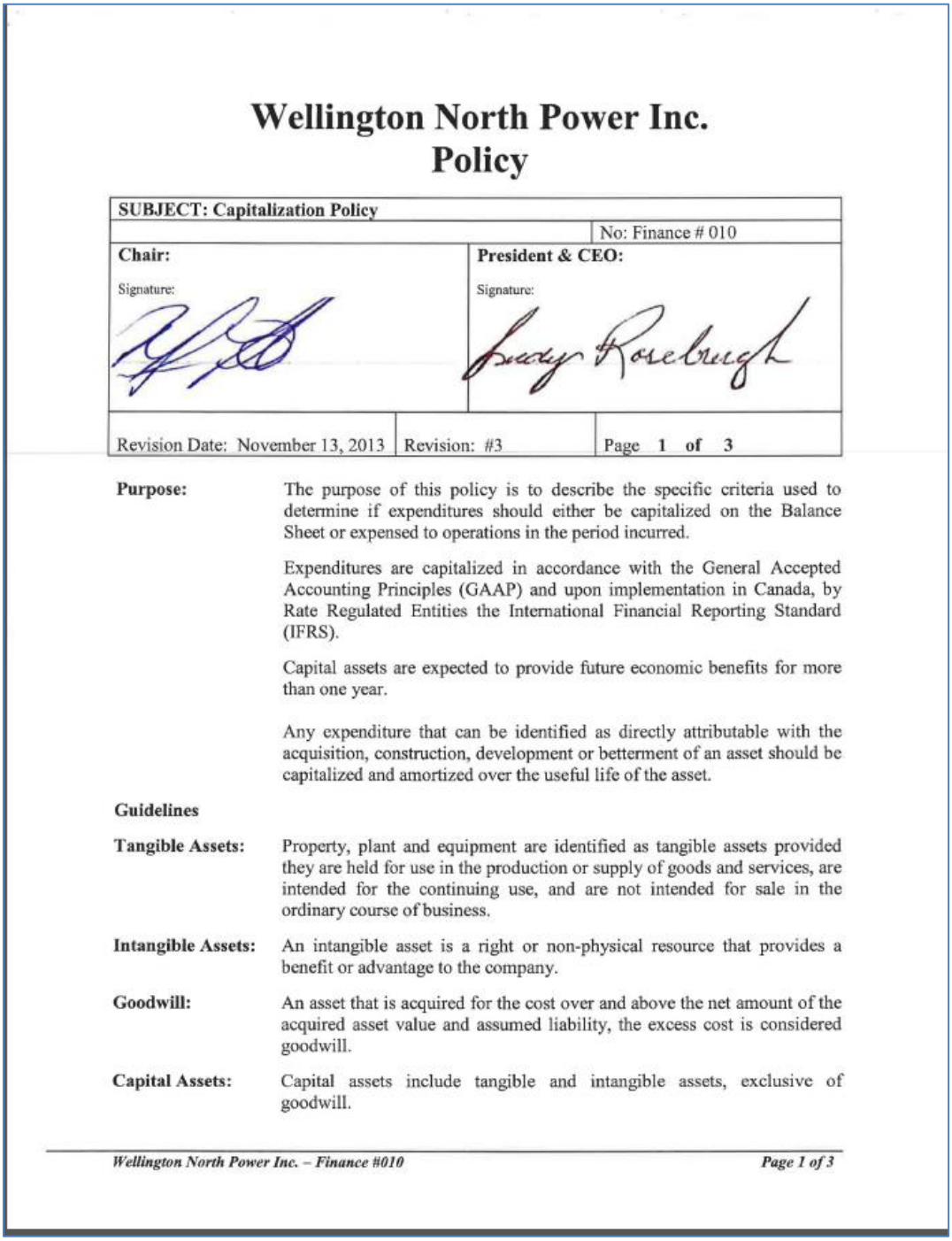
Table 46 / continued – Asset Service Life Adopted by WNP January 1st 2012

Service Life Comparison Table F-1 from Kinetrics Report

Parent*	#	Asset Details: Category | Component | Type			Useful Life: MIN UL	TUL	MAX UL	USoA Account Number	USoA Account Description	Previous: Years	Previous: Rate	Current: Years	Current: Rate
OH	1	Fully Dressed Wood Poles	Overall		35	45	75	1830	Poles, Towers and Fixtures	25	4%	45	2%
			Cross Arm	Wood	20	40	55	1830	Poles, Towers and Fixtures	25	4%	45	2%
				Steel	30	70	95	1830	Poles, Towers and Fixtures	25	4%	45	2%
	2	Fully Dressed Concrete Poles	Overall		50	60	80	1830	Poles, Towers and Fixtures	25	4%	60	2%
			Cross Arm	Wood	20	40	55	1830	Poles, Towers and Fixtures	25	4%	60	2%
				Steel	30	70	95	1830	Poles, Towers and Fixtures	25	4%	60	2%
	3	Fully Dressed Steel Poles	Overall		60	60	80	1830	Poles, Towers and Fixtures	25	4%	60	2%
			Cross Arm	Wood	20	40	55	1830	Poles, Towers and Fixtures	25	4%	60	2%
				Steel	30	70	95	1830	Poles, Towers and Fixtures	25	4%	60	2%
	4	OH Line Switch			30	45	55	1835	Overhead Conductors & Devices	25	4%	45	2%
	5	OH Line Switch Motor			15	25	25	1835	Overhead Conductors & Devices	25	4%	25	4%
	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%	45	2%
	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	1820	Distribution Station Equipment	40	3%	40	3%
	15	Station DC System	Overall		10	20	30	1820	Distribution Station Equipment	20	5%	20	5%
			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 Breaker		25	40	60						
	17	Station Independent Breakers			35	45	65	1820	Distribution Station Equipment	40	3%	45	2%
	18	Station Switch			30	50	60	1820	Distribution Station Equipment	50	2%	50	2%
	19	Electromechanical Relays			25	35	50	1820	Distribution Station Equipment	25	4%	35	3%
	20	Solid State Relays			10	30	45	1820	Distribution Station Equipment	25	4%	30	3%
	21	Digital & Numeric Relays			15	20	20	1820	Distribution Station Equipment			20	5%
	22	Rigid Busbars			30	55	60	1820	Distribution Station Equipment	50	2%	55	2%
	23	Steel Structure			35	50	90	1820	Distribution Station Equipment	50	2%	50	2%
UG	24	Primary Paper Insulated Lead Covered (PILC) Cables			60	65	75	N/A					
	25	Primary Ethylene-Propylene Rubber (EPR) Cables			20	25	25	1845	Underground Conductors & Devices	25	4%	65	2%
	26	Primary Non-Tree Retardant (TR) Cross Linked			20	25	30	1845	Underground Conductors & Devices	25	4%	25	4%
	27	Primary Non-TR XLPE Cables in Duct			20	25	30	1845	Underground Conductors & Devices	25	4%	25	4%
	28	Primary TR XLPE Cables Direct Buried			25	30	35	1845	Underground Conductors & Devices	25	4%	30	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						
	31	Secondary Cables Direct Buried			25	35	40	1855	Services	25	4%	35	3%
	32	Secondary Cables in Duct			35	40	60	1855	Services	25	4%	40	3%
	33	Network Tranformers	Overall		20	35	50						
			Protector		20	35	40						
	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%	35	3%
	36	UG Foundation			35	55	70	1840	Underground Conduit	25	4%	55	2%
	37	UG Vaults	Overall		40	60	80						
			Roof		20	30	45						
	38	UG Vault Switches			20	35	50	1845	Underground Conductors & Devices	25	4%	35	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%	50	2%
	41	Concrete Encased Duct Banks			35	55	80	1840	Underground Conduit	25	4%	55	2%
	42	Cable Chambers			50	60	80	1840	Underground Conduit	25	4%	60	2%
S	43	Remote SCADA			15	20	30						

5.3.3.2 Capitalization Policy

Below is a copy of WNP Inc.'s Capitalization Policy which was signed in August 2011 in readiness for (i) the adoption of mid-range typical useful life of assets as per the Kinectrics Study and Directors and (ii) anticipation for the transition to International Financial Reporting Standards (IFRS):



Wellington North Power Inc.
Policy

SUBJECT: Capitalization Policy		
		No: Finance # 010
Chair: Signature:	**President & CEO:** Signature:	
Revision Date: November 13, 2013	Revision: #3	Page 1 of 3

Purpose:

The purpose of this policy is to describe the specific criteria used to determine if expenditures should either be capitalized on the Balance Sheet or expensed to operations in the period incurred.

Expenditures are capitalized in accordance with the General Accepted Accounting Principles (GAAP) and upon implementation in Canada, by Rate Regulated Entities the International Financial Reporting Standard (IFRS).

Capital assets are expected to provide future economic benefits for more than one year.

Any expenditure that can be identified as directly attributable with the acquisition, construction, development or betterment of an asset should be capitalized and amortized over the useful life of the asset.

Guidelines

Tangible Assets: Property, plant and equipment are identified as tangible assets provided they are held for use in the production or supply of goods and services, are intended for the continuing use, and are not intended for sale in the ordinary course of business.

Intangible Assets: An intangible asset is a right or non-physical resource that provides a benefit or advantage to the company.

Goodwill: An asset that is acquired for the cost over and above the net amount of the acquired asset value and assumed liability, the excess cost is considered goodwill.

Capital Assets: Capital assets include tangible and intangible assets, exclusive of goodwill.

Wellington North Power Inc. – Finance #010 *Page 1 of 3*

Betterment:	Betterment is a cost that is incurred to enhance the service potential of a capital asset. Expenditures for betterments are capitalized. This enhancement in service potential can include an increase in the physical output or service capacity, decrease in associated operation costs, extension in the useful life of the asset, or improvement in the quality of the asset's output.
Repair:	A repair is a cost which is incurred to maintain the existing service potential of a capital asset. Expenditures for repairs are expensed in the period in which they occur.
Development:	The development of an asset includes work to prepare an asset for further capital work and would typically include development of a piece of land for construction of a transformer station or other distribution plant. If the associated project is not completed with an asset put into service, these costs are expensed.
Materiality:	All expenditures for capital assets and betterments will be capitalized subject to materiality limits as set out in this policy. At times the administrative cost of capitalizing an asset may outweigh the intended benefits. While an expenditure may meet the definition to qualify as a capital asset, a dollar level is set known as a materiality limit. Should the expenditure fall below this limit, then it is not capitalized.
Materiality Limit:	For readily identifiable assets the materiality value for capitalization of new assets or addition to existing assets will be $500.00 for both distribution plant and general plant. The asset is assigned a unique property number and set up in the company's asset module. Where programs are established for ongoing betterment work his minimum will not be applicable.
Readily Identifiable Assets (Discrete):	A discrete capital asset has a cost over $500.00 and is easily identifiable, in the company's asset management module, to ensure individual tracking and record keeping.
Grouped Assets:	Under GAAP, capital assets may be grouped if, by their nature, it would be impractical to identify individual units. These grouped assets are managed as a pool for the purpose of amortization. Under the International Financial Reporting Standards (IFRS), pooled assets will need to be identified individually.

Capitalization Costs: Cost is the amount of consideration given up to acquire, construct, develop or better a capital asset. Costs include all expenditures necessary to put a capital asset into service, including all overhead costs that are eligible under this policy and an Allowance for Funds Used During Construction (AFUDC) if applicable.
Overhead costs must be directly attributable to capital construction activity at Wellington North Power Inc. This is interpreted to mean that the overhead costs to be charged to capital are those that would not exist if the company did not construct its own capital asset.
Overhead burdens that are capitalized include salary and benefits directly attributable to construction and engineering personnel only, by payroll allocation for capital projects.

Capital Related Overhead Expenses: As per Cost Allocation Procedure form.

Allowance For Funds Used During Construction: For projects with construction duration of greater than two (2) months, a financing charge may be applied against the project and capitalized. The financing charge will be at the rate deemed by the Ontario Energy Board (OEB) for C.W.I.P.

Amortization: As of January 1, 2012 Wellington North Power adopted the "Typical Useful Life (TUL)" depreciation rates set out in the Kinectrics Inc. Report No: K-418033-RA-001-R000 prepared for the Ontario Energy Board July 8, 2010.

Capital Stand-by/ Spare Equipment: Transformers and meters when received from the supplier will be accounted for as inventory. As referenced in Article 410 of the Accounting Procedures Handbook for Electricity Distributors, at the fiscal yearend these assets will be moved to the capital accounts as stand-by equipment, as they form an integral part of the reliability program for the distribution system.

No depreciation will be applied until the assets are in service and fully operational as intended by management.

Contributed Capital: Certain assets may be acquired or constructed with financial assistance in the form of contributions from customers. Capital contributions received are treated as contra accounts and are included the company's capital assets. The amount is amortized by a charge to accumulated amortization and a credit to amortization expense at a rate equivalent to that used for the amortization of the related asset.

Policy Compliance: All current practices will comply with the Accounting Procedures Handbook issued by the Ontario Energy Board, CICA handbook and the International Accounting Standards Board.

WNP adopted the International Financial Reporting Standards (IFRS) on January 1st 2014 and transitioned to IFRS on January 1st 2015. The LDC adheres to IFRS, in particular the IAS 16, Property, Plant and Equipment conditions and regulatory accounting guidelines as set out in the Ontario Energy Board's Accounting Procedure

Handbook. WNP does not capitalize interest on funds used during construction as capital projects are constructed. Furthermore, WNP does not capitalize, through internal cost allocations, any indirect administrative support costs such as Finance or Facilities.

5.3.3.3 Maintenance and Operating Activities

WNP's main distribution assets are stations, poles, overhead wire, transformers, switches and insulators as well as underground primary cable, transformers and secondary cable. All the distribution plant is inspected, at a minimum, on a three year cycle in accordance with the Distribution System Code requirements.

WNP performs a number of maintenance and operating activities to ensure the safe and reliable operation of the distribution system. These activities include but not limited to thermographic inspection, line patrols, pole inspections and substation maintenance.

5.3.3.4 Inspection

WNP has Engineering and Operations Policy #18 that details our inspection practice for distribution system equipment. Inspections are audited annually within our Ontario Regulation 22/04 audit.

WNP has implemented and follows inspection and maintenance procedures in accordance with the Distribution System Code (DSC), Regulation 22/04, Sections 4 and 5, and ESA Guidelines.

All line patrols and inspections are documented. The asset inspection data and available device information is used to support maintenance activities and capital expense planning. Specific inspection and testing processes are dependent on the asset type.

With the use of their asset management system, WNP fully expects to continue to correlate asset condition data, asset maintenance and replacement expenditures and the resulting system performance indicators. These systems and their information will collaborate and support the experience of WNP staff.

5.4 Capital Expenditure Plan

WNP's planned capital expenditures over the forecast period of 2016 to 2020 are shown in the table below:

Table 47 WNP's 2016 to 2020 CapEx Plan

Base Projects		2016	2017	2018	2019	2020
Investment Category		*Forecast Test Year*	*Forecast*	*Forecast*	*Forecast*	*Forecast*
General Plant		$70,650	$138,670	$24,470	$421,850	$453,000
System Access		$60,000	$240,000	$240,000	$240,000	$60,000
System Renewal		$50,000	$350,000	$220,000	$250,000	$410,000
Systems Service		$380,000	$0	$0	$0	$0
	Total	**$560,650**	**$728,670**	**$484,470**	**$911,850**	**$923,000**
% Allocation by Category		2016	2017	2018	2019	2020
General Plant		13%	19%	5%	46%	49%
System Access		11%	33%	50%	26%	7%
System Renewal		9%	48%	45%	27%	44%
Systems Service		68%	0%	0%	0%	0%
Special Projects						
		2016	2017	2018	2019	2020
Investment Category	**Project**	*Forecast Test Year*	*Forecast*	*Forecast*	*Forecast*	*Forecast*
Systems Service	2nd line Feeder (2016)					
	Hydro One	$1,269,751				
	PME Meter	$80,000				
System Renewal	MS3 Substation (2018)			$1,704,000		
	Total Capital Expenditure	**$1,910,401**	**$728,670**	**$2,188,470**	**$911,850**	**$923,000**

"Base Projects" and "Special Projects"

WNP has distinguished between "base" projects and "special" one-off investments. In the five-year forecast period, Wellington North Power Inc. is planning two "special" projects, (i.e. capital investments that occur infrequently and are above the LDC's average annual capital expenditure). These "special" projects are planned for 2016 (2nd feeder) and 2018 (substation replacement – which has been included as an Advanced Capital Module seeking regulatory approval). Both projects are described in detail in this Distribution System Plan. "Base" projects are capital investments that happen on a routine cycle, such as replacing IT or distribution asset

equipment when it has reached its typical useful life (e.g. a computer server that is greater than five years old, has dated technology and therefore has a high probability of failure and could be outside its warranty period.)

WNP's CapEx plan was derived from the LDC's Asset Management Plan, the Capital Planning process, material from the Township and County regarding expected future growth and engagement with customers. WNP coordinates with the Independent Electricity System Operator (IESO) and Hydro One Networks Inc. (HONI) and currently there have been no projects identified that will require investments by WNP.

WNP conducted a Customer Satisfaction Surveys in 2014. The results highlighted positive responses about customer satisfaction with WNP being recognized as a good corporate citizen. The survey also indicated that the customers have a high sensitivity to the retail cost of power, which WNP acknowledges and has consequently considered in planning for capital investment over the next five years with the objective of minimizing the customer bill impact.

WNP expects its load and its customer base to be increase steadily by less than 1% per year over the next five years. The LDC does not anticipate any material requirements to make expenditures for REG or Smart Grid projects at this time.

The major projects (i.e. materiality threshold of $50,000 or greater), grouped by investment category are summarized below with full descriptions in Section 5.4.5.2.

2016: CapEx Projects:

Year	Category	Description	Project	Estimated Cost
2016	System Renewal	Annual Capital Projects - Asset Replacement	Annual Activities (pole & transformer replacements)	$ 50,000
2016	System Access	Annual Capital Projects - New Services / Modifications	New Services	$ 60,000
2016	System Service	2nd Feeder (Mount Forest)	Pole-line H'way #6 44kV to MS1	$ 380,000
2016	System Service	2nd Feeder (Mount Forest)	Hydro One 2nd Feeder	$ 1,269,751
2016	System Service	2nd Feeder (Mount Forest)	New PME Unit	$ 80,000
2016	General Plant	IT	Upgrade to Customer Information System	$ 30,000
2016	General Plant	IT	Planned IT work	$ 10,650
2016	General Plant	Building Renovations	Building Renovation	$ 30,000
			Total	**$ 1,910,401**

It should be noted that in 2016, WNP has applied discretionary spending and non-discretionary spending to accommodate the "special" capital project planned for this year. (Those projects that can be deferred to another

year that do not affect 3rd party commitments or customer expectations or affect system reliability or jeopardize safety were identified as discretionary items.) Details of projects planned for 2016 are described in Section 5.4.5.2.1.

2017: CapEx Projects:

Year	Category	Description	Project	Estimated Cost
2017	System Access	Annual Capital Projects - New Services / Modifications	New Services	$ 60,000
2017	System Access	Meter Asset Projects	Residential & Commercial Meter Replacement	$ 180,000
2017	System Renewal	Annual Capital Projects - Asset Replacement	Annual Activities (pole & transformer replacements)	$ 50,000
2017	System Renewal	Pole Line Projects	Pole Line Rebuild - Queen St W btw Durham St W and Sligo Rd W	$ 50,000
2017	System Renewal	Pole Line Projects	Holstein Line Rebuild	$ 110,000
2017	System Renewal	Pole Line Projects	Queen Street BTW Cork and Arthur	$ 140,000
2017	General Plant	Transport Asset Projects	Transport - New pick-up truck (TR62) Quad Cab	$ 40,000
2017	General Plant	IT	Replace 1 x pc workstation is required and 4 x laptops.	$ 11,000
2017	General Plant	IT	Replace office printer / fax machine	$ 30,000
2017	General Plant	IT	Elster AMI Server, including three (3) year next day on-site service	$ 22,000
2017	General Plant	IT	Replace UPS and Monitors	$ 750
2017	General Plant	IT	Fibre Smart Meter Network	$ 3,000
2017	General Plant	IT	4 x Tranzeo TR6 Bridge - broadband wireless communication equipment	$ 1,920
2017	General Plant	Building Renovations	Building Renovation	$ 30,000
			Total	**$ 728,670**

Details of projects planned for 2017 are described in Section 5.4.5.2.2.

2018: CapEx Projects:

2018	System Access	Annual Capital Projects - New Services / Modifications	New Services	$ 60,000
2018	System Access	Meter Asset Projects	Residential & Commercial Meter Replacement	$ 180,000
2018	System Renewal	Annual Capital Projects - Asset Replacement	Annual Activities (pole & transformer replacements)	$ 50,000
2018	System Renewal	Pole Line Projects	Pole Line Rebuild - Tucker St btw Domville and Eliza St	$ 60,000
2018	System Renewal	Pole Line Projects	Pole Line Rebuild - Adelaide St btw Clarke and Conestoga Sts	$ 40,000
2018	System Renewal	Underground Distribution Projects	UG Rebuild - Holstein Rear-lot Conversion (partial)	$ 70,000
2018	System Renewal	Smart Grid	Recloser Smart Technology @MS3	$ 104,000
2018	System Renewal	Sub-Station Asset Projects	Substation - MS3 Replacement (Phase 2)	$ 1,600,000
2018	General Plant	Building Renovations	Building Renovation	$ 5,000
2018	General Plant	IT	Replace 4 x pc workstations	$ 8,400
2018	General Plant	IT	Replace UPS and Monitors	$ 750
2018	General Plant	IT	Cisco ASA OS Firewall	$ 5,400
2018	General Plant	IT	Fibre Smart Meter Network	$ 3,000
2018	General Plant	IT	4 x Tranzeo TR6 Bridge - broadband wireless communication equipment	$ 1,920
			Total	**$ 2,188,470**

It should be noted that in 2018, WNP has applied discretionary spending and non-discretionary spending to accommodate the "special" capital project planned for this year. (Those projects that can be deferred to another year that do not affect 3rd party commitments or customer expectations or affect system reliability or jeopardize

safety were identified as discretionary items.) Details of projects planned for 2018 are described in Section 5.4.5.2.3.

2019: CapEx Projects:

Year	Category	Description	Project	Estimated Cost
2019	System Access	Annual Capital Projects - New Services / Modifications	New Services	$ 60,000
2019	System Access	Meter Asset Projects	Residential & Commercial Meter Replacement	$ 180,000
2019	System Renewal	Annual Capital Projects - Asset Replacement	Annual Activities (pole & transformer replacements)	$ 50,000
2019	System Renewal	Pole Line Projects	Pole Line Rebuild - Waterloo St btw Dublin and John Sts	$ 85,000
2019	System Renewal	Pole Line Projects	Pole Line Rebuild - Preston St N btw Smith and Domville Sts	$ 60,000
2019	System Renewal	Pole Line Projects	Pole Line Rebuild - York St at Queen W	$ 25,000
2019	System Renewal	Pole Line Projects	Pole Line Rebuild - Preston St Trailer Park	$ 20,000
2019	System Renewal	Smart Grid	Smart Technology	$ 10,000
2019	General Plant	Transport Asset Projects	Transport - replacement of pick-up (TR51)	$ 35,000
2019	General Plant	Transport Asset Projects	Replacement TR60 RBD (2004 International) (15 Years)	$ 250,000
2019	General Plant	Building Renovations	Building Renovation	$ 50,000
2019	General Plant	IT	Replacement of ESXI – Web Presentment Server	$ 16,000
2019	General Plant	IT	Replace billing printer	$ 40,000
2019	General Plant	IT	Fibre Smart Meter Network	$ 3,000
2019	General Plant	IT	Replace Redline Ptp Bridge (Backbone) (4 units @ $4,304 each)	$ 17,280
2019	General Plant	IT	Replace Network Switch WS-C2960X-48TS-L	$ 3,500
2019	General Plant	IT	4 x Tranzeo TR6 Bridge - broadband wireless communication equipment	$ 1,920
2019	General Plant	IT	Replace 1 x pc workstations and 2 x laptops	$ 4,400
2019	General Plant	IT	Replace UPS and Monitors	$ 750
			Total	**$ 911,850**

Details of projects planned for 2019 are described in Section 5.4.5.2.4.

2020: CapEx Projects:

Year	Category	Description	Project	Estimated Cost
2020	System Access	Annual Capital Projects - New Services / Modifications	New Services	$ 60,000
2020	System Renewal	Annual Capital Projects - Asset Replacement	Annual Activities (pole & transformer replacements)	$ 50,000
2020	System Renewal	Pole Line Projects	New Pole Line - Eliza Street to LTLT Customer	$ 25,000
2020	System Renewal	Pole Line Projects	Pole Line Rebuild - North-side Adjustment at Wells St N	$ 20,000
2020	System Renewal	Pole Line Projects	Pole Line Rebuild - Eliza St btw 304 Eliza St and Frederick St	$ 50,000
2020	System Renewal	Pole Line Projects	Pole Line Projects to be named nearer date	$ 125,000
2020	System Renewal	Pole Line Projects	Underground Projects to be named nearer date	$ 130,000
2020	System Renewal	Smart Grid	Smart Technology	$ 10,000
2020	General Plant	Transport Asset Projects	Transport - New pick-up truck (TR20)	$ 35,000
2020	General Plant	Transport Asset Projects	Transport - New Bucket (TR55) (12 Years)	$ 310,000
2020	General Plant	IT	Storwize V3700 (Data San Storage)	$ 22,000
2020	General Plant	IT	Virtual Server replacement - System X 3650 Hypervisor 1	$ 18,000
2020	General Plant	IT	Virtual Server replacement - System X 3650 Hypervisor 2	$ 18,000
2020	General Plant	Building Renovations	Building Renovation	$ 50,000
			Total	**$ 923,000**

Details of projects planned for 2020 are described in Section 5.4.5.2.5.

5.4.1 CapEx Summary

The below table is taken from the Ontario Energy Board's "Filing Requirements for Electricity Transmission and Distribution Applications - Chapter 5 – Consolidated Distribution System Plan Filing Requirement" (March 28, 2013), table 2 page 18 and the LDC historical and planned Capital Expenditure.

Table 48 – Wellington North Power Inc. Capital Expenditure Summary

First year of Forecast Period: *2016*

CATEGORY	Historical Period (previous plan[1] & actual)															Forecast Period (planned)				
	2011			2012			2013			2014			2015			2016	2017	2018	2019	2020
	Plan	Actual	Var	Plan	Actual	Var	Plan	Actual	Var	Plan	Actual	Var	Plan	Actual[2]	Var					
	$ '000		%	*$ '000*		%	*$ '000*		%	*$ '000*		%	*$ '000*		%	*$ '000*				
System Access	156	43	-72.5%	102	107	5.1%	55	58	5.2%	229	239	4.5%	173	35	-79.9%	60	240	240	240	60
System Renewal	231	192	-17.0%	261	308	18.0%	273	283	3.8%	1,756	1,848	5.2%	156	206	32.6%	50	350	1,924	250	410
System Service	39	34	-12.1%	9	13	46.1%	56	55	-1.3%	66	62	-5.9%	212	17	-92.2%	1,730	-	-	-	-
General Plant	243	328	34.8%	152	138	-9.3%	377	362	-4.1%	25	39	57.6%	220	77	-65.1%	71	139	24	422	453
TOTAL EXPENDITURE	670	597	-10.9%	524	566	8.0%	760	758	-0.4%	2,075	2,187	5.4%	760	334	-56.0%	1,910	729	2,188	912	923
System O&M		$ 530	--	$ 501	$ 589	17.4%	$ 570	$ 588	3.2%	$ 583	$ 568	-2.6%	$ 637	$ 394	-38.0%	$ 651	$ 667	$ 684	$ 701	$ 719

Notes to the Table:
1. Historical "previous plan" data is not required unless a plan has previously been filed
2. Indicate the number of months of 'actual' data included in the last year of the Historical Period (normally a 'bridge' year): 8

Notes:

a) Although it is not a requirement because the LDC has not filed a DSP, Wellington North Power Inc. has provided "previous plan" data.

b) 2015: Actual includes costs as at 31st August 2015.

c) The System Renewal Actual CapEx spend is currently higher than Plan (32.6%) due to a Capital Contribution project that to date has not been started. This is a developer project that is planned for completion within the year and has a planned capital contribution of $130,000 - this contribution will reduce the LDC's system renewal spend if it is started/completed within the year.

d) 2015: System service includes a new SCADA system being installed and implemented at the LDC. This is due to be implemented in October 2015.

e) 2015: General Plant includes the purchasing of a pick-up truck and necessary building renovation work - these investments account for $110,000 of planned CapEx spend and are due to be started and completed in Q4 of 2015.

The table below separates the "base" projects and the "special" projects, again grouped by the capital investment categories.

Table 49 WNP - Historical and Forward View Capital Plan

Base Projects

Investment Category	2011 Historic	2012 Historic	2013 Historic	2014 Historic	2015 Budget Bridge Year	2016 Forecast Test Year	2017 Forecast	2018 Forecast	2019 Forecast	2020 Forecast
General Plant	$327,991	$138,275	$361,688	$38,617	$220,000	$70,650	$138,670	$24,470	$421,850	$453,000
System Access	$42,931	$107,171	$57,730	$239,084	$172,500	$60,000	$240,000	$240,000	$240,000	$60,000
System Renewal	$192,014	$307,636	$283,467	$413,894	$155,500	$50,000	$350,000	$220,000	$250,000	$410,000
Systems Service	$34,362	$13,375	$54,802	$61,613	$212,000	$380,000	$0	$0	$0	$0
Total	**$597,299**	**$566,457**	**$757,686**	**$753,208**	**$760,000**	**$560,650**	**$728,670**	**$484,470**	**$911,850**	**$923,000**

% Allocation by Category	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
General Plant	55%	24%	48%	5%	29%	13%	19%	5%	46%	49%
System Access	7%	19%	8%	32%	23%	11%	33%	50%	26%	7%
System Renewal	32%	54%	37%	55%	20%	9%	48%	45%	27%	44%
Systems Service	6%	2%	7%	8%	28%	68%	0%	0%	0%	0%

Special Projects

Investment Category	Project	2011 Historic	2012 Historic	2013 Historic	2014 Historic	2015 Budget Bridge Year	2016 Forecast Test Year	2017 Forecast	2018 Forecast	2019 Forecast	2020 Forecast
System Renewal	MS2 Substation (2014)				$1,433,955						
Systems Service	2nd line Feeder (2016)										
	Hydro One						$1,269,751				
	PME Meter						$80,000				
System Renewal	MS3 Substation (2018)								$1,704,000		
Total Capital Expenditure		**$597,299**	**$566,457**	**$757,686**	**$2,187,163**	**$760,000**	**$1,910,401**	**$728,670**	**$2,188,470**	**$911,850**	**$923,000**

5.4.2 CapEx Planning Process Overview

In preparing and updating WNP's Capital Plans, the LDC engages with customers, intensive-energy consumers, the Municipality shareholder as well as the Independent Electricity Systems Operator and Hydro One as well as reviewing latest pertinent information (such as regional planning documents and newspaper articles local activities).

Plans and projects are reviewed, ensuring that they complement the organizations' values of:

- Vision Statement:

  To be regarded within the province of Ontario as an industry leader in the safe, reliable and cost efficient distribution of electricity.
- Mission Statement:

  WNP (WNP) shall provide its customers with the most cost effective delivery of electricity safely, reliably and efficiently. This will be done while providing superior customer service and promoting customer education and green initiatives within its service area.

The above statements correlate to the company's asset management goal of optimizing performance of its assets with consideration for safety, reliability and customer service expectations. (i.e. balancing the needs of the customer versus the wants of the LDC.)

Furthermore, WNP categorizes projects using the Board's investment categories and ensure that each project aligns to the OEB's Renewed Regulatory Framework for Electricity (RRFE) performance outcomes as summarized in the matrix below:

Category	Definition	Primary Outcomes (based on Board's RRFE outcomes)	WNP's Strategic Objective
System Access	• Customer-driven requirements • Customer service condition obligations • 3rd party infrastructure requirements • Investments resulting in modifications (including asset relocation) to the distributor's distribution system	Customer Focus: Provide services that fulfil customer expectations Operational Effectiveness: Maintain system reliability	• Provide outstanding customer service
System Renewal	• To replace assets before they fail; and • To replace assets at the end of their useful life	Operational Effectiveness: Maintain system reliability and to be cost efficient (pacing and	• Manage a safe and reliable distribution system in an

	• Investments involve replacing or refurbishing system assets to extend the original service life of the assets. • Investments to accommodate future planned growth	prioritization of projects) <u>Financial Performance:</u> Investments are prioritized and seek for sustainable savings (or the opportunity cost of not investing – i.e. safety risk)	efficient and cost effective manner
System Service	• Investments that result in modifications to the distribution system. • Adaptability to changing conditions (i.e. load capacity, and switching) • Operational effectiveness in safety, power quality and reliability	<u>Operational Effectiveness:</u> Maintain system reliability and safety <u>Public Policy:</u> Regional planning awareness and implications s Ensuring projects conform to ESA construction standards	• Manage a safe and reliable distribution system in an efficient and cost effective manner
General Plant	These are investments which are modifications, replacements, or additions to a distributor's assets that are not considered part of its distribution system. (Building renovation, land easements, hardware/software installation / upgrade, replacement of transportation equipment and tools)	<u>Public Policy:</u> A safe environment for employees and customers to operate in. Investment to be compliant with Ministerial, Regulator mandates and Governing bodies (ESA)	• Meet all regulatory obligations

Examples of WNP capital project initiatives that have resulted in clear RRFE Outcomes include:

- ✓ Customer focus – "….providing superior customer service" as demonstrated by WNP's service quality indices for the last 5 years which have all exceeded the industry targets (as illustrated within this document).
- ✓ Operational Effectiveness – "….cost effective delivery of electricity" as demonstrated by WNP's capital expenditure for the last two years which has been in-line with the CapEx budget approved by the OEB in the LDC's most recent Cost of Service rate application (EB-2011-0249) (as illustrated within this document). And further demonstrated by maintaining assets and equipment to achieve their maximum typical useful life as confirmed by the LDC replacing a substation in 2014 that was over 50 years old (as per IRM application EB-2013-0178).
- ✓ Public Policy Responsiveness – "…promoting customer education and green initiatives" emphasized by the fulfilling the mandated requirements set by the Ministry of Energy (e.g. Smart Meter implementation & roll-out and Conservation and Demand Management); and

- ✓ Financial Performance – "…cost effective delivery of electricity safely, reliably and efficiently" as demonstrated by the utility's leverage (i.e. total debt to equity ratio) moving closer to the OEB's preferred 60:40 debt to equity ratio from 2010 to 2014 (as illustrated within the LDC's Scorecard as discussed in this document.)

In managing its distribution system assets, WNP's core objective is to optimize performance of the assets at a reasonable cost with due regard for system reliability, safety, and customer service expectations. WNP is committed to providing our customers with an economical, safe, reliable supply of electricity and enabling our community to be energy efficient.

WNP's guiding principles regarding Capital Expenditure are two-fold:

a) To replace assets before they fail; and
b) To replace assets at the end of their useful life

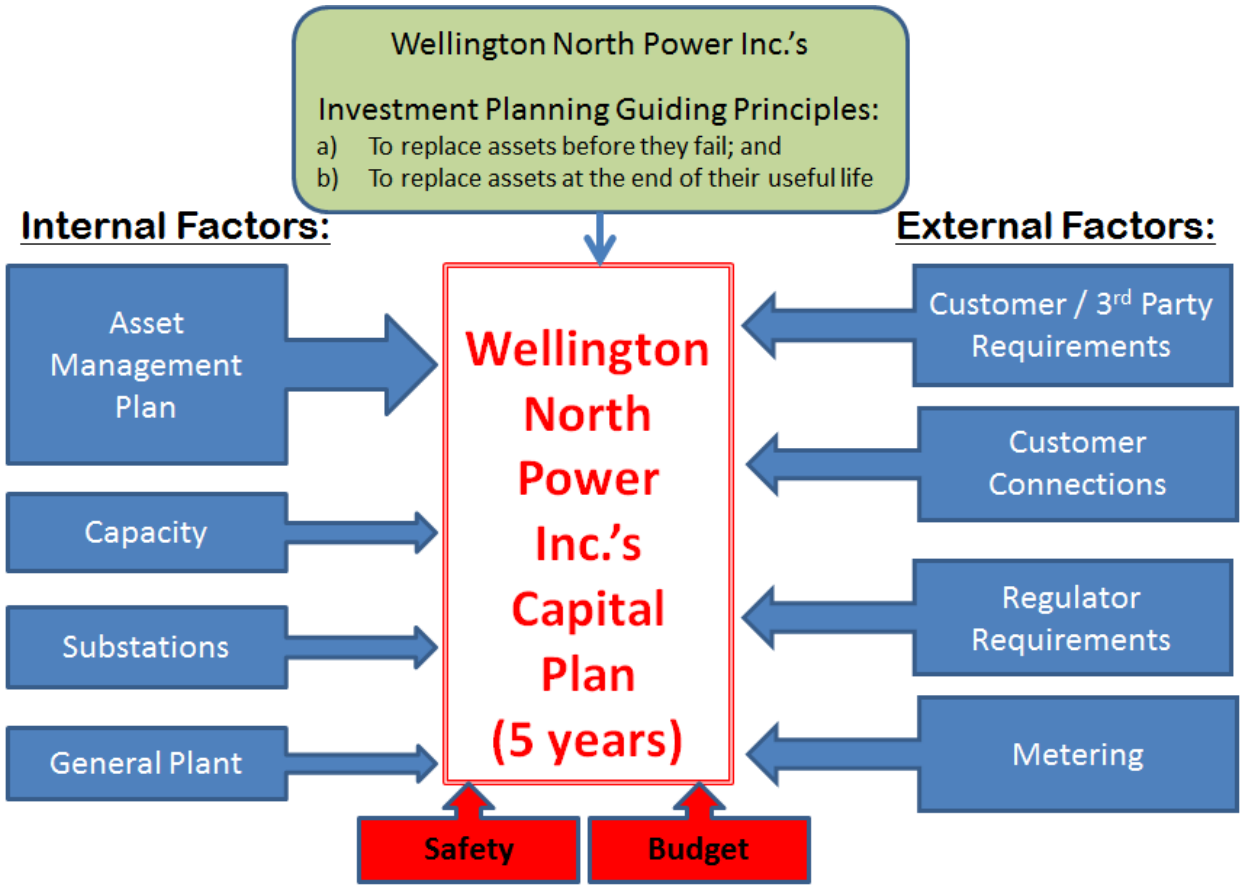
It is generally accepted in the energy industry, and in WNP's opinion that, rather than age, the asset "stress" is a more determining factor of an asset's life and a sound indicator for the required maintenance or replacement of the asset. On this basis, in the LDC's opinion assets under greater stress should be monitored more closely and maintained more than those under less stress. This ensures a wise use of limited capital and maintenance budgets.

WNP has implemented an asset management system, supported by GIS data and maintenance information. The LDC has continued its efforts to improve the information maintained in its GIS system for all major equipment, with the objective to update data for poles installed (height, usage, age and condition), transformers (age, size and condition) and substation components (age). This improved asset data will be used to provide additional information for future asset assessments and determine which assets are under more stress therefore requiring replacement or additional maintenance.

The above principles form the basis of the WNP's Inc.' Capital Expenditure strategy, yet the LDC acknowledges that assets do fail and assets will need to be replaced before the of their expected useful life date. As described above in "Section 5.3.3.: Asset Lifecycle", WNP adopted the mid-range typical useful life for its assets effective from January 1st 2012 as derived from the Asset Depreciation Study by Kinectrics (Kinectrics Report). At the time

of adoption, the LDC had performed no study to determine whether the typical-life (mid-range) or maximum useful life or maximum useful life was appropriate. Wellington North Power Inc. is now tracking assets disposed where the typical useful life has not been reached, although it is far too soon to comment; however, as per "Section 3.2.6 – Meters and Monitoring" the LDC has observed an increased in failed Smart Meters over since 2013 which have had to be replaced before their 5 to 15 year useful life date.

WNP's Capital Planning process is based upon the following inputs:



Internal Factors

These are factors that the LDC has control over meaning that WNP can tactically plan when assets / equipment needs to be replaced. WNP acknowledge that equipment fails and although not planned, still require replacement for the LDC's distribution system to operate efficiently and effectively.

(i) Asset Management Plan

These are replacement projects that are identified through the asset condition assessment (i.e. where equipment has been identified during routine maintenance inspections and has a high risk of failing.) Also this includes utilization of the LDC's GIS data reporting that assets have reached their end of useful life. WNP completes visual inspections of its plant and performs predictive testing on certain assets where such testing is available, and replaces assets based on inspection and testing results as warranted. In some cases the projects involve spot replacement of assets; in other cases, the projects involve complete asset replacement within a geographic area.

(ii) Capacity

Load growth caused by new customer connections and increased demand of existing customers over time can result in a need for capacity improvements on the system. Projects can take the form of new or upgraded feeders and transformers. These projects are not customer-specific, but rather, they benefit many customers. In 2016, WNP is planning to construct a 2nd line feeder to the Town of Mount Forest, working with Hydro One. The LDC recognizes that this is a significant investment and will increase the capacity as well as enable WNP to transfer load for critical customers (i.e. a hospital) in the event of a major power outage.

(iii) Substations

Substation investments are undertaken to improve or maintain reliability to large numbers of customers and to maintain security and safety at the substations. Substations are also investments which increase capacity in growth areas. In 2014, the LDC completed a replacement of an aged substation (MS2) and is planning to replace a second aged substation in 2018 as detailed in Section 5.4.5.3.2.

In 2013, WNP used a 3rd party to conduct a Substation Condition Assessment of the LDC's six municipal substations and identified defects and deficiencies. These deficiencies have been included in the LDC's capital plans to rectify these issues (i.e. replacement of ground grids, replacement to fencing) and have been prioritized by safety. The LDC has continues to rectify these items having started November / December 2013.

(iv) General Plant

These capital expenditures include building renovations, computer hardware & software upgrades and replacement of transportation equipment and tools. In 2015 onwards, has planned to undertake building

renovations to address deficiencies as identified in a 3rd party the LDC commissioned in 2012. Also, the LDC recognizes that replacing bucket trucks is a major capital expenditure, and with this in mind, the LDC has delayed replacing its RBD truck and single bucket truck until 2019 and 2020, meaning at these dates, the trucks will be 15 years old and 12 years old respectively (compared to 8 to 10 years as per the Kinectrics Asset Study Report.)

External Factors

These are factors that the LDC has limited or control over meaning that WNP may have to adjust its projected plan to accommodate customer or 3rd party requirements.

(i) Customer / 3rd Party Requirements

These are projects that WNP undertakes to meet customer obligations in accordance with the Ontario Energy Board's Distribution System Code and Wellington North Power Inc.'s Conditions of Service. Activities include connecting new residential and general service customers, constructing distribution plant to connect new subdivisions and relocating system plant equipment for roadway reconstruction work. WNP contributes to the cost of these projects using the economic evaluation methodology in accordance with the Distribution System Code and the provisions of its Conditions of Service for system expansions to determine the level of capital contribution.

As illustrated in "Section 5.2.2.4 Consultations with Municipal Planning Office", the County of Wellington has projected population growth to the region up to 2041 which WNP is monitoring. Furthermore, the LDC has recognized the demand load capacity constraint at the Town of Mount Forest which will restrict planned growth over the next 5 years. In 2016, WNP is planning to construct a 2nd line feeder to the Town of Mount Forest, working with Hydro One. The LDC recognizes that this is a significant investment; however, it addresses the customer needs. WNP receives customer information from its which assists LDC with its' CapEx strategy. For example, three General Service 1000 - 4999 kW customers have contacted the LDC to advise of possible future changes to their energy demand requirements. WNP met these customers individually to assess their potential requirements and this information has identified a future capacity shortage issue to Mount Forest. As an embedded distributor, WNP has worked on a solution with Hydro One to increase capacity to Mount Forest by way of a second feeder – this is included in this plan under "Section 13.10 Second 44kV Feeder to Mount Forest"

In addition, WNP reviews Municipal and Regional Planning information that is provided by these two authorities to also identify future needs (i.e. population growth projections as described in "Section 5.2.2.4 Consultations with Municipal Planning Office". Furthermore, meetings and discussions with Hydro One / IESO as part of the Regional Planning process as described in "Section 3.1 Regional Planning Consultations - the Independent Electricity Systems Operator (IESO) and Section 3.2 Consultations with Regionally Interconnected Distributors and Transmitters" provides a valuable insight into external activities that may impact WNP's distribution system.

(ii) Customer Connections

Capital expenditures include meter installations, meter upgrades, and the capital components of wholesale and retail meter verification activities.

(iii) Regulatory Obligations

These projects are capital investments which are being driven by regulatory requirements. These requirements may include, among others, directions from the Ontario Energy Board, the Electrical Safety Authority, the Ministry of Energy & Infrastructure or the Ministry of Environment. 1. At this time, WNP is not aware of future mandatory obligations that require capital investment by the LDC.

(iv) Metering

In 2017, WNP is planning to start the replacement of its Smart Meters across its service territory, recognizing at this time, these assets will be ten years old. This is a planned 3-year initiative.

Safety

Ontario Regulation 22/04 defines the safety requirements for the design, construction, and maintenance of electrical distribution systems, particularly in relation to the approvals and inspections required prior to putting electrical equipment into service. Annual audits conducted by the Electrical Safety Authority have reported that Wellington North Power Inc. was "C" - Compliant with Ontario Regulation 22/04 (Electrical Distribution Safety). This has been achieved and maintained by our steadfast commitment to safety coupled with the adherence to company procedures & policies. WNP will continue its commitment to safety to protect the public and employees within our community.

Budget:

WNP acknowledges that it has Capital Expenditure requirements and these needs to be balanced against the requirements of its customers.

In preparing and maintaining its 5 year rolling capital plan, the LDC always considers the benefit versus the cost and also takes into consideration the opportunity cost (i.e. the cost of not doing the project.) These are challenging considerations to address, with the LDC taking into account was is the bill impact to the customers, the affordability of the company financing the investment, how many customers will benefit and the net implications if there is no investment made.

In its 2014 Customer Satisfaction Survey, respondents were 78% satisfied with WNP when asked about the LDC operating a cost-effective electricity system - this was above the National and Province averages as noted in the table below:

Table 50 2014 Customer Satisfaction – Operational Effectiveness

Attributes strongly linked to a customer's perception of operations excellence			
	Wellington North Power	National	Ontario
Provides consistent, reliable electricity	93%	89%	86%
Quickly handles outages and restores power	90%	86%	83%
Makes electricity safety a top priority for employees and contractors	90%	89%	87%
Operates a cost effective electricity system	78%	69%	62%
Overall the utility provides excellent quality services	88%	83%	80%
Base: total respondents with an opinion			

2014 Satisfaction based on 366 respondents representing a confidence level of 95% (+/- 5.1%

Based upon the above, WNP acknowledges that it constantly needs to challenge itself in determining the levels of investment required in its service area and this is recognized in the LDC's rolling 5 year CapEx plan that responds to external demands and changes in our environment (e.g. predicted population growth over the next 20 years, Smart Grid technology and renewable energy.)

5.4.3 Renewable Energy – System Capability

WNP is an embedded distributor fed by Hydro One Networks Inc. (HONI). Below, WNP has provided details regarding the capability from the Transmission Substation to the service area managed by the LDC:

Hanover TS

Hanover TS, owned and operated by HONI, supplies power to the town of Mount Forest. This is done with one 44kV feeder, carried by pole line between Hanover and Mount Forest, a distance of over 40km. The 44kV 36M5 feeder supplies WNP's four 4.16kV municipal stations in Mount Forest. These municipal sub-stations provide a distribution voltage of 4.16kV which is used to supply WNP's customers in the town of Mount Forest.

At this time WNP has received load restriction notices from HONI for the Hanover TS 36M5 feeder. WNP was made aware in 2013 that a load increase of 1MVA would not be permitted on this feeder.
WNP also services the village of Holstein in Grey County. Holstein is serviced by WNP using an embedded HONI distribution feeder. Holstein DS, owned and operated by HONI, supplies power to the village of Holstein. This is done with one 8.32kV feeder designated as Holstein DS F3.

Fergus TS

Fergus TS, owned and operated by HONI, normally supplies power to the village of Arthur. The village of Arthur is normally supplied by the 73M1 feeder from Fergus TS. The alternate supply from HONI to the village of Arthur is the 22M2 feeder from Orangeville TS, owned and operated by HONI. These feeders are 44kV and supply WNP's two municipal sub-stations in the village of Arthur. These 5MVA sub-stations provide a distribution voltage of 4.16kV that is used to supply WNP's customers in the village of Arthur.

At this time, WNP has not received any load restrictions notices from HONI for the Fergus TS 73M1 or Orangeville TS 22M2 feeders.

Town of Mount Forest

The distribution system in Mount Forest consists of one 44kV feeder, supplied by HONI and transformed by WNP using our municipal substations to a distribution level of 4.16kV. The distribution level voltage is used to

transport power in town to WNP's residential and commercial customers. WNP connects some large industrial customers directly to the 44kV feeder.

All of WNP 4.16kV feeders have remaining capacity for FIT and MircoFIT installations pending the condition of successful connection impact assessment. As mentioned with Section 3.1, Hanover TS 36M5 has limitations with respect to additional capacity.

Village of Arthur

The distribution system in Arthur consists of one 44kV feeder, supplied by HONI and transformed by WNP using our municipal substations to a distribution level of 4.16kV. The distribution level voltage is used to transport power in town to WNP's residential and commercial customers. WNP connects some large industrial customers directly to the 44kV feeder.

All of WNP 4.16kV feeders have remaining capacity for FIT and MircoFIT installations pending the condition of successful connection impact assessment. Currently the feeder from Fergus does not have capacity for RG Connections.

Village of Holstein

WNP has limited information with regards to this distribution circuit. WNP's PME would record data on load; however, WNP would have limited information about this distribution feeder.

The currently existing capacity for each of WNPs feeders can be found in table 51 below.

5.4.3.1 Capacity Assessment Methodology

The FIT-size generator connection application process for WNP customers' requires the involvement of HONI. The application process includes an internal review of applications. WNP also requires approval from HONI for projects greater than 10kW for connection capacity, as HONI is the Host Distributor. The LDC is not aware of any upstream capacity constraints at the HONI owned Orangeville TS, relating to the WNP supply feeders.

WNP has limited penetration of its feeders to 10% of peak load. This is based on the 'Technical Review of Hydro One's Anti-Islanding Criteria for microFIT PV Generators' prepared by Kinectrics.

Table 51 Renewable Generation Capacity by Station/Feeder

Arthur					
Station	**Feeder**	**Peak (kW)**	**Capacity (kW)**	**Connected (kW)**	**Remaining Capacity**
MS5	**F1**	900	90	20	70
	F2	905	91	10	81
	F3	615	62	10	52
MS6	**F1**	1200	120	10	110
	F2	900	90	10	80

Holstein					
Station	**Feeder**	**Peak (kW)**	**Capacity (kW)**	**Connected (kW)**	**Remaining Capacity**
Holstein	**F3**	500	50	0	50

Mount Forest					
Station	**Feeder**	**Peak (kW)**	**Capacity (kW)**	**Connected (kW)**	**Remaining Capacity**
MS1	**F1**	1060	106	0	106
	F2	790	79	0	79
	F3	495	50	0	50
	F4	635	64	10	54
MS2	**F1**	520	52	0	52
	F2	745	75	0	75
	F3	520	52	39.89	12
	F4	1250	125	10	115
MS3	**F1**	NA	NA	NA	NA
	F2	850	85	0	85
	F3	990	99	20	79
	F4	1625	163	140	23
MS4	**F1**	NA	NA	NA	NA
	F2	205	21	0	21
	F3	NA	NA	NA	NA
	F4	NA	NA	NA	NA

Based on 2013 Load Profiles

5.4.3.2 Relevant Unique Challenges and Opportunities

WNP serves an urban customer base load made up of residential, some small to medium commercial and industrial customers. The majority of connected and proposed renewable generation connections in Arthur, Holstein and Mount Forest are made up of rooftop FIT (one) and micro-FIT projects (eighteen).

Larger FIT projects will typically be installed by commercial and industrial customers with a large rooftop footprint. These types of structures are limited in the WNP service territory. In addition, the Renewable Generation (RG) load is at capacity on the HONI feeder to Arthur thereby preventing further development of RG FIT projects in Arthur.

Current Connection of Renewable Generation

WNP has eighteen (18) MicroFIT-size renewable generation projects connected to our distribution system at the 4.16kV level. WNP connected most of its MicroFIT projects in 2011 and 2012, with the number of new applicants in 2013 and 2014 dropping significantly.

WNP connected its first 100kW FIT-size renewable generation project in 2014. This project was connected to a customer serviced by a 500kVA pad-mounted transformer. A connection impact assessment was completed by both WNP and Hydro One to ensure the proposed project would not cause technical issue when connected.
Hydro One offers a station capacity calculator that is available for renewable generation proponents to utilize when considering projects. In May 2014, this calculator was used by WNP to provide an indication of future capacity for FIT-size renewable generation within our service area. The results showed feeder Hanover 36M5, which supplies the Town of Mount Forest, having capacity for future FIT-size renewable generation projects and feeder Fergus 73M1, which supplies to Village of Arthur, not having capacity for future FIT-size renewable generation projects. All FIT-size renewable generation projects would require connection impact assessments that would look in detail at the technical feasibility of making a defined connection of renewable generation to our distribution system.

WNP has additional capacity on its 4.16kV distribution system for the connection of renewable generation projects, subject to a successful WNP and Hydro One connection impact assessment.

Summary of FIT Connected RG

Meter ID	Registration Number	Reference_Number	Project City	Technology	Capacity
WNGEN0023	F-000134-SPV-130-502	F-000134-SPV-130-502	Mount Forest	Solar (Rooftop)	100

Summary of micro-FIT Connected RG

Meter ID	Registration	Reference	Location	Technology	Capacity
WNGEN0001	**FIT-3Q79PE**	FIT-MPUEQ9Y	Mount Forest	Solar (PV)	10
WNGEN0002	**FIT-3Q79PE**	FIT-M3KK6YQ	Mount Forest	Solar (PV)	10
WNGEN0018	**FIT-3Q79PE**	FIT-M4AJ9FR	Mount Forest	Solar (PV)	10
WNGEN0006	**FIT-JNHGBJ**	FIT-MUQWTC9	Mount Forest	Solar (PV)	10
WNGEN0010	**FIT-N9GXN**	FIT-MDYBZNX	Mount Forest	Solar (PV)	10
WNGEN0014	**FIT-CHBH4**	FIT-MIM6FD9	Arthur	Solar (Non-Rooftop)	10
WNGEN0017	**FIT-URFHMQ**	FIT-MF4CBDH	Mount Forest	Solar (PV)	10
WNGEN0004	**FIT-NV2W4N**	FIT-M9NQPBC	Mount Forest	Solar (Rooftop)	10
WNGEN0007	**FIT-XT98RX**	FIT-MHYU4FV	Mount Forest	Solar (Rooftop)	10
WNGEN0008	**FIT-437PFX**	FIT-MTZ4MFZ	Arthur	Solar (Rooftop)	10
WNGEN0009	**FIT-N2GKJK**	FIT-MPUPXQ7	Mount Forest	Solar (Rooftop)	9.89
WNGEN0016	**FIT-H4UQI**	FIT-MVIGT88	Mount Forest	Solar (Rooftop)	10
WNGEN0011	**FIT-H4UQI**	FIT-MCYTATX	Arthur	Solar (Rooftop)	10
WNGEN0012	**FIT-TJEUE2**	FIT-M9HPMKW	Mount Forest	Solar (Rooftop)	10
WNGEN0015	**FIT-PHPR29**	FIT-MYU78BI	Arthur	Solar (Rooftop)	10
WNGEN0013	**FIT-PHPR29**	FIT-MCXIT2R	Arthur	Solar (Rooftop)	10
WNGEN0022	**FIT-PHPR29**	FIT-ME8THFI	Mount Forest	Solar (Rooftop)	10
WNGEN0021	**FIT-PHPR29**	FIT-MV3MEVI	Arthur	Solar (Rooftop)	10

Methodology for Prioritization of Expenditures

FIT or MircoFIT projects are prioritized by WNP on a first come first served basis.

5.4.3.3 Renewable Generation Connection Anticipated

The interest in FIT and micro-FIT projects has been slow in WNP's service territory. Therefore, WNP does not expect to reach the current available capacity for renewable generation in the near future (i.e. over the 5-year forecast horizon.).

- **FIT (>10kW) Proposals**

  WNP currently has no FIT proposals and is not aware of any planned for the near future.

- **MicroFIT (<10kW) Proposals**

  There is currently one plan micro-Fit for 2015. WNP would expect possibly one micro-FIT per year.

5.4.3.4 Smart Grid

The company's distribution system consists of 44kV, 8.3kV and 4kV circuits, six Municipal Substations (MS) and eight customer owned substations. The six MS's have a total of 20- 4kV feeders with a total capacity of 27MVA available to meet the current and long term electrical demand and limited embedded generation connections.

Asset Management System (GIS) Implementation

The utility asset information is maintained in a central repository, representing a single source of truth for the organization. This information is being further integrated across all functions, thus linking engineering, operational and financial information for all assets. This is further enhanced by a network connectivity model, which more accurately represents the impact of assets on one another.

As mentioned, the model would also be a foundation for system analysis studies, which will be essential for addressing FIT and microFIT applications and assessing their potential impacts on the WNP distribution system.

SCADA

The WNP distribution system is relatively compact. The response to trouble calls and outages is within industry norms, as is evidenced by the performance indicators in Section 2.2.2. The need for remote control of switching equipment at this time is minimal. However, as systems become more complex due to distributed generation requirements, system control and operation will also become more complex and the supporting systems will need to be sophisticated enough to support these operational needs.

WNP is able to monitor, in real time measurements, the voltage, current, power and energy and logs this load data from each substation and on all 20 feeders associated with them, via a wireless ION Enterprise data logger system. A sample of one of WNP's feeder MS1-F1, real time data print screen is provided in tables 52 and 53 below. The ION Monitoring System also tracks and logs data for historical use as well.

Table 52 Example of ION Monitoring Display for Substation Feeder data

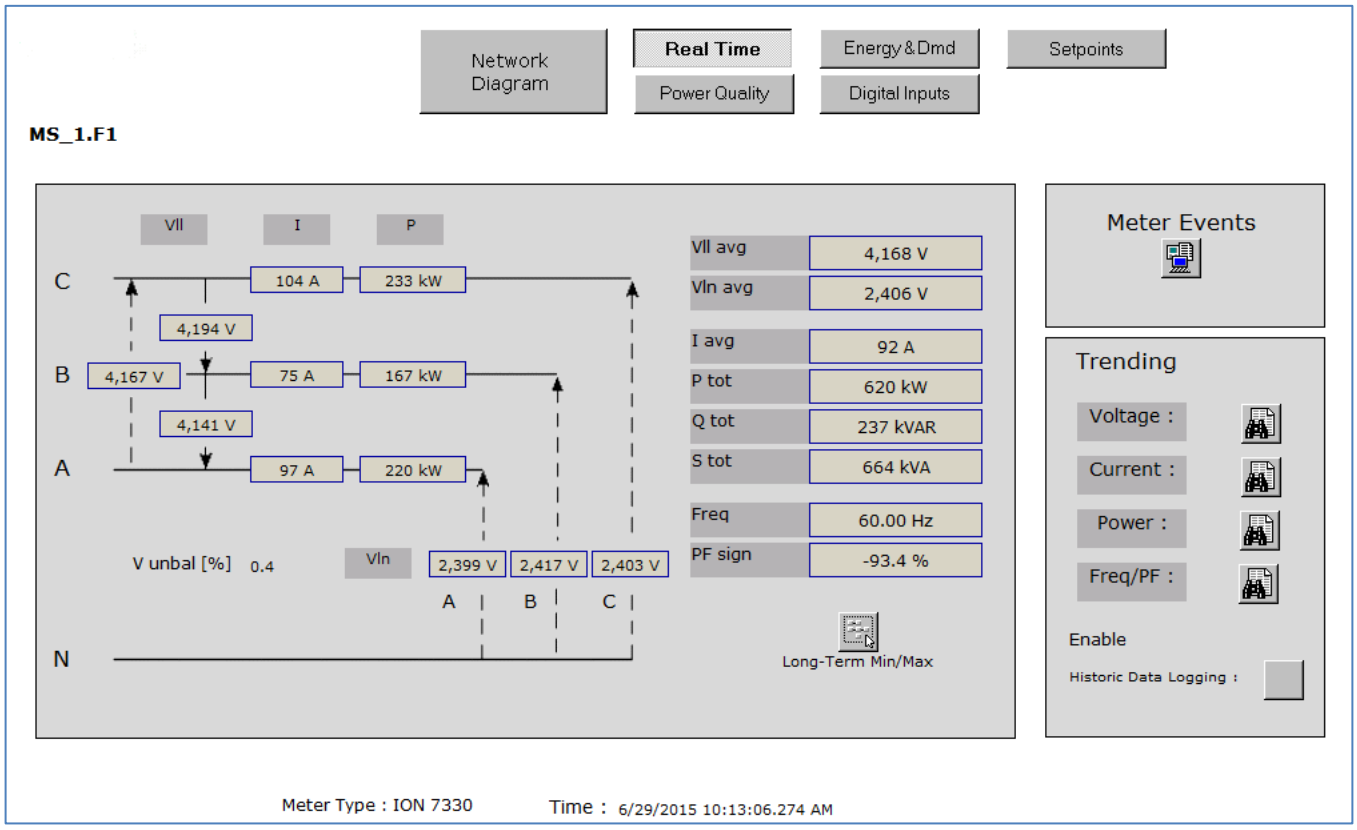
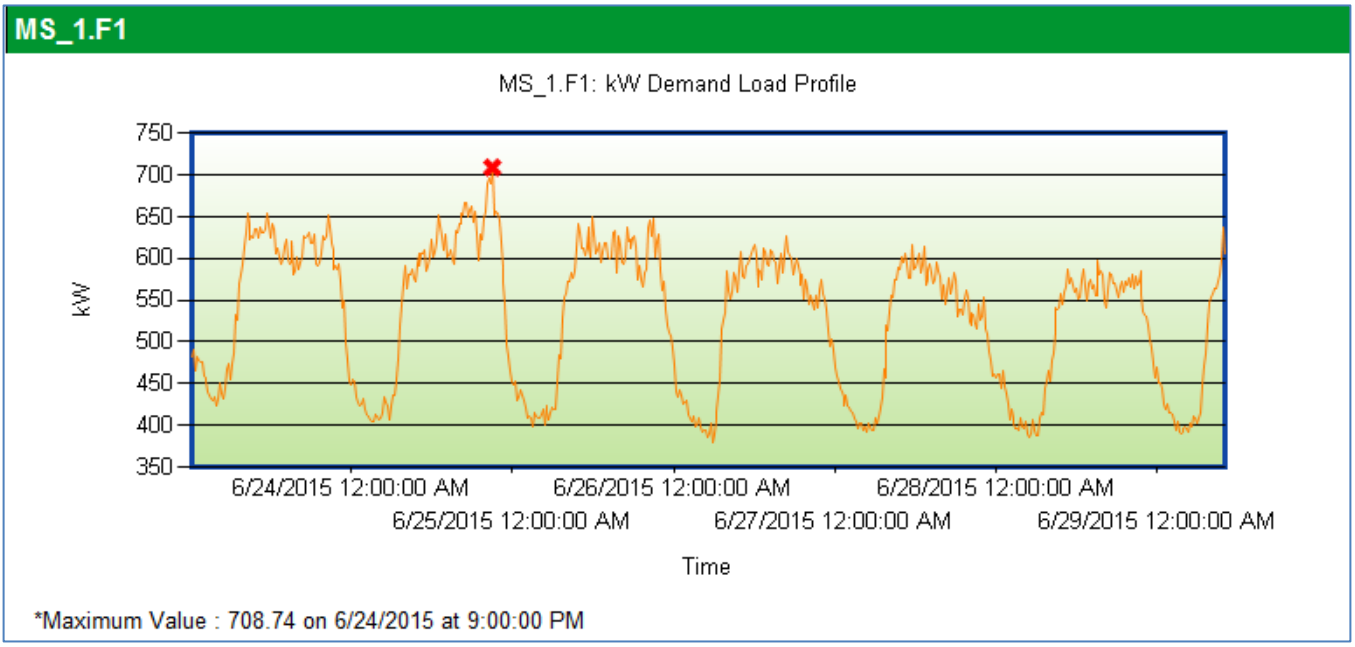


Table 53 Sample of Real Time Substation Feeder data



The ION Power Measurement System which was installed in 1998 has reached its useful life. The system is being replaced by SCADA in 2015 to facilitate SMART Grid Technology. The new SCADA system will connect to all the substations and be able to provide remote control as well as alarm monitoring and data collection.

Outage Management and Reliability

The service territory for WNP consists of largely residential radial feeders in a small geographic area of approximately 14 square kilometers with a history of limited infrastructure and technology development. Currently outage notices are received from the LDC's customers through the office during normal business hours or via the afterhours call service. Once a call is received a crew is dispatched to determine the cause and respond accordingly.

5.4.4 Capital Expenditure Summary

The below table is taken from the Ontario Energy Board's "Filing Requirements for Electricity Transmission and Distribution Applications - Chapter 5 – Consolidated Distribution System Plan Filing Requirement" (March 28, 2013), table 2 page 18 and the LDC historical and planned Capital Expenditure.

Table 54 Wellington North Power Inc. Capital Expenditure Summary

First year of Forecast Period: *2016*

CATEGORY	Historical Period (previous plan[1] & actual)															Forecast Period (planned)				
	2011			2012			2013			2014			2015			2016	2017	2018	2019	2020
	Plan	Actual	Var	Plan	Actual	Var	Plan	Actual	Var	Plan	Actual	Var	Plan	Actual[2]	Var					
	$ '000		%	$ '000		%	$ '000		%	$ '000		%	$ '000		%	$ '000				
System Access	156	43	-72.5%	102	107	5.1%	55	58	5.2%	229	239	4.5%	173	35	-79.9%	60	240	240	240	60
System Renewal	231	192	-17.0%	261	308	18.0%	273	283	3.8%	1,756	1,848	5.2%	156	206	32.6%	50	350	1,924	250	410
System Service	39	34	-12.1%	9	13	46.1%	56	55	-1.3%	66	62	-5.9%	212	17	-92.2%	1,730	-	-	-	-
General Plant	243	328	34.8%	152	138	-9.3%	377	362	-4.1%	25	39	57.6%	220	77	-65.1%	71	139	24	422	453
TOTAL EXPENDITURE	670	597	-10.9%	524	566	8.0%	760	758	-0.4%	2,075	2,187	5.4%	760	334	-56.0%	1,910	729	2,188	912	923
System O&M		$ 530	--	$ 501	$ 589	17.4%	$ 570	$ 588	3.2%	$ 583	$ 568	-2.6%	$ 637	$ 394	-38.0%	$ 651	$ 667	$ 684	$ 701	$ 719

Notes to the Table:
1. Historical "previous plan" data is not required unless a plan has previously been filed
2. Indicate the number of months of 'actual' data included in the last year of the Historical Period (normally a 'bridge' year): 8

Notes:

a) Years 2016 and 2018 include "special" projects (i.e. projects that relate to a significant investment and occur infrequently). For these years, WNP has applied discretionary and non-discretionary spending (i.e. discretionary projects are those initiatives that can be deferred to another year without impacting customers, 3rd party, system reliability or safety).

b) WNP has provided Estimated Costs for projects, based upon the latest and current information and data available at this time. The LDC has assumed that capital jobs are started and completed within the year, meaning that the in-service date is the date shown in the table above. (At this point in the planning process, WNP assumes that there are no projects that will carry-over into subsequent years.)

c) WNP expects its load and its customer base to be increase steadily by less than 1% per year over the next five years.

d) The LDC does not anticipate any material requirements to make expenditures for REG or Smart Grid projects at this time

5.4.5 Justifying Capital Expenditures

System Access

WNP historical spend (2011 to 2014) on System Access ranges from $42,931 to $57,730. This demonstrates that System Access investment by the LDC has been fairly constant year-over-year which is reflected in WNP's customer growth at steady <1% per year.

WNP records "New Connections" and "Modifications to an Existing Customer Connection" within the System Access investment category. This includes the installation of distribution poles, conductor, and transformation and Overhead/Underground service cables. Any work driven by the new service connections, installation of temporary services or modifications to existing services are allocated to this budget item. Between 2011 to 2014, WNP has spent an average of $78,104 per year on this CapEx item, as illustrated below:

Table 55 2011- 2014 Capital Expenditure for New Services / Modifications

Year	New Services	
2011	$100,386	*Note A
2012	$89,303	
2013	$70,000	
2014	$52,727	*Note B
Average per Year	**$78,104**	

** Note A: 2011 does not include the Capital Contribution of $113,405 the LDC received*

**Note B:* 2014 does not include Sub-division CapEx cost for 44 Townhomes which also attracted a Capital Contribution.

For 2015 (and each subsequent year), WNP has provisioned $60,000 for this item capital. This budget forecast is trending down based on:

a) The trend experienced over the past four years of activity and;

b) Reviewing the County and Municipal growth plans imply that more sub-divisions and multi-unit facilities will be built within the service area to accommodate the population growth anticipated as described in "Section 5.2.2.4 – Consultations with Municipal Planning Office" and will potentially incur a lower per connection cost due to economies of scale.

WNP acknowledges that this item is not a controllable expenditure as it is customer-driven.

System Renewal

WNP's historical spend (2011 to 2014) on System Renewal ranges from $173,894 to $192,014. (This range excludes $1,673,955 which the LDC spent on replacing MS2 Substation in 2014.)

Within this investment category, WNP has provisioned for the repair and/or replacement of distribution assets (such as poles and transformers) where the equipment has deteriorated, is at/beyond its useful life, is damaged and cannot be viably repaired, is a risk/safety hazard or has been identified as a replacement asset through the LDC's Asset Inspection program (as per Asset Management Process Overview discussed above.) Between 2011 to 2014, WNP has spent an average of $69,171 per year on this CapEx item, as illustrated below:

Table 56 2011- 2014 Capital Expenditure for Replacing Aged /Broken Assets

Year	Annual Activities
2011	$38,911
2012	$98,276
2013	$55,279
2014	$84,219
Average per Year	**$69,171**

The years of 2012 and 2014 were higher than prior years predominately due to replacing more transformers in these particular years. As per "Section 5.3.2.3 – Transformers" According to industry standards transformers have a useful life of approximately 45 years, which requires that transformers be replaced at an annual rate of 2.22%. In WNP's system, a replacement rate of 2.22% results in approximately 14 transformers per year being replaced.

WNP attempts to pace and prioritize its capital expenditure and as explained above, the LDC has been consistent in its annual spending of $760,000 between 2012 to 2014. (In its most recent cost of service application, case number EB-2011-0249, the OEB approved an annual capital budget of $760,000). For 2015 (and each subsequent year), WNP has provisioned $50,000 for this item capital. This annual budgeted amount is lower than the historic 4-year average and is driven by using better asset management data that is being collected from annual inspections as well as data from the LDC's GIS system.

As per "Section 5.3.2.2 – Poles", WNP currently has 51 poles vintage 1951 to 1974 and 493 poles vintage 1975 to 1979. WNP has planned to replace these aged poles as pole line projects. The LDC aims to replace aged and deteriorated poles collectively rather than individually, and where possible completes this activity as a pole line

project. WNP has several pole line projects planned for the forecast horizon period and these are described in "Section 5.4.4 – Capital Expenditure Summary".

System Service

WNP's historical spend (2011 to 2014) on System Service ranges from $13,375 to $61,613. These investments have predominately been upgrades to the LDC's Hydro Monitoring system and installation of computer software to enable design drawings for construction projects and service layouts. In addition, in 2013 the LDC commissioned a 3rd party study to assess its six substations. This study identified several defects that since identified, the LDC has worked to resolve (e.g. replacement of components, ground-grid replacement and repairs to fence) which have addressed all the safety aspects of the report.

In 2016, WNP is planning, with Hydro One, a 2nd feeder to the Town of Mount Forest to address load capacity issues which current constrains any future growth to the area. The LDC recognizes this is a significant investment yet will provide future capacity to manage the projected growth reported by the County and Municipal plans (as identified in Section 5.2.2.4) as well support the planned individual customer demands (such as the industrial consumers demands that as portrayed in the letters in Appendix E.). Section 5.4.5.3.1 discusses this project and the options evaluated as well as the business justification to pursue with this initiative.

General Plant

WNP's historical spend for General Plant ranges from $38,617 to $361,688, with the larger amount including the purchase of a replacement bucket truck in 2013. (This range includes $230,549 the LDC spent for implementation and integration of a new financial software system in preparation for the accounting transition to International Financial Reporting Standards (IFRS) which the LDC has classed as a General Plant fulfilling a mandatory requirement.)

Over the five-year forecast horizon, WNP is planning to spend an average of $54, 728 per year on Information Systems (IS). This includes upgrades to the LDC's Customer Information System (CIS); replacing the billing printer which, in 2019, will be 10 years old and installing firewall cyber security upgrades.

In its last Cost of Service rate application (file number EB-2011-0249 for 2012 distribution rate approval), WNP included a 3rd party report highlighting the issues with the office / shop buildings the LDC owns. During the rate application process, it was accepted that WNP could fund the renovation or new-build cost through a long-term

debt, and therefore remove any renovation / building repairs from the LDC's 2012-2015 Capital Plan. In the Decision and Order September 20th 2012 (file number EB-2011-0249), page 21, "Section 2.3 - Is the capital expenditure forecast for the test year appropriate?", the Applicant provided a revised Test Year Capital Plan showing the removal of renovation work and inclusion of a Building Renovation Engineer Assessment. The engineer's report was undertaken and new building designs were drawn-up in 2013; however a 3rd party substation report conducted in 2013 identified major issues with two of the LDC's substations mainly due to their age (over 50 years old). Consequently, at a special Wellington North Power Inc. Board of Directors meeting in august 2013, it was agreed by all Directors and the CEO/President to defer the new building project and instead, replace MS2 Substations that was identified as in need for replacement in the 3rd party Substation Assessment Condition study. (MS2 substation replacement received regulatory approval in March 2014 as an Incremental Capital Module filed with the 2014 IRM rate application – file number 2013-0178).

Due to the above change in tactical plan, the LDC did not pursue with a new office building. In its five-year capital plan, the LDC has prioritized capacity (2nd line feeder to Mount Forest in 2016) and reliability (replacing an aged substation in 2018) above a new building. With this in mind, the LDC has provisioned for building renovations to extend the life of the current offices, including demolition of interior walls to increase storage space to house servers and SCADA system and front lobby renovation to improve customer accessibility to the building. WNP anticipates that renovations will be less than $50,000 per year and are therefore not above the materiality threshold.

WNP has a 2004 RBD bucket truck and a 2008 bucket truck that the LDC is planning to replace in 2019 and 2020 respectively. At these dates, these vehicles will have been in in service for fifteen years and twelve years respectively and at the top-end of the 5 to 15 years typical life defined in the Kinectrics Typical Useful Life Study (see "Section 5.3.3 – Asset Lifecycle".) These trucks are routinely inspected and undergo thorough safety tests; however, the LDC acknowledges that maintaining these vehicles could increase as they get older and they are of paramount significance in enabling the Operations team to perform system maintenance and capital projects across WNP's service area.

5.4.5.1 Overall Plan

Capital Forecast Plan by OEB Category

The table below shows the planned investments grouped by the Investment Categories defined by the OEB as per Chapter 5 - "Consolidated Distribution System Plan Filing Requirements", section 5.1.1 Investment categories (March 28, 2013):

Table 57 2016 – 2020 Capital Investment Plan by Investment Category

Investment Cateogry	2016	2017	2018	2019	2020
General Plant	$70,650	$138,670	$24,470	$421,850	$453,000
System Access	$60,000	$240,000	$240,000	$240,000	$60,000
System Renewal	$50,000	$350,000	$1,924,000	$250,000	$410,000
System Service	$1,729,751				
Grand Total	**$1,910,401**	**$728,670**	**$2,188,470**	**$911,850**	**$923,000**

The above table includes "special" capital investment projects in 2016 and 2018 which are discussed in detail in "Section 5.4.5.3 – Special Capital Projects".

WNP has provided Estimated Costs for projects, based upon the latest and current information and data available at this time. The LDC has assumed that capital jobs are started and completed within the year, meaning that the in-service date is the date shown in the table above. (At this point in the planning process, WNP assumes that there are no projects that will carry-over into subsequent years.)

Capital Forecast Plan - Overview

The table below illustrates the five-year forecast for capital investment planned by WNP. Note the highlighted cells indicate the "special projects" that the LDC is also seeking approval from the regulator by way of this 2015 Distribution System Plan and 2016 Cost of service rate application (with the 2018 Substation project being reviewed and accepted as an Advanced Capital Module component).

Table 58 2016 – 2020 Capital Investment Plan

Project	2016	2017	2018	2019	2020
Annual Capital Projects - Asset Replace	$50,000	$50,000	$50,000	$50,000	$50,000
Annual Capital Projects - New Services	$60,000	$60,000	$60,000	$60,000	$60,000
Building Renovations	$30,000	$30,000	$5,000	$50,000	$50,000
Meter Asset Projects		$180,000	$180,000	$180,000	
Pole Line Projects		$300,000	$100,000	$190,000	$350,000
Smart Grid		$0	$104,000	$10,000	$10,000
Sub-Station Asset Projects		$0	$1,600,000		
Transport Asset Projects		$40,000		$285,000	$345,000
Underground Distribution Projects			$70,000		
IT	$40,650	$68,670	$19,470	$86,850	$58,000
2nd Feeder (Mount Forest)	$1,729,751				
Grand Total	**$1,910,401**	**$728,670**	**$2,188,470**	**$911,850**	**$923,000**

In the years of 2016 and 2018, WNP is planning on completing "special" capital projects, namely:

a) 2016 – 2nd line feeder in conjunction with Hydro One. This project is discussed in detail in Section 5.4.5.3.1. WNP would incur a cost from Hydro One of $1,269,751 (estimate from Hydro One at 2013 rates uplifted by 3% for inflation plus $32,061 for study) for the building of a new pole line up to Mount Forest (the service boundary of WNP.)

   The LDC would need to install Primary Metering Equipment (estimated cost of $80,000) to measure the quantity of electricity that has flowed into Wellington North Power Inc.'s service territory for load management, validation and settlement purposes.

   WNP would also construct a new pole-line to connect to the 2nd line feeder constructed by Hydro One. This new pole line project is estimated at $380,000

   The total estimated cost for this specific project is $1,729,751.

b) 2018 – replacement of Wellington North Power Inc.'s MS3 Substation at an estimated cost of $1,704,000. This project is also discussed in detail in Section 5.4.5.3.2.

It should be noted that in preparing its capital investment plans and reviewing the needs for the "special" projects, WNP considers discretionary and non-discretionary spending (i.e. are there capital projects that can be shifted to another period or does the project need to be completed in that particular year.) To that extent, WNP has prioritized its plans and where possible, for the years of 2016 and 2018 when "special" projects have been planned and has moved discretionary capital projects into other years. The LDC demonstrated this

discretionary versus non-discretionary spending practice effectively in its 2013 Incentive Rate Mechanism (IRM) rate application (file number EB-2013-0178) which included an Incremental Capital Module for building a new substation – this application was approved by the regulator as per the LDC's Decision and Order EB-2013-0178 dated March 13th 2014.

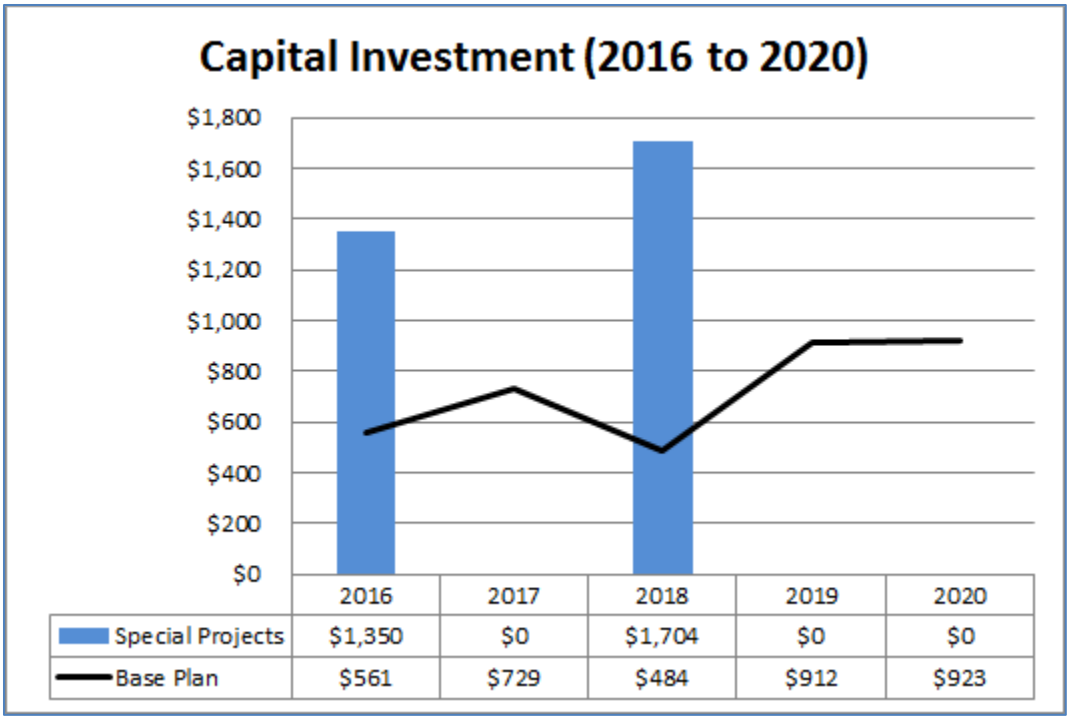
In distinguishing between discretionary and non-discretionary capital spending, WNP considers the following as key factors:

- Asset Age – proactive replacement prior to failure (reliability) as well as replacement in-line with OEB approved depreciation rates (for example rotted wood pole or leaking transformer);
- External Project Drivers – capital work in conjunction with others / subdivision developers, County or Township road projects, and Meter certifications;
- Safety and reliability – such as the installation or updated equipment in substations for worker and public safety – such as replacing signs and fencing;
- Customer requests - including service upgrades, new connection, modification to existing services or temporary services during building repairs / refurbishment; or requested by customers;
- System Improvements – replacements that improve system functionality and better prepare WNP's system for future initiatives (smart grid, system enhancement - load loss). These items are extremely important to WNP's future system reliability, yet the LDC feels these capital items could be deferred to the next fiscal year.

WNP expects its load and its customer base to be increase steadily by less than 1% per year over the next five years. The LDC does not anticipate any material requirements to make expenditures for REG or Smart Grid projects at this time.

The chart below summarizes WNP's capital investment by "base" plan and "special" projects for the period 2016 to 2020 and clearly shows the effect of discretionary spending (reduced spending) together with paced and prioritized investment in the years when "special" projects are planned:

Table 59 Planned Capital Investment Overview by Special Projects and Base Plan



Taking into account the discretionary spending in the years of 2016 and 2018, WNP's planned average annual spending is $721,728 (excluding "special projects") which is lower than the $760,000 annual budget that was approved in the LDC's most recent Cost of Service application in 2012 (case number EB-2011-0249). Including the "special" projects planned for 2016 and 2018, the planned average annual spending increases to $1,332,478, as illustrated in the table below:

Table 60 Capital Investment Split by "Special Projects" and "Base Plan"

	2016	2017	2018	2019	2020	Annual Average
Base Plan	$560,650	$728,670	$484,470	$911,850	$923,000	$721,728
Special Projects	$1,349,751	$0	$1,704,000	$0	$0	
Total	**$1,910,401**	**$728,670**	**$2,188,470**	**$911,850**	**$923,000**	**$1,332,478**

The two special planned projects for 2016 and 2018 are discussed in detail in "Section 5.4.5.3 – Special Projects". WNP has assumed that capital jobs are started and completed within the year, meaning that the in-service date

is the date shown in the table above. (At this point in the planning process, WNP assumes that there are no projects that will carry-over into subsequent years.)

A summary of the "base" plan capital projects, grouped by the Investment Categories for the years 2016 to 2020 are discussed in detail in "Section 5.4.5.2 – Material Investments".

5.4.5.2 Material Investments

The Minimum Filing Requirements state that a distributor with a distribution revenue requirement less than $10 million must use $50,000 as a materiality threshold (as per requirement in Section 5.4.5.2 of the Chapter 5 filing requirements). WNP's 2016 proposed base revenue requirement is considerably less than $10 million and therefore the LDC has used $50,000 as a materiality threshold when reconciling variances and or costs.

A summary of projects, grouped by the Investment Categories for the years 2016 to 2020 are identified in the tables below. For each year, there is a table illustrating the Project, the Estimated Cost and, where the materiality threshold is $50,000 or greater, a description of the project has been provided. (It should be noted that WNP can better estimate its budgetary needs for the near term (i.e. 2016) then for the years 2017 and beyond and as more information becomes available on customer and third party driven projects in the later years of this forecast period they will be recorded for future submissions.)

WNP expects its load and its customer base to be increase steadily by less than 1% per year over the next five years. The LDC does not anticipate any material requirements to make expenditures for REG or Smart Grid projects at this time.

5.4.5.2.1 2015 Capital Expenditure Review by Materiality Threshold

The table below summarizes the capital projects that were undertaken in 2015 grouped by investment category:

Table 61 2015 Capital Expenditure

Year	Project	Category	OEB Invest. Category	Estimated Cost	Sub Totals	Yearly Total
2015	Annual Activities (pole & transformer replacements)	Annual Capital Projects - Asset Replacement	System Renewal	$ 50,000		
2015	New Services	Annual Capital Projects - New Services / Modifications	System Access	$ 60,000		
2015	Pole Line Rebuild - Fredrick St	Pole Line Projects	System Renewal	$ 123,000		
2015	Pole Line Rebuild - Foster Street	Pole Line Projects	System Renewal	$ 57,000		
2015	Pole Line String Conductor - Albert	Pole Line Projects	System Renewal	$ 23,000		
2015	Pole Line Rebuild - King Street Lucas Subdivision Entrance	Pole Line Projects	System Renewal	$ 32,500		
2015	Pole Line Extension - Princess St near Dublin St	Pole Line Projects	System Access	$ 24,000		
2015	UG Rebuild - 455 Albert St (TX Replacement)	Underground	System Service	$ 12,000		
2015	Frederick Round About	Pole Line Project - Modification due to 3rd party	System Access	$ 88,500		
2015	Lucas Subdivision	Underground Distribution Projects - Capital Contribution	System Access - Capital Contribution	-$130,000		
					$ 340,000	
2015	SCADA - Total Solution	Smart Grid	System Service	$ 200,000		
					$ 200,000	
2015	Transport - New pick-up truck (TR20)	Transport Asset Projects	General Plant	$ 35,000		
2015	Virtual server	Admin Projects	General Plant	$ 85,000		
2015	GP 2015 transition	Admin Projects	General Plant	$ 13,500		
2015	Replacement of 2 workstations, 2 laptops and 2 new monitors and Tablet	Admin Projects	General Plant	$ 9,500		
2015	Office Furniture	Admin Projects	General Plant	$ 2,000		
2015	Building Renovation	Building Renovations	General Plant	$ 75,000		
					$ 220,000	
						$ 760,000

Annual Activities:

This budget item is provisioned for the repair and/or replacement of distribution assets (such as poles and transformers) where the equipment has deteriorated, is at/beyond its useful life, is damaged and cannot be viably repaired, is a risk/safety hazard or has been identified as a replacement asset through the LDC's Asset Inspection program (as per Asset Management Process Overview discussed above.)

Between 2011 to 2014, WNP has spent an average of $69,171 per year on this CapEx item, as illustrated below:

Table 62 2011- 2014 Capital Expenditure for Replacing Aged /Broken Assets

Year	Annual Activities
2011	$38,911
2012	$98,276
2013	$55,279
2014	$84,219
Average per Year	**$69,171**

The years of 2012 and 2014 were higher than prior years predominately due to replacing more transformers in these particular years. WNP attempts to pace and prioritize its capital expenditure and as explained above, the LDC has been consistent in its annual spending of $760,000 between 2012 to 2014. (In its most recent cost of service application, case number EB-2011-0249, the OEB approved an annual capital budget of $760,000).

For 2015 (and each subsequent year), WNP has provisioned $50,000 for this item capital. This annual budgeted amount is lower than the historic 4-year average and is driven by using better asset management data that is

being collected from annual inspections as well as data from the LDC's GIS system. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 63 Evaluation Criteria Summary

Benefit	Justification
Reliability	Replacement of aged equipment with new equipment potentially reduces the risk of failure and supports WNP in maintaining its System Reliability metrics to be within the 5 year average
Safety	Replacing damaged equipment to minimize any safety issues to both the public and utility workers, therefore supporting WNP in maintaining its zero serious electrical index history as reported on the LDC's Scorecard

New Services:

This budget item is used to fund the assets provided by the company to connect new services, to connect temporary services or modification to an existing customer connection and are regarded as System Access capital activities. This includes the installation of distribution poles, conductor, and transformation and Overhead/Underground service cables. Any work driven by the new service connections, installation of temporary services or modifications to existing services are allocated to this budget item.

Between 2011 to 2014, WNP has spent an average of $78,104 per year on this CapEx item, as illustrated below:

Table 64 2011- 2014 Capital Expenditure for New Services / Modifications

Year	New Services	
2011	$100,386	
2012	$89,303	
2013	$70,000	
2014	$52,727	*Note
Average per Year	**$78,104**	

**Note:* 2014 does not include Sub-division CapEx cost for 44 Townhomes which also attracted a Capital Contribution.

For 2015 (and each subsequent year), WNP has provisioned $60,000 for this item capital. This budget forecast is trending down based on:

c) The trend experienced over the past four years of activity and;

d) Reviewing the County and Municipal growth plans imply that more sub-divisions and multi-unit facilities will be built within the service area to accommodate the population growth anticipated as described in "Section 5.2.2.4 – Consultations with Municipal Planning Office"

WNP acknowledges that this item is not a controllable expenditure as it is customer-driven.

The table below summarizes the benefits and evaluation criteria for this capital project:

Table 65 Evaluation Criteria Summary

Benefit	Justification
Customer Value	Meeting the customer needs for new connections and/or service modifications to meet consumer expectations. This customer contact is important and encourages a positive customer experience (which in turn, encourages customer satisfaction)
Safety	Fulling the obligations of the Distribution System Code and the LDC's Conditions of Service
Environment	Ensuring that new MicroFIT and FIT connections are connected as per obligations of the Distribution System Code and the LDC's Conditions of Service therefore supporting any REG initiatives

Frederick Street in Arthur

The Frederick Street pole line rebuild project is a system renewal project occurring in parallel to the rebuilding of the underground infrastructure by the Township of Wellington North. Through planning meetings and regular discussion WNP was notified that the township intended to rebuild the infrastructure on Frederick Street. The work consists of new sewer lines, new water main and services as well as replacement of roadway and sidewalk. WNP also recognizes the requirement to rebuild the pole line including the installation of new conductor and transformers due to the overall poor condition of existing equipment. The vintage of poles and equipment is circa 1975. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 66 Evaluation Criteria Summary

Benefit	Justification
Reliability	Replacement of aged equipment with new equipment potentially reduces the risk of failure and supports WNP in maintaining its system uptime while minimizing outages thereby providing customers with a consistent service in addition to encouraging efficiency in the design, construction and operation of the system. Using polymer insulators when replacing porcelain insulators. (The LDC has experienced porcelain insulators failing resulting in power outages in the service area)
Efficiency	Working alongside a 3rd party offers efficiency in planning, i.e. minimizing disruption to customers. Replacement of aged transformers that may not be as efficient as new ones.
Safety	Replacing damaged equipment to minimize any safety issues to both the public and utility workers, therefore supporting WNP's Vision and Mission statements.
Co-ordination	Coordination with a 3rd party
Environment	Improves the aesthetics of the road demonstrating regeneration in the community

Foster Street Mount Forest

The Foster Street pole line rebuild project is a system renewal project replacing the overhead system on Foster Street. The project will reconfigure the transformation and reduce the number of transformer assets in the service by a count of one. The project will also address a number of safety concerns including a damaged pole and the removal of open bus located next to the roof top of a manufacturing facility. The poles and equipment are circa 1975. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 67 Evaluation Criteria Summary

Benefit	Justification
Efficiency	Replacement of aged transformers that may not be as efficient as new ones
Reliability	Replacement of aged equipment with new equipment potentially reduces the risk of failure and supports WNP in maintaining its system uptime while minimizing outages thereby providing customers with a consistent service in addition to encouraging efficiency in the design, construction and operation of the system.
Safety	Replacing damaged equipment to minimize any safety issues to both the public and utility workers, therefore supporting WNP's Vision and Mission statements.

Frederick Street Traffic Circle

The Frederick Street Traffic circle is a system renewal project which was initiated by the County of Wellington. The project required the relocation of the LDC's plant to provide adequate space for the construction of the traffic circle. The area contains the 44kV circuit to two of our customers as well as MS6. In addition to the 44kV a number of 4kV circuits from MS5 and MS6 pass through the intersection area. The circuits in the area are used for paralleling operations between MS5 and MS6. The project will reconfigure the 44kV circuit as well as move the 4kV to underground thereby mitigating the risk of contact by oversized farm equipment which regularly travels through the intersection. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 68 Evaluation Criteria Summary

Benefit	Justification
Reliability	Replacement of aged equipment with new equipment potentially reduces the risk of failure and supports WNP in maintaining its system uptime while minimizing outages thereby providing customers with a consistent service in addition to encouraging efficiency in the design, construction and operation of the system. Assumed reliability improvements as equipment is buried underground
Efficiency	Working alongside a 3rd party offers efficiency in planning, i.e. minimizing disruption to customers.

Safety	Moving the 4kV to underground thereby mitigating the risk of contact by oversized farm equipment which regularly travels through the intersection therefore supporting WNP's Vision and Mission statements.
Co-ordination	Coordination with a 3rd party
Environment	Improves the aesthetics of the road demonstrating regeneration in the community

Lucas Subdivision

Lucas Subdivision is a 31 lot development consisting of mixed single and double units. The development has been in the planning stage for a number of years. It is understood that the developer intends to start development this year. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 69 Evaluation Criteria Summary

Benefit	Justification
Customer Value	Meeting the customer needs for new connections and/or service modifications to meet consumer expectations. This customer contact is important and encourages a positive customer experience (which in turn, encourages customer satisfaction)
Safety	Fulling the obligations of the Distribution System Code and the LDC's Conditions of Service

SCADA

The current power monitoring system, with limited functionality, has exceeded its useful life. The original software was installed in 1998 and has lost some functionality through the years due to the aged and incompatible software. The LDC is installing a new SCADA system providing for data collection and control of the secondary feeders at our substations as they are rebuilt. In addition to have better monitoring and control the system will connect via modem to Hydro One Networks Inc. allowing us to monitor the 44kV circuit breakers which feed Arthur and Mount Forest allowing us to make better operational decisions. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 70 Evaluation Criteria Summary

Benefit	Justification
Efficiency	Replacement of the LDC's Hydro Monitoring system (1998) with new SCADA equipment that will collect more data and assist Operations in balancing loads at substations Ability to use data to identify weak areas across the LDC distribution system to assist with future capital planning and asset risk failure assessment
Safety	As a second check: enabling the LDC to monitor the 44kV circuit breakers which feed Arthur and Mount Forest and see the status of closures (open or closed) prior to work Provides system protection and control
Cyber Security	Housing the SCADA system separately and on its own server provides segregation of LDC

	data (operational data separated from meter and customer data)

Virtual Server

A virtual server is being installed to replace aged and obsolete equipment. This virtual server project also includes the installation of a back-up virtual server that routinely takes a copy of the data and information held on the main server. This back-up server can be called in to action should the main server fail. Included in this project is the testing and migration of all the company's software programs (such as Customer Information System) to a virtual environment. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 71 Evaluation Criteria Summary

Benefit	Justification
Cyber Security	Replacement of servers to virtualization offers real-time back-up of data and information should the main server fail. Ability to handle several servers and create walls to prevent cross-sharing of data

Building Renovations

The building renovation project is categorized as general plant as it pertains to the maintenance and modification of the building. The project is a summary of a number of smaller projects specifically the reconfiguration of the server room, the expansion of the vestibule to meet AODA requirements, and the renewal of the operations area including replacement of floors which are identified as a safety hazard. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 72 Evaluation Criteria Summary

Benefit	Justification
Safety	Creating a safe and accessible building for customers and employees Compliance with Accessibility Ontario Disability Act to mitigate fines for non-compliance
Environment	Offering a safer environment for staff to work in.

5.4.5.2.2 2016 Planned Capital Projects:

Table 73 2016 Capital Projects by Investment Category

Year	Project	Category	OEB Invest. Category	Estimated Cost	Sub Totals	Yearly Total
2016	Annual Activities (pole & transformer replacements)	Annual Capital Projects - Asset Replacement	System Renewal	$ 50,000		
2016	New Services	Annual Capital Projects - New Services / Modifications	System Access	$ 60,000		
2016	Pole-line H'way #6 44kV to MS1	2nd Feeder (Mount Forest)	System Service	$ 380,000		
					$ 490,000	
2016	Hydro One 2nd Feeder	2nd Feeder (Mount Forest)	System Service	$ 1,269,751		
2016	New PME Unit	2nd Feeder (Mount Forest)	System Service	$ 80,000		
					$1,349,751	
2016	Upgrade to latest version of Harris NorthStar Customer Information System	IT	General Plant	$ 30,000		
2016	Replace UPS and Monitors	IT	General Plant	$ 750		
2016	ESXI Web Presentment	IT	General Plant	$ 430		
2016	Symantec End Point Protection - upgrade	IT	General Plant	$ 1,300		
2016	Cisco Firewall - upgrade	IT	General Plant	$ 1,050		
2016	Security Audit	IT	General Plant	$ 2,200		
2016	Fibre Smart Meter Network	IT	General Plant	$ 3,000		
2016	4 x Tranzeo TR6 Bridge - broadband wireless communication equipment	IT	General Plant	$ 1,920		
2016	Building Renovation	Building Renovations	General Plant	$ 30,000		
					$ 70,650	
						$ 1,910,401

Annual Activities:

This budget item is provisioned for the repair and/or replacement of distribution assets (such as poles and transformers) where the equipment has deteriorated, is at/beyond its useful life, is damaged and cannot be viably repaired, is a risk/safety hazard or has been identified as a replacement asset through the LDC's Asset Inspection program (as per Asset Management Process Overview discussed above.) WNP has provisioned $50,000 for this item capital. This annual budgeted amount is lower than the historic 4-year average and is driven by using better asset management data that is being collected from annual inspections as well as data from the LDC's GIS system. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 74 Evaluation Criteria Summary

Benefit	Justification
Reliability	Replacement of aged equipment with new equipment potentially reduces the risk of failure and supports WNP in maintaining its system uptime while minimizing outages thereby providing customers with a consistent service in addition to encouraging efficiency in the design, construction and operation of the system.
Safety	Replacing damaged equipment to minimize any safety issues to both the public and utility workers, therefore supporting WNP's Vision and Mission statements.

New Services:

This budget item is used to fund the assets provided by the company to connect new services, to connect temporary services or modification to an existing customer connection and are regarded as System Access capital activities. This includes the installation of distribution poles, conductor, and transformation and Overhead/Underground service cables. Any work driven by the new service connections, installation of temporary services or modifications to existing services are allocated to this budget item. WNP has provisioned $60,000 for this item capital based upon the review of the County and Municipal growth plans implying that more sub-divisions and multi-unit facilities will be built within the service area to accommodate the population growth anticipated as described in "Section 5.2.4 – Consultations with Municipal Planning Office". WNP acknowledges that this item is not a controllable expenditure as it is customer-driven. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 75 Evaluation Criteria Summary

Benefit	Justification
Customer Value	Meeting the customer needs for new connections and/or service modifications to meet consumer expectations. This customer contact is important and encourages a positive customer experience (which in turn, encourages customer satisfaction)
Safety	Fulfilling the obligations of the Distribution System Code and the LDC's Conditions of Service
Environment	Ensuring that new MicroFIT and FIT connections are connected as per obligations of the Distribution System Code and the LDC's Conditions of Service therefore supporting any REG initiatives

Hydro One 2nd feeder:

WNP (WNP) has been working with Hydro One Networks Inc. (HONI) to address capacity and reliability concerns with the electrical supply to Mount Forest. The result is a proposed project to build approximately 11 kilometers of pole line to connect a 44kV feeder from Palmerston TS to WNP's distribution system.

This project is described in "Section 5.4.5.3.1 – Second 44kV Feeder to Mount Forest" together with forecasted Demand Load projections as well as supportive information in Appendix D (Hydro One's "Town of Mount Forest Supply Study), Appendix E (customer letters supporting this initiative.)

This project is subject to approval from the Ontario Energy Board through Wellington North Power Inc.'s 2016 Cost of Service rate application (case number EB-2015-0110 – assisted by the LDC's 2015 Distribution System Plan).

To date, WNP has incurred the following expenses in relation to this project:

a) Commissioned Hydro One to perform a capacity study of the current feeder line to Mount Forest at a cost of $32,061. This study is included in Appendix D and describes the options that have been reviewed;
b) A Purchase Order for $61,668 to Hydro One to for easement activity in relation to the route the proposed 2nd feeder would run.

Should WNP receive OEB approval to commence with the construction of this project, the above incurred costs will be capitalized as part of the project.

In Appendix D (Hydro One's "Town of Mount Forest Supply Study), page 17 indicates that for the preferred option, total cost (based on 2013 costs) is $2,403,280, of which WNP would responsible for 50% of the cost of the work, or $1,201,640. In its 's 2016 Cost of Service rate application (case number EB-2015-0110), WNP has applied a 3% increase to this estimate (to reflect labour and material increases adjustments to account for inflation) and has used a 2016 forecasted cost of $1,237,689 ($1,201,640 x 103%). This amount ($1,237,689) plus the cost of the study conducted by Hydro One's ($32,061) has been used in the rate application Fixed Asset Continuity Schedules recorded in account 1609 in the Fixed Asset Continuity Schedule [$1,237,689 + $32,601 = $1,269,750]. For this project, WNP wish to pay a fixed price to Hydro One, rather than using a Discounted Cash Flow calculated amount that could result in annual payments to Hydro One as a result of deviation from Demand Load projections.

The table below summarizes the benefits and evaluation criteria for this capital project, with more detailed benefits described in "Section 5.4.5.3.1 – Second 44kV Feeder to Mount Forest":

Table 76 Evaluation Criteria Summary

Benefit	Justification
Reliability	Providing a 2nd feeder to Mount Forest will maintain current reliability standards with the intention of reducing the power outage time caused by Loss of Supply (upstream). With this project, WNP will have the ability to switch load between feeders in the event of a major outage

Interoperability	This compliments the Regional Plan growth projections for the next 20 years for Wellington North as projected by the County. This project will be built in conjunction with Hydro One.
Customer Value	A 2nd feeder will increase the capacity available for customers in Mount Forest. Industrial customers have contacted WNP advising of planned increases to the demand requirements over the next few years. Should WNP not be able to meet their capacity requirements, there is a risk that customers will leave the area, therefore affecting the local economy
Economic Development	A 2nd feeder will increase the capacity available for the Town Mount Forest and will provide sufficient demand for the planned growth anticipated by the County and the Township of Wellington North

New PME Unit – see section 13.11

Subject to the OEB's approval to commence with the construction of the 2nd line feeder project outlined above, WNP would need to install Primary Metering Equipment (PME) at the demarcation point. WNP have estimated this cost at $80,000.

Pole-Line Highway #6 44kV to MS1:

This budget item is the construction of a new 44kV pole line along highway #6 in Mount Forest. This involves the preparation and installation of approximately forty-six hydro poles to connect the proposed new 44kV 2nd feeder (to be built by Hydro One - "Section 5.4.5.3.1 – Second 44kV Feeder to Mount Forest") to WNP's MS1 substation. In addition to the second feeder a portion of the build will consist of rebuilding the aged 4kV pole lines along the planned route. WNP has estimated a cost of $380,000 for this initiative.

(Note: should the cost of the 2nd line feeder to Mount Forest not be approved for recovery through rates by the regulator, then WNP would use this forecasted budget amount to undertake other pole-line projects that the LDC currently has planned for the near future.)

5.4.5.2.3 2017 Planned Capital Projects:

Table 77 2017 Capital Projects by Investment Category

Year	Project	Category	OEB Invest. Category	Estimated Cost	Sub Totals	Yearly Total
2017	Annual Activities (pole & transformer replacements)	Annual Capital Projects - Asset Replacement	System Renewal	$ 50,000		
2017	New Services	Annual Capital Projects - New Services / Modifications	System Access	$ 60,000		
2017	Pole Line Rebuild - Queen St W btw Durham St W and Sligo Rd W	Pole Line Projects	System Renewal	$ 50,000		
2017	Holstein Line Rebuild	Pole Line Projects	System Renewal	$ 110,000		
2017	Queen Street BTW Cork and Arthur	Pole Line Projects	System Renewal	$ 140,000		
2017	Residential & Commercial Meter Replacement	Meter Asset Projects	System Access	$ 180,000		
					$ 590,000	
2017	Recloser Smart Technology @MS3	Smart Grid	System Renewal	$ -		
2017	Substation - MS3 Replacement (Phase 1)	Sub-Station Asset Projects	System Renewal	$ -		
					$ -	
2017	Transport - New pick-up truck (TR62) Quad Cab	Transport Asset Projects	General Plant	$ 40,000		
2017	Replace 1 x pc workstation is required and 4 x laptops.	IT	General Plant	$ 11,000		
2017	Replace office printer / fax machine	IT	General Plant	$ 30,000		
2017	Elster AMI Server, including three (3) year next day on-site service	IT	General Plant	$ 22,000		
2017	Replace UPS and Monitors	IT	General Plant	$ 750		
2017	Fibre Smart Meter Network	IT	General Plant	$ 3,000		
2017	4 x Tranzeo TR6 Bridge - broadband wireless communication equipment	IT	General Plant	$ 1,920		
2017	Building Renovation	Building Renovations	General Plant	$ 30,000		
					$ 138,670	
						$ 728,670

Annual Activities:

This budget item is provisioned for the repair and/or replacement of distribution assets (such as poles and transformers) where the equipment has deteriorated, is at/beyond its useful life, is damaged and cannot be viably repaired, is a risk/safety hazard or has been identified as a replacement asset through the LDC's Asset Inspection program (as per Asset Management Process Overview discussed above.) WNP has provisioned $50,000 for this item capital. This annual budgeted amount is lower than the historic 4-year average and is driven by using better asset management data that is being collected from annual inspections as well as data from the LDC's GIS system. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 78 Evaluation Criteria Summary

Benefit	Justification
Reliability	Replacement of aged equipment with new equipment potentially reduces the risk of failure and supports WNP in maintaining its system uptime while minimizing outages thereby providing customers with a consistent service in addition to encouraging efficiency in the design, construction and operation of the system.
Safety	Replacing damaged equipment to minimize any safety issues to both the public and utility workers, therefore supporting WNP's Vision and Mission statements.

New Services:

This budget item is used to fund the assets provided by the company to connect new services, to connect temporary services or modification to an existing customer connection and are regarded as System Access capital activities. This includes the installation of distribution poles, conductor, and transformation and Overhead/Underground service cables. Any work driven by the new service connections, installation of temporary services or modifications to existing services are allocated to this budget item. WNP has provisioned $60,000 for this item capital based upon the review of the County and Municipal growth plans implying that more sub-divisions and multi-unit facilities will be built within the service area to accommodate the population growth anticipated as described in "Section 5.2.4 – Consultations with Municipal Planning Office". WNP acknowledges that this item is not a controllable expenditure as it is customer-driven. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 79 Evaluation Criteria Summary

Benefit	Justification
Customer Value	Meeting the customer needs for new connections and/or service modifications to meet consumer expectations. This customer contact is important and encourages a positive customer experience (which in turn, encourages customer satisfaction)
Safety	Fulfilling the obligations of the Distribution System Code and the LDC's Conditions of Service
Environment	Ensuring that new MicroFIT and FIT connections are connected as per obligations of the Distribution System Code and the LDC's Conditions of Service therefore supporting any REG initiatives

Pole Line Rebuild - Queen St W between Durham Street West and Sligo Rd West

The Queen St W between Durham Street West and Sligo Road West is a system renewal project. The vintage of the assets located in this area is circa 1975 and approaching the end of their life. The existing Class 6 poles will be replaced with Class 3 poles which meet current construction and safety standards. The porcelain insulators will be replaced with safer polymer type insulators. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 80 Evaluation Criteria Summary

Benefit	Justification
Reliability	Replacement of aged equipment with new equipment potentially reduces the risk of failure and supports WNP in maintaining its system uptime while minimizing outages thereby providing customers with a consistent service in addition to encouraging efficiency in the design, construction and operation of the system. Using polymer insulators when replacing porcelain insulators. (The LDC has experienced porcelain insulators failing resulting in power outages in the service area)

Pole Line Re-build - Holstein Line Rebuild

The Holstein Line Rebuild is a system renewal project. The assets in the area were installed circa 1975 and are approaching the end of their life. The existing Class 6 poles will be replaced with Class 3 poles which meet current construction and safety standards. The porcelain insulators will be replaced with safer polymer type insulators. The project will be designed to facilitate the backyard conversion of several residential customers to front lot feeds. The pole line supplying electricity to the rear fed lots travels through a field with no roadway. This area is extremely difficult to access during winter and wet months. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 81 Evaluation Criteria Summary

Benefit	Justification
Reliability	Replacement of aged equipment with new equipment potentially reduces the risk of failure and supports WNP in maintaining its system uptime while minimizing outages thereby providing customers with a consistent service in addition to encouraging efficiency in the design, construction and operation of the system. Using polymer insulators when replacing porcelain insulators. (The LDC has experienced porcelain insulators failing resulting in power outages in the service area)
Efficiency	Accessing assets in the event of failure or for replacements will be easier and less time consuming
Safety	Accessing assets in the event of failure or for replacements will be safer (i.e. reduced slip or trip hazards) and avoid crossing personal property
Environment	Improves the aesthetics of the road demonstrating regeneration in the community

Pole Line Re-build - Queen Street Between Cork and Arthur

The Queen between Cork and Arthur is a system renewal project. The assets in the area were installed circa 1975 and approaching the end of their life. The existing Class 6 poles will be replaced with Class 3 poles which meet current construction and safety standards. The porcelain insulators will be replaced with safer polymer type insulators. The pole line is located on the busy highway through Mount Forest. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 82 Evaluation Criteria Summary

Benefit	Justification
Reliability	Replacement of aged equipment with new equipment potentially reduces the risk of failure and supports WNP in maintaining its system uptime while minimizing outages thereby providing customers with a consistent service in addition to encouraging efficiency in the design, construction and operation of the system.

	Using polymer insulators when replacing porcelain insulators. (The LDC has experienced porcelain insulators failing resulting in power outages in the service area)

Residential & Commercial Meter Replacement

The Residential and Commercial Meter replacement program provides a plan to replace meters approaching their end of life (seal date) over a three year period starting in 2017 and completing in 2019. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 83 Evaluation Criteria Summary

Benefit	Justification
Customer Value	The intent is to replace meters with no / minimum interruption to customers (a seamless transaction)
Efficiency	This project is phased over 3 years. This means that costs and workload is spread evenly demonstrating an effective use of resources (i.e. this project will be undertaken in the Winter and Fall seasons, outside of the construction period.)
Mandate	Smart Meter installation was mandated by the Ministry of Energy and it is paramount that WNP ensure that meters are functioning correctly to enable accurate customer billing and settlement with the IESO

5.4.5.2.4 2018 Planned Capital Projects:

Table 84 2018 Capital Projects by Investment Category

Year	Project	Category	OEB Invest. Category	Estimated Cost	Sub Totals	Yearly Total
2018	Annual Activities (pole & transformer replacements)	Annual Capital Projects - Asset Replacement	System Renewal	$ 50,000		
2018	New Services	Annual Capital Projects - New Services / Modifications	System Access	$ 60,000		
2018	Pole Line Rebuild - Isabella St btw Eliza and Charles Sts	Pole Line Projects	System Renewal	$ 60,000		
2018	Pole Line Rebuild - Adelaide St btw Clarke and Conestoga Sts	Pole Line Projects	System Renewal	$ 40,000		
2018	UG Rebuild - Holstein Rear-lot Conversion (partial)	Underground Distribution Projects	System Renewal	$ 70,000		
2018	Residential & Commercial Meter Replacement	Meter Asset Projects	System Access	$ 180,000		
					$ 460,000	
2018	Recloser Smart Technology @MS3	Smart Grid	System Renewal	$ 104,000		
2018	Substation - MS3 Replacement (Phase 2)	Sub-Station Asset Projects	System Renewal	$ 1,600,000		
					$ 1,704,000	
2018	Building Renovation	Building Renovations	General Plant	$ 5,000		
2018	Replace 4 x pc workstations	IT	General Plant	$ 8,400		
2018	Replace UPS and Monitors	IT	General Plant	$ 750		
2018	Cisco ASA OS Firewall	IT	General Plant	$ 5,400		
2018	Fibre Smart Meter Network	IT	General Plant	$ 3,000		
2018	4 x Tranzeo TR6 Bridge - broadband wireless communication equipment	IT	General Plant	$ 1,920		
					$ 24,470	
						$ 2,188,470

Annual Activities:

This budget item is provisioned for the repair and/or replacement of distribution assets (such as poles and transformers) where the equipment has deteriorated, is at/beyond its useful life, is damaged and cannot be viably repaired, is a risk/safety hazard or has been identified as a replacement asset through the LDC's Asset Inspection program (as per Asset Management Process Overview discussed above.) WNP has provisioned $50,000 for this capital item. This annual budgeted amount is lower than the historic 4-year average and is driven by using better asset management data that is being collected from annual inspections as well as data from the LDC's GIS system. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 85 Evaluation Criteria Summary

Benefit	Justification
Reliability	Replacement of aged equipment with new equipment potentially reduces the risk of failure and supports WNP in maintaining its system uptime while minimizing outages thereby providing customers with a consistent service in addition to encouraging efficiency in the design, construction and operation of the system.
Safety	Replacing damaged equipment to minimize any safety issues to both the public and utility workers, therefore supporting WNP's Vision and Mission statements.

New Services:

This budget item is used to fund the assets provided by the company to connect new services, to connect temporary services or modification to an existing customer connection and are regarded as System Access capital activities. This includes the installation of distribution poles, conductor, and transformation and Overhead/Underground service cables. Any work driven by the new service connections, installation of temporary services or modifications to existing services are allocated to this budget item. WNP has provisioned $60,000 for this capital item based upon the review of the County and Municipal growth plans implying that more sub-divisions and multi-unit facilities will be built within the service area to accommodate the population growth anticipated as described in "Section 5.2.4 – Consultations with Municipal Planning Office". WNP acknowledges that this item is not a controllable expenditure as it is customer-driven. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 86 Evaluation Criteria Summary

Benefit	Justification
Customer Value	Meeting the customer needs for new connections and/or service modifications to meet consumer expectations. This customer contact is important and encourages a positive customer experience (which in turn, encourages customer satisfaction)
Safety	Fulling the obligations of the Distribution System Code and the LDC's Conditions of Service
Environment	Ensuring that new MicroFIT and FIT connections are connected as per obligations of the

	Distribution System Code and the LDC's Conditions of Service therefore supporting any REG initiatives

Pole Line Rebuild – Tucker St between Domville and Eliza

The Tucker St pole line rebuild between Domville and Eliza is a system renewal project. The assets located in this area were installed circa 1975 and approaching the end of life. The existing Class 6 poles will be replaced with Class 3 poles which meet current construction and safety standards. The porcelain insulators will be replaced with safer polymer type insulators. The project will also provide an alternate route to supply 3ϕ electricity to Eliza St. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 87 Evaluation Criteria Summary

Benefit	Justification
Reliability	Replacement of aged equipment with new equipment potentially reduces the risk of failure and supports WNP in maintaining its system uptime while minimizing outages thereby providing customers with a consistent service in addition to encouraging efficiency in the design, construction and operation of the system. Using polymer insulators when replacing porcelain insulators. (The LDC has experienced porcelain insulators failing resulting in power outages in the service area)

Underground Rebuild (partial) - Holstein Rear-lot Conversion

The project is a conversion from rear to front lot. Current accessibility to the lots in winter or wet months is limited. The pole line supplying electricity to the rear fed lots travels through a field with no roadway. This area is extremely difficult to access during winter and wet months. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 88 Evaluation Criteria Summary

Benefit	Justification
Reliability	Replacement of aged equipment with new equipment potentially reduces the risk of failure and supports WNP in maintaining its system uptime while minimizing outages thereby providing customers with a consistent service in addition to encouraging efficiency in the design, construction and operation of the system.
Efficiency	Accessing assets in the event of failure or for replacements will be easier and less time consuming
Safety	Accessing assets in the event of failure or for replacements will be safer (i.e. reduced slip or trip hazards) and avoid crossing personal property
Environment	Improves the aesthetics of the road demonstrating regeneration in the community

Residential & Commercial Meter Replacement (continuation)

The Residential and Commercial Meter replacement program, a continuation from 2017, is planned to replace meters approaching their end of life (seal date) over a three year period starting in 2017 and completing in 2019. At this time, Wellington North Power, based on the current extremely high failure rate, is not planning to process the meters through the sampling process. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 89 Evaluation Criteria Summary

Benefit	Justification
Customer Value	The intent is to replace meters with no / minimum interruption to customers (a seamless transaction)
Efficiency	This project is phased over 3 years. This means that costs and workload is spread evenly demonstrating an effective use of resources (i.e. this project will be undertaken in the Winter and Fall seasons, outside of the construction period.)
Mandate	Smart Meter installation was mandated by the Ministry of Energy and it is paramount that WNP ensure that meters are functioning correctly to enable accurate customer billing and settlement with the IESO

5.4.5.2.5 2019 Planned Capital Projects:

Table 90 2019 Capital Projects by Investment Category

Year	Project	Category	OEB Invest. Category	Estimated Cost	Sub Totals	Yearly Total
2019	Annual Activities (pole & transformer replacements)	Annual Capital Projects - Asset Replacement	System Renewal	$ 50,000		
2019	New Services	Annual Capital Projects - New Services / Modifications	System Access	$ 60,000		
2019	Pole Line Rebuild - Waterloo St btw Dublin and John Sts	Pole Line Projects	System Renewal	$ 85,000		
2019	Pole Line Rebuild - Preston St N btw Smith and Domville Sts	Pole Line Projects	System Renewal	$ 60,000		
2019	Pole Line Rebuild - York St at Queen W	Pole Line Projects	System Renewal	$ 25,000		
2019	Pole Line Rebuild - Preston St Trailer Park	Pole Line Projects	System Renewal	$ 20,000		
2019	Residential & Commercial Meter Replacement	Meter Asset Projects	System Access	$ 180,000		
					$ 480,000	
2019	Smart Technology	Smart Grid	System Renewal	$ 10,000		
					$ 10,000	
2019	Transport - replacement of pick-up (TR51)	Transport Asset Projects	General Plant	$ 35,000		
2019	Replacement TR60 RBD (2004 International) (15 Years)	Transport Asset Projects	General Plant	$ 250,000		
2019	Building Renovation	Building Renovations	General Plant	$ 50,000		
2019	Replacement of ESXI – Web Presentment Server	IT	General Plant	$ 16,000		
2019	Replace billing printer	IT	General Plant	$ 40,000		
2019	Fibre Smart Meter Network	IT	General Plant	$ 3,000		
2019	Replace Redline Ptp Bridge (Backbone) (4 units @ $4,304 each)	IT	General Plant	$ 17,280		
2019	Replace Network Switch WS-C2960X-48TS-L	IT	General Plant	$ 3,500		
2019	4 x Tranzeo TR6 Bridge - broadband wireless communication equipment	IT	General Plant	$ 1,920		
2019	Replace 1 x pc workstations and 2 x laptops	IT	General Plant	$ 4,400		
2019	Replace UPS and Monitors	IT	General Plant	$ 750		
					$ 421,850	
						$ 911,850

Annual Activities:

This budget item is provisioned for the repair and/or replacement of distribution assets (such as poles and transformers) where the equipment has deteriorated, is at/beyond its useful life, is damaged and cannot be

viably repaired, is a risk/safety hazard or has been identified as a replacement asset through the LDC's Asset Inspection program (as per Asset Management Process Overview discussed above.) WNP has provisioned $50,000 for this item capital. This annual budgeted amount is lower than the historic 4-year average and is driven by using better asset management data that is being collected from annual inspections as well as data from the LDC's GIS system. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 92 Evaluation Criteria Summary

Benefit	Justification
Reliability	Replacement of aged equipment with new equipment potentially reduces the risk of failure and supports WNP in maintaining its system uptime while minimizing outages thereby providing customers with a consistent service in addition to encouraging efficiency in the design, construction and operation of the system.
Safety	Replacing damaged equipment to minimize any safety issues to both the public and utility workers, therefore supporting WNP's Vision and Mission statements.

New Services:

This budget item is used to fund the assets provided by the company to connect new services, to connect temporary services or modification to an existing customer connection and are regarded as System Access capital activities. This includes the installation of distribution poles, conductor, and transformation and Overhead/Underground service cables. Any work driven by the new service connections, installation of temporary services or modifications to existing services are allocated to this budget item. WNP has provisioned $60,000 for this item capital based upon the review of the County and Municipal growth plans implying that more sub-divisions and multi-unit facilities will be built within the service area to accommodate the population growth anticipated as described in "Section 5.2.4 – Consultations with Municipal Planning Office". WNP acknowledges that this item is not a controllable expenditure as it is customer-driven. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 93 Evaluation Criteria Summary

Benefit	Justification
Customer Value	Meeting the customer needs for new connections and/or service modifications to meet consumer expectations. This customer contact is important and encourages a positive customer experience (which in turn, encourages customer satisfaction)
Safety	Fulling the obligations of the Distribution System Code and the LDC's Conditions of Service
Environment	Ensuring that new MicroFIT and FIT connections are connected as per obligations of the Distribution System Code and the LDC's Conditions of Service therefore supporting any

	REG initiatives

Pole Line Rebuild - Waterloo St between Dublin Street and John Street

The Waterloo St pole line rebuild between Dublin and John is a system renewal project. The assets located in this area were installed circa 1975 and approaching the end of their life. The existing Class 6 poles will be replaced with Class 3 poles which meet current construction and safety standards. The porcelain insulators will be replaced with safer polymer type insulators. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 94 Evaluation Criteria Summary

Benefit	Justification
Reliability	Replacement of aged equipment with new equipment potentially reduces the risk of failure and supports WNP in maintaining its system uptime while minimizing outages thereby providing customers with a consistent service in addition to encouraging efficiency in the design, construction and operation of the system. Using polymer insulators when replacing porcelain insulators. (The LDC has experienced porcelain insulators failing resulting in power outages in the service area)

Pole Line Rebuild - Preston St N between Smith Street and Domville Street

The Preston St N pole line rebuild between Smith and Domville is a system renewal project. The assets located in this area were installed circa 1975 and approaching the end of their life. The existing Class 6 poles will be replaced with Class 3 poles which meet current construction and safety standards. The porcelain insulators will be replaced with safer polymer type insulators. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 95 Evaluation Criteria Summary

Benefit	Justification
Reliability	Replacement of aged equipment with new equipment potentially reduces the risk of failure and supports WNP in maintaining its system uptime while minimizing outages thereby providing customers with a consistent service in addition to encouraging efficiency in the design, construction and operation of the system. Using polymer insulators when replacing porcelain insulators. (The LDC has experienced porcelain insulators failing resulting in power outages in the service area)

Residential & Commercial Meter Replacement (continuation)

The Residential and Commercial Meter replacement program, a continuation from 2017 and 2018, is planned to replace meters approaching their end of life (seal date) over a three year period starting in 2017 and completing in 2019.

The table below summarizes the benefits and evaluation criteria for this capital project:

Table 96 Evaluation Criteria Summary

Benefit	Justification
Customer Value	The intent is to replace meters with no / minimum interruption to customers (a seamless transaction)
Efficiency	This project is phased over 3 years. This means that costs and workload is spread evenly demonstrating an effective use of resources (i.e. this project will be undertaken in the Winter and Fall seasons, outside of the construction period.)
Mandate	Smart Meter installation was mandated by the Ministry of Energy and it is paramount that WNP ensure that meters are functioning correctly to enable accurate customer billing and settlement with the IESO

Transport - Replacement of Bucket Truck (TR60 RBD - 2004 International)

TR60 is a 2004 tandem RBD which will have been in service for fifteen years. The vehicle will be at its end of life.

The table below summarizes the benefits and evaluation criteria for this capital project:

Table 97 Evaluation Criteria Summary

Benefit	Justification
Reliability	This bucket truck is a critical asset to the LDC is used for capital projects and maintenance activities. WNP is concerned with the age of this equipment as on-going maintenance costs are expected to increase as the vehicle gets older
Safety	This vehicle and installed needs to be safe for operators to use

5.4.5.2.6 2020 Planned Capital Projects:

Table 98 2020 Capital Projects by Investment Category

Year	Project	Category	OEB Invest. Category	Estimated Cost	Sub Totals	Yearly Total
2020	Annual Activities (pole & transformer replacements)	Annual Capital Projects - Asset Replacement	System Renewal	$ 50,000		
2020	New Services	Annual Capital Projects - New Services / Modifications	System Access	$ 60,000		
2020	New Pole Line - Eliza Street to LTLT Customer	Pole Line Projects	System Renewal	$ 25,000		
2020	Pole Line Rebuild - North-side Adjustment at Wells St N	Pole Line Projects	System Renewal	$ 20,000		
2020	Pole Line Rebuild - Eliza St btw 304 Eliza St and Frederick St	Pole Line Projects	System Renewal	$ 50,000		
2020	Pole Line Projects to be named nearer date	Pole Line Projects	System Renewal	$ 125,000		
2020	Underground Projects to be named nearer date	Pole Line Projects	System Renewal	$ 130,000		
					$ 460,000	
2020	Smart Technology	Smart Grid	System Renewal	$ 10,000		
					$ 10,000	
2020	Transport - New pick-up truck (TR20)	Transport Asset Projects	General Plant	$ 35,000		
2020	Transport - New Bucket (TR55) (12 Years)	Transport Asset Projects	General Plant	$ 310,000		
2020	Storwize V3700 (Data San Storage)	IT	General Plant	$ 22,000		
2020	Virtual Server replacement - System X 3650 Hypervisor 1	IT	General Plant	$ 18,000		
2020	Virtual Server replacement - System X 3650 Hypervisor 2	IT	General Plant	$ 18,000		
2020	Building Renovation	Building Renovations	General Plant	$ 50,000		
					$ 453,000	③
						$ 923,000

Annual Activities:

This budget item is provisioned for the repair and/or replacement of distribution assets (such as poles and transformers) where the equipment has deteriorated, is at/beyond its useful life, is damaged and cannot be viably repaired, is a risk/safety hazard or has been identified as a replacement asset through the LDC's Asset Inspection program (as per Asset Management Process Overview discussed above.) As per 2015 CapEx Plan, explained above, WNP has provisioned $50,000 for this item capital. This annual budgeted amount is lower than the historic 4-year average and is driven by using better asset management data that is being collected from annual inspections as well as data from the LDC's GIS system. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 99 Evaluation Criteria Summary

Benefit	Justification
Reliability	Replacement of aged equipment with new equipment potentially reduces the risk of failure and supports WNP in maintaining its system uptime while minimizing outages thereby providing customers with a consistent service in addition to encouraging efficiency in the design, construction and operation of the system.
Safety	Replacing damaged equipment to minimize any safety issues to both the public and utility workers, therefore supporting WNP's Vision and Mission statements.

New Services:

This budget item is used to fund the assets provided by the company to connect new services, to connect temporary services or modification to an existing customer connection and are regarded as System Access

capital activities. This includes the installation of distribution poles, conductor, and transformation and Overhead/Underground service cables. Any work driven by the new service connections, installation of temporary services or modifications to existing services are allocated to this budget item. WNP has provisioned $60,000 for this item capital based upon the review of the County and Municipal growth plans implying that more sub-divisions and multi-unit facilities will be built within the service area to accommodate the population growth anticipated as described in "Section 5.2.4 – Consultations with Municipal Planning Office". WNP acknowledges that this item is not a controllable expenditure as it is customer-driven. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 100 Evaluation Criteria Summary

Benefit	Justification
Customer Value	Meeting the customer needs for new connections and/or service modifications to meet consumer expectations. This customer contact is important and encourages a positive customer experience (which in turn, encourages customer satisfaction)
Safety	Fulling the obligations of the Distribution System Code and the LDC's Conditions of Service
Environment	Ensuring that new MicroFIT and FIT connections are connected as per obligations of the Distribution System Code and the LDC's Conditions of Service therefore supporting any REG initiatives

Pole Line Projects to be named nearer date

Projects will be selected according to our asset management process.

Underground Projects to be named nearer date

Projects will be selected according to our asset management process.

Transport – Replacement of Bucket Truck (TR55 - 2008)

TR55 is a 2005 single bucket service which will have been in service for twelve years. The vehicle will be at its end of life. The table below summarizes the benefits and evaluation criteria for this capital project:

Table 101 Evaluation Criteria Summary

Benefit	Justification
Reliability	This bucket truck is a critical asset to the LDC is used for capital projects and maintenance activities. WNP is concerned with the age of this equipment as on-going maintenance costs are expected to increase as the vehicle gets older
Safety	This vehicle and installed needs to be safe for operators to use

5.4.5.3 Special Capital Projects

The discussion over the next pages articulate the requirements for two "special" capital projects that have been included in WNP's five year capital plan. These projects are:

a) Second 44kV feed to Mount Forest (2016)
b) Replacement of an Aged Substation (2018)

5.4.5.3.1 Second 44kV Feeder to Mount Forest

WNP (WNP) has been working with Hydro One Networks Inc. (HONI) to address capacity and reliability concerns with the electrical supply to Mount Forest. The result is a proposed project, pending OEB approval, to build approximately 11 kilometers of pole line to connect a 44kV feeder from Palmerston TS to WNP's distribution system.

Background:

Mount Forest is supplied through a single rural radial 44kV pole line owned and operated by HONI from the Hanover TS approximately 44km away. The existing pole line is constructed through several areas with no road access making inspection, maintenance and repairs difficult and time consuming. An ice storm in April 2013 broke a number of HONI poles resulting in an outage lasting over 18 hours negatively impacting the manufacturing and small business consumers as well as critical load customers in Mount Forest. The outage demonstrated the need for an alternate power supply to ensure critical loads (hospital, seniors housing complex and warming station) are maintained and switching options are available to transfer loads.

The map below shows the current 44kV pole line route from Hanover TS to Mount Forest:

The three areas of particular concern during severe weather, in WNP's opinion, are illustrated in the pictures over the following pages:

Satellite Image Section 1: **No Road Access, Water Crossing and Vegetation**

Satellite Image Section 2: **No Road Access, Water Crossing and Vegetation**

Photograph of Section 3: **Area with No Road Access**

In addition, there have been a total of three (3) outages totaling 8.23 hours from January to August 2015. The outage data as shown in the table below was collected at the Primary Metering Equipment (PME) to Mount Forest. Only outages greater than fifteen minutes are included in the data. Circuit breaker 36M5 reclose data is not collected from HONI

Table 102: Outages 2009 to 2014

	Outages	Total Hours
2009	2	6
2010	2	4
2011	0	0
2012	2	4
2013	3	22.5
2014	1	2

Further discussions with HONI revealed that the current supply to Mount Forest is at capacity limiting any further growth and development in the area. There are currently a number developments and expansions in the planning stage which WNP will be unable to supply.

- Dana Long Manufacturing Plant Expansion
- Louise Marshall Hospital Addition
- Combination Box Store and 411 Unit Housing Development

WNP requested a report from HONI investigating possible solutions and estimated costs for consideration with a primary focus to resolve the capacity issue. The following load forecasts were provided to HONI to support the report and costing estimates.

Table 103: WNP Load Forecast Provided to HONI

Customer Name											Hydro One ID
WELLINGTON NORTH POWER INC.											541667

Deliver Point (DP) 2012 Actual & 2013-2038 Forecast in kVA

DP ID	CSS Account	Peak	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
81662103DP	0239768006	Summer	10,063	10,458	9,972	11,158	11,654	11,718	12,322	12,925	13,022	13,119
	11086740	Winter	10,014	10,198	10,401	11,381	11,887	11,953	12,568	13,184	13,282	13,381

Hydro One account number changed effective May 2013

Peak	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Summer	13,216	13,313	13,410	13,507	13,604	13,701	13,798	13,895	14,024	14,153
Winter	13,480	13,579	13,678	13,777	13,876	13,975	14,074	14,173	14,304	14,436

Peak	2032	2033	2034	2035	2036	2037	2038
Summer	14,282	14,412	14,541	14,670	14,800	14,929	15,058
Winter	14,568	14,700	14,832	14,964	15,096	15,227	15,359

Comments & Supporting Details:

1. Industrial customer Dana Long potential load increase.
2. Murphy Development box stores 2018 & 2019.
3. Twenty new units @ 3kw per unit 2015 to 2019.
4. Thirty units @ 3kw per unit 2020 to 2029.
5. Forty units @ 3kw per unit 2030 and beyond.
6. Power Factor @.91

Table 104: WNP Load Forecast Provided to HONI

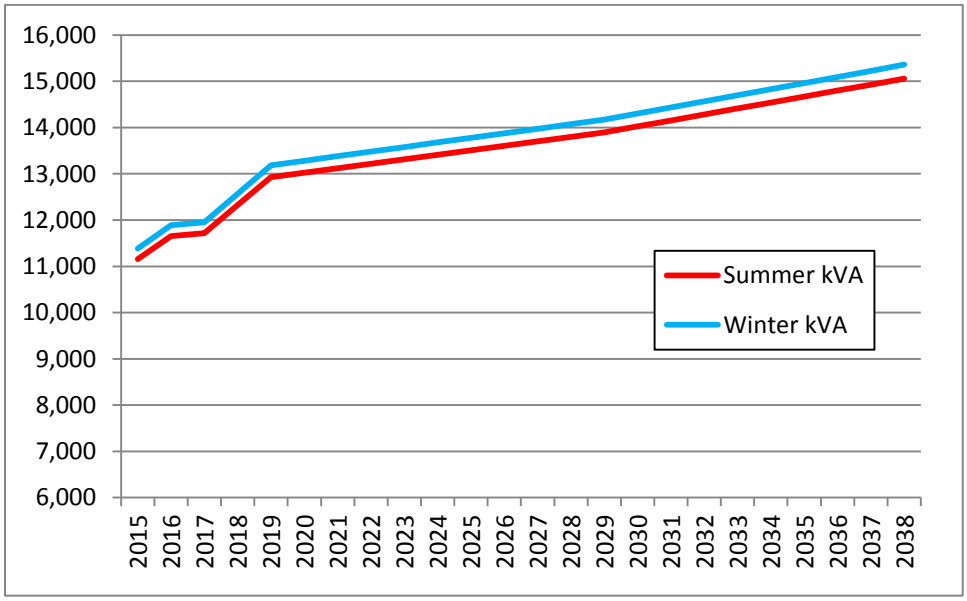


Table 105: WNP Load Forecast Provided to HONI

Customer Name			Hydro One ID
WELLINGTON NORTH POWER INC.			541667

Deliver Point (DP) 2012 Actual & 2013-2038 Forecast in kW

DP ID	CSS Account	Peak	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
81662103DP	0239768006	Summer	9,244	9,556	9,094	10,154	10,605	10,664	11,213	11,762	11,850	11,938
	11086740	Winter	9,512	9,668	9,897	10,357	10,817	10,877	11,437	11,997	12,087	12,177

Hydro One account number changed effective May 2013

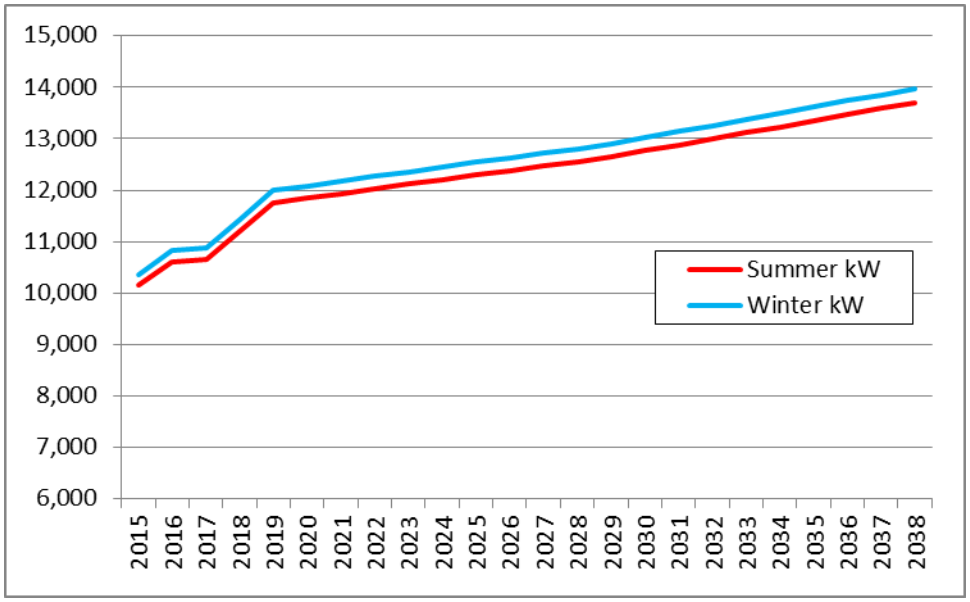
Peak	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Summer	12,026	12,115	12,203	12,291	12,379	12,468	12,556	12,644	12,762	12,879
Winter	12,267	12,357	12,447	12,537	12,627	12,717	12,807	12,897	13,017	13,137

Peak	2032	2033	2034	2035	2036	2037	2038
Summer	12,997	13,115	13,232	13,350	13,468	13,585	13,703
Winter	13,257	13,377	13,497	13,617	13,737	13,857	13,977

Comments & Supporting Details:

1. Industrial customer Dana Long potential load increase.
2. Murphy Development box stores 2018 & 2019.
3. Twenty new units @ 3kw per unit 2015 to 2019.
4. Thirty units @ 3kw per unit 2020 to 2029.
5. Forty units @ 3kw per unit 2030 and beyond.
6. Power Factor @.91

Table 106: WNP Load Forecast Provided to HONI



HONI Report and Recommendations

HONI completed and issued a study on January 20, 2015 included in Appendix D. In summary HONI looked at five possible solutions:

1. *Offloading Hanover TS M5*

   Neustadt DS (approximately 4.4MVA) can be transferred from the Hanover TS M5 to the Hanover TS M2, through an 11.5km expansion of the M2. This would free up additional capacity on the M5 to accommodate growth.

2. *Expanding Palmerston TS M2 or M4 to Provide an Alternative Supply*

   The nearest alternative supply options are the Palmerston TS M2 and M4. They would both involve an 11 km line expansion to the south end of Mount Forest and provide additional capacity for the town.

3. *New 44kV Feeder from Palmerston TS*

   A new feeder position could be installed at Palmerston TS. This feeder would run parallel to the existing Palmerston TS M2 route and the existing Palmerston TS M2 loads would be split amongst the two feeders. An 11 km expansion of the Palmerston TS M2 (as described in Alternative 2) would first be required to facilitate this solution.

4. *New Transmission Station*

   A new 115kV / 44kV transmission station closer to Mount Forest and new associated 44kV sub-transmission feeders would provide a significant increase in capacity and improved supply reliability.

Summary of Options:

ID	Option	Capacity	Hydro One Cost
1	Offloading 36M5	5MVA	$2.9M
2	Palmerston M2 Extension	10MVA	$2.75M
3	Palmerston M4 Extension	10MVA	$3.25M
4	Palmerston New Dedicated Feeder	25MVA	$7.75M
5	New Transformer Station	100MVA	$31.25M

Options and total costs from HONI report dated January 20th, 2015.

ID	Option	Assessment
1	Offloading 36M5	Adds capacity but does not address alternate supply.
2	Palmerston M2 Extension	Lowest cost, address capacity and alternate supply.
3	Palmerston M4 Extension	Adds capacity and addresses alternate supply but at higher cost.
4	Palmerston New Dedicated Feeder	Adds capacity and addresses alternate supply but at higher cost.
5	New Transformer Station	Adds capacity and addresses alternate supply but at extreme cost.

In WNP's opinion and agreed to by HONI, the best solution is to extend the Palmerston TS M2 feeder. The estimated fixed cost to WNP for HONI's work is $1,201,640 which will be financed by a loan secured by WNP through Infrastructure Ontario. The required pole line work in Mount Forest will be completed by WNP as detailed in the yearly capital expenditures plan and is estimated at $380,000. The work will commence pending OEB approval with completion by year end 2016.

The Township of Wellington North and an industrial customer of WNP (Dana Long) have provided supporting letters supporting this project as included in Appendix E.

WNP has spoken with Infrastructure Ontario regarding financing this project. Infrastructure Ontario (IO) conducted a preliminary review using WNP's latest Financial Audit Statement (2014) and advised that:

> "Based on a preliminary review of the project details and Wellington North's 2014 Financial Statements Wellington North Power would be within IO's current Debt Service Coverage Ratio and Debt to Total Assets Ratio requirements after financing $1,201,640 for this project."

To date, WNP has incurred the following expenses in relation to this project:

a) Commissioned Hydro One to perform a capacity study of the current feeder line to Mount Forest at a cost of $32,061. This study is included in Appendix D and describes the options that have been reviewed;
b) A Purchase Order for $61,668 to Hydro One to for easement activity in relation to the route the proposed 2nd feeder would run.

WNP will commence with the construction of this project upon OEB approval to recover the costs through the electricity distribution rates. The above incurred costs will be capitalized as part of the project.

In Appendix D (Hydro One's "Town of Mount Forest Supply Study), page 17 indicates that for the preferred option, total cost (based on 2013 costs) is $2,403,280, of which WNP would responsible for 50% of the cost of the work, or $1,201,640. In its 's 2016 Cost of Service rate application (case number EB-2015-0110), WNP has applied a 3% increase to this estimate (to reflect labour and material increases adjustments to account for inflation) and has used a 2016 forecasted cost of $1,237,689 ($1,201,640 x 103%). This amount ($1,237,689) plus the cost of the study conducted by Hydro One ($32,061) has been used in the rate application Fixed Asset Continuity Schedules recorded in account 1609 in the Fixed Asset Continuity Schedule [$1,237,689 + $32,601 = $1,269,750]. For this project, WNP wishes to pay a fixed price to Hydro One, rather than using a Discounted Cash Flow calculated amount that could result in annual payments to Hydro One as a result of deviation from Demand Load projections.

Conclusion:

The best solution which addresses capacity and reliability is option 2, Palmerston M2 extension to Mount Forest. Hydro One would build the extension up to WNP territory boundary at Hwy 6 and Bentley Street. WNP would continue with the construction from Hwy 6 and Bentley Street to Municipal Substation 1 where the extension would connect to the existing 44kV system. The loads in Mount Forest would be split between the two feeders. In emergency situations WNP would work with Hydro One Ontario Grid Control Centre (OGCC) to perform switching operations between the two feeders limiting outages to critical load customers.

This project is subject to the approval from the Ontario Energy Board for the recovery in electricity distribution rates for the costs associated with the design, procurement and installation of the project through Wellington North Power Inc.'s 2016 Cost of Service rate application (case number EB-2015-0110 – assisted by the LDC's 2015 Distribution System Plan).

5.4.5.3.2 MS3 Substation re-build (2018) – Advanced Capital Module

WNP are including this "special project" in its Distribution System Plan for 2018 and is submitting this as an Advanced Capital Module component of the LDC's 2016 Cost of Service rate application, seeking approval from the regulator to accept this project for 2018 implementation and energization.

Municipal Substation 3 Replacement

WNP contracted Costello Utility Consultants in 2013 to conduct a Substation Condition Assessment. The study revealed a number of equipment issues. WNP proceeded to develop a paced and prioritized plan to make necessary equipment repairs and replacements. In 2014 WNP replaced Municipal Substation 2 with a plan to replace Municipal Substation 3 in 2018.

This capital expenditure is intended to replace one of the existing substations (MS3 in Mount Forest) with a new 44kV 5 MVA Substation. This expenditure supports WNP's business objectives of prudent and sustainable investments in:

1. business system performance and reliability;
2. public and employee safety;
3. regulatory compliance;

Municipal Substation MS3 was given priority over the remaining substations for a number of reasons as follows:

1. Concern of the condition and true life expectancy of the main transformer given its age and condition. The transformer was refurbished in 1988 and through oil sampling has shown signs of degredation. See Substation assessment report in Appendix F.
2. Concern of the condition and life expectancy of the underground feeder cables due to their age. It is estimated that the cables date back to the early 1970's or possibly the 1960's.
3. Feeder 1 switch failed and has been permanently taken out of service. Repairs to the switch would be costly for unknown life expectancy.
4. The station does not have oil containment and is located in a park. This can be considered as an environmental hazard. The main valve was replaced in 2015 due to a leak.
5. MS3 is located in a residential area with proposed future growth. The station is required to continue to supply electricity to both existing and future customers.

Furthermore, this capital project meets the asset end-of-life replacement and long term planning requirements. Given the conditions noted above, this substation has a high risk of failure and in WNP's opinion is a reliability concern. WNP considers this to be an "operational effectiveness" initiative to maintain system reliability, therefore supporting the OEB's RRFE outcomes.

Background

WNP acquired the services of Costello Associates Inc. to provide supporting technical information and budgetary estimates for an asset condition assessment of six of its Distribution Substations. This independent 3rd party report with findings and recommendation was issued to WNP in June 2013 and is included in Appendix F. This study identifies deficiencies in the substations that require attention. Page 2 of the report states the concern regarding the age of these substations and combined with overall condition lead to the planned replacement.

It should be noted that:

1. WNP are requesting incremental capital to replace MS3 substation ahead of MS4 substation based upon the following:

   <u>MS4 (Durham Street West) – lower priority:</u>

   - Distribution plant in and around sub-station requires significant upgrade to fully utilize this sub-station asset / This will take added planning, construction and cost;
   - Sub-station currently supplies one 4,160V circuit at a load of less than 0.5MW;
   - Sub-station should be marked for replacement in near future (2016).

   <u>MS3 (old arena park) – high priority:</u>

   - Distribution plant in and around sub-station provides capacity for significant use;
   - Sub-station supplies four 4,160V circuits with a peak load of approximately 1.6MW;
   - Major items were identified within Costello's report as concerns.

Below are extracts from the "Recommendations" section 3rd party substation assessment report that illustrate the necessity to replace (page 6 section 3):

> **3.2 Aging Plant**
> As mentioned above, two substations have exceeded the average life expectancy for this type of equipment. Two other stations are approaching their end of life. A strategy is required to plan for the replacement of these assets. The replacement cost of substation equipment is significant, and costs have been rising steadily over the past few years due to the increase in cost of metals. The replacement of station assets should be forecasted, based on the safety, reliability, and age of the stations, in concert with consideration for distribution projects. Ongoing periodic condition assessments should be performed to determine the priority of replacement projects

> **4 Conclusion**
> There are numerous safety issues with the WNP substations that should be immediately addressed. A short term work plan is required to make necessary repairs as part of the 2013 operating program. In addition, the general age and condition of the stations warrant the development of a long term replacement/ rehabilitation program.

Source: Costello Associates – "Substation Condition Assessment Study, prepared for WNP June 2013"

WNP has reviewed the assessment report in detail and has addressed those deficiencies identified where the LDC has the capability (i.e. knowledge, training and expertise). However, 3rd party technical expertise will be required to address the deficiencies that the LDC cannot correct. This approach seeks to address the safety issues identified in the assessment and referred to in the report's conclusion.

Furthermore, based upon this independent assessment, WNP firmly believes that given the condition and age of the substations, the LDC needs to replace substation (MS3).

Alternatives

Upon reviewing the independent 3rd party substation assessment report (Appendix F), WNP has decided to request the replacement of MS3 in 2018. WNP did look at four alternatives.

Alternative #1 – Do nothing (No cost).

Alternative #2 – New Substation. (Estimated cost $1.67m)

Replace the original substation (MS3) with a new substation that conforms to the latest safety specifications and meets WNP's requirements to distribute electricity to the Mount Forest service territory.

Alternative #3 – Replace existing transformer, add oil containment, and replace the 4kV feeder cable. (Estimated cost $609k)

Alternative #4 – Replace existing transformer, add oil containment, replace the 4kV feeder cable and replace the switchgear. (Estimated cost $769k)

Detailed estimates are provided in the following pages.

Alternative #2 – New Substation with re-use of existing Transformer

Costello Associates Inc

Wellington North Power - 44 kV 5 MVA Substation Concept Budget

Design	Outdoor 44 kV Padmounted Switchgear, Underground Construction 15kV Padmounted Switchgear Padmounted Reclosers and Isolating Switches Underground 15 kV Risers x 4
Voltage	44 - 4.16/2.4 kV
Installed Capacity	5 MVA
Switchgear Type	Padmount
Feeder Breakers	15 kV 630A Solid Dielectric Reclosers x 4

	Component	Cost Detail	Summary
1.0	**Property Costs**		
1.1	Sale price	$ -	
1.2	Legal and Surveying costs	$ 2,500	
			$ 2,500
2.0	**Engineering & Design**		
2.1	Preliminary Engineering	$ 16,000	
2.2	Environmental Screening	$ 5,000	
2.3	Geotechnical Investigation	$ 15,000	
2.4	Grounding Study	$ 30,000	
2.5	Detailed Engineering & Design	$ 245,000	
2.6	Site Meetings	$ 3,000	
2.7	Site Supervision & Project Management	$ 20,000	
2.8	Protection Study	$ 15,000	
			$ 349,000
3.0	**Major equipment**		
3.1	Power Transformer 5 MVA	$ 210,000	
3.2	Station Reclosers (4)	$ 105,000	
3.3	44 kV PM Switches/Fuses	$ 90,000	
3.4	S&C Switchgear	$ 90,000	
3.5	Prefab. Control Shack Pad	$ 30,000	
3.6	Station Service	$ 7,500	
3.7	44 kV Cables/Terminators est.	$ 15,000	
3.8	15 kV 500 MCM Cables/Terminators est.	$ 27,000	
3.9	Scada RTU	$ 45,000	
			$ 619,500

4.0	**Civil Construction**				
4.1	Construction Power	$	4,000		
4.2	Clearing, Grubbing, Grading, compacting, fill	$	55,000		
4.3	Road entrance/paving	$	10,000		
4.4	Oil Containment	$	65,000		
4.5	Duct Banks	$	66,000		
4.6	Concrete Foundations / Pads	$	75,000		
4.7	Fence & Stone	$	25,000		
				$	**300,000**
5.0	**Electrical**				
5.1	Grounding	$	35,000		
5.2	Installation of Transformer	$	5,000		
5.3	Installation of 44kV/15kV Switches & Reclosers	$	8,000		
5.4	Power & Control Cabling	$	45,000		
5.5	Station Service Panel	$	8,500		
5.6	Control Building & P&C	$	75,000		
5.7	Commissioning	$	66,500		
				$	**243,000**
6.0	**Miscellaneous**				
6.1	Mobilization, Bonding, Insurance	$	65,000		
6.2	Equipment	$	50,000		
6.3	Fees & Permits	$	8,500		
				$	**123,500**
7.0	**WNP Staff Costs**				
7.1	Lines	$	19,500		
7.2	Engineering	$	15,000		
				$	**34,500**
	Budget Total			**$**	**1,672,000**

Alternative #3 – Replace Transformer and Cable

Costello Associates Inc

	Wellington North Power- 44 kV 5 MVA Substation Concept Budget			
	Design	Replace Transformer & Cables Only Includes Oil Containment		
	Voltage	44 - 4.16/2.4 kV		
	Installed Capacity	5 MVA		
	Switchgear Type	Padmount		
	Feeder Breakers	N/A		
	Component	**Cost Detail**	**Summary**	
1.0	**Property Costs**			
1.1	Sale price	$ -		
1.2	Legal and Surveying costs	$ -		
			$	**-**
2.0	**Engineering & Design**			
2.1	Preliminary engineering/investigation	$ 5,000		
2.2	Environmental Screening	$ 5,000		
2.3	Geotechnical Investigation	$ 15,000		
2.4	Grounding Study	$ 30,000		
2.5	Detailed Engineering & Design	$ 50,000		
2.6	Site Meetings	$ 3,000		
2.7	Site Supervision & Project Management	$ 20,000		
2.8	Protection Study	$ -		
			$	**128,000**
3.0	**Major equipment**			
3.1	Power Transformer 5 MVA	$ 210,000		
3.2	Station Reclosers (4)	$ -		
3.3	44 kV PM Switches/Fuses	$ -		
3.4	S&C Switchgear	$ -		
3.5	Prefab. Control Shack Pad	$ -		
3.6	Station Service	$ 7,500		
3.7	44 kV Cables/Terminators est.	$ 15,000		
3.8	15 kV 500 MCM Cables/Terminators est.	$ 27,000		
3.9	Scada RTU	$ -		
			$	**259,500**

4.0	**Civil Construction**				
4.1	Construction Power	$	-		
4.2	Clearing, Grubbing, Grading, compacting, fill	$	10,000		
4.3	Road entrance/paving	$	-		
4.4	Oil Containment	$	65,000		
4.5	Duct Banks	$	-		
4.6	Concrete Foundations / Pads	$	-		
4.7	Fence & Stone	$	10,000		
				$	**85,000**
5.0	**Electrical**				
5.1	Grounding	$	10,000		
5.2	Installation of Transformer	$	5,000		
5.3	Installation of 44kV/15kV Switches & Reclosers	$	-		
5.4	Power & Control Cabling	$	28,000		
5.5	Station Service Panel	$	8,500		
5.6	Control Building & P&C	$	-		
5.7	Commissioning	$	20,000		
				$	**71,500**
6.0	**Miscellaneous**				
6.1	Mobilization, Bonding, Insurance	$	25,000		
6.2	Equipment	$	25,000		
6.3	Fees & Permits	$	5,000		
				$	**55,000**
7.0	**WNP Staff Costs**				
7.1	Lines	$	5,000		
7.2	Engineering	$	5,000		
				$	**10,000**
	Budget Total			**$**	**609,000**

Alternative #4 – Replace Transformer, Cable and Switchgear

Costello Associates Inc

Wellington North Hydro - 44 kV 5 MVA Substation Concept Budget

Design	Replace Transformer, 15kV Switchgear (less Recloser) & Cables Includes Oil Containment
Voltage	44 - 4.16/2.4 kV
Installed Capacity	5 MVA
Switchgear Type	Padmount
Feeder Breakers	15 kV 630A Solid Dielectric Reclosers x 4
Schedule	Fall 2014

	Component	Cost Detail	Summary
1.0	**Property Costs**		
1.1	Sale price	$ -	
1.2	Legal and Surveying costs	$ -	
			$ -
2.0	**Engineering & Design**		
2.1	Preliminary engineering/investigation	$ 5,000	
2.2	Environmental Screening	$ 5,000	
2.3	Geotechnical Investigation	$ 15,000	
2.4	Grounding Study	$ 30,000	
2.5	Detailed Engineering & Design	$ 75,000	
2.6	Site Meetings	$ 3,000	
2.7	Site Supervision & Project Management	$ 20,000	
2.8	Protection Study	$ 15,000	
			$ 168,000
3.0	**Major equipment**		
3.1	Power Transformer 5 MVA	$ 210,000	
3.2	Station Reclosers (4)	$ -	
3.3	44 kV PM Switches/Fuses	$ -	
3.4	S&C Switchgear (fused)	$ 105,000	
3.5	Prefab. Control Shack Pad	$ -	
3.6	Station Service	$ 7,500	
3.7	44 kV Cables/Terminators est.	$ -	
3.8	15 kV 500 MCM Cables/Terminators est.	$ 27,000	
3.9	Scada RTU	$ -	
			$ 349,500

4.0	**Civil Construction**				
4.1	Construction Power	$	-		
4.2	Clearing, Grubbing, Grading, compacting, fill	$	15,000		
4.3	Road entrance/paving	$	-		
4.4	Oil Containment	$	65,000		
4.5	Duct Banks	$	-		
4.6	Concrete Foundations / Pads	$	15,000		
4.7	Fence & Stone	$	10,000		
				$	**105,000**
5.0	**Electrical**				
5.1	Grounding	$	10,000		
5.2	Installation of Transformer	$	5,000		
5.3	Installation of 15kV Switches	$	5,000		
5.4	Power & Control Cabling	$	28,000		
5.5	Station Service Panel	$	8,500		
5.6	Control Building & P&C	$	-		
5.7	Commissioning	$	20,000		
				$	**76,500**
6.0	**Miscellaneous**				
6.1	Mobilization, Bonding, Insurance	$	25,000		
6.2	Equipment	$	30,000		
6.3	Fees & Permits	$	5,000		
				$	**60,000**
7.0	**WNP Staff Costs**				
7.1	Lines	$	5,000		
7.2	Engineering	$	5,000		
				$	**10,000**
	Budget Total			**$**	**769,000**

Recommendation:

Given the three alternatives cited above, WNP recommendation is to pursue Alternative #2 – replace the aged MS3 substation with a new substation. This recommendation is based upon the following:

Option	Advantages	Disadvantages
Option #1	✓ No captial expenditure.	X This not an option as it poses an unacceptable risk to lose services for a long period of time. X Safety X Reliability is questionable. X Due diligence must be served in this situation. X This substation provides 30% of the load servicing the Mount Forest community. X Continue higher maintenance cost - extra monitoring and oil annalysis required. X Risk of failure, oil leak and environmental contamination.
Option #2	✓ Resolves safety and reliability issues that have been identified in the 3rd party Substation Assessment. ✓ Remote control via SCADA. Fast restoration. ✓ New protection and control equipment installed at sub-station will use today's technology and may be adaptable to future technological development (Smart Grid Capable). ✓ Reclosers will provide better system reliability for customer, i.e. momentary power outages will be handled automatically. ✓ Equipment will be capable of providing "hold-offs" which protect worker safety and equipment. ✓ Solution reduces risk of equipment failure and fulfills the obligation of the typical useful life of 45 years. This cost, amortized over 45 years is the most cost-effective and prudent to rate-payers.	
Option #3	✓ Resolves transformer and cable issues that have been identified in the 3rd party Substation Assessment. ✓ Addresses transformer oil containment.	X Does not address the failed 15kV feeder switchgear. No SCADA capability or auto reclose. X Risk that existing underground duct bank cannot be utilized for the installation of new cables. X Does not include for a new tranfomer foundation which may be required to support a new transformer. X Installation of oil containment may be constrained by current station footprint leading to additional costs. X Installation of oil containment may lead to undermining current structures causing damage to existing equipment structures. X Does not facilitate Smart Grid technology for control and monitoring.
Option #4	✓ Resolves transformer and cable issues that have been identified in the 3rd party Substation Assessment. ✓ Addresses switchgear life. ✓ Addresses transformer oil containment.	X Risk that existing underground duct bank cannot be utilized for the installation of new cables. X Does not include for a new tranfomer foundation which may be required to support a new transformer. X Installation of oil containment may be constrained by current station footprint leading to additional costs. X Installation of oil containment may lead to undermining current structures causing damage to existing equipment structures. X Does not facilitate Smart Grid technology for control and monitoring.

5.0 Appendices

A. IESO Letter of Comment: WNP Distribution System Plan

B. Hydro One Planning Letter of Comment: WNP

C. 3rd Party Review of WNP Distribution System Plan

D. Hydro One Networks Inc. Town of Mount Forest Supply Study

E. Stakeholder Letters supporting 2nd Feeder

F. 3rd Party Substation Assessment Study

G. 2011 – 2014 Capital Programs with Materiality Explanations

Wellington North Power Inc.
290 Queen Street West, PO Box 359, Mount Forest, ON N0G 2L0
Phone: 519.323.1710 Fax: 519.323.2425
E-mail: wnp@wellingtonnorthpower.com
www.wellingtonnorthpower.com

Appendix A: IESO Letter of Comment for Wellington North Power Inc.

Wellington North Power Inc.

Distribution System Plan

2015

Date: September 2015

Prepared by: **Wellington North Power Inc.**

IESO Letter of Comment

Wellington North Power Inc.

Renewable Energy Generation Investments Plan 2016 – 2020

August 31, 2015

ieso
Independent Electricity System Operator

Introduction

On March 28, 2013, the Ontario Energy Board ("the OEB" or "Board") issued its Filing Requirements for Electricity Transmission and Distribution Applications; Chapter 5 – Consolidated Distribution System Plan Filing Requirements (EB-2010-0377). Chapter 5 implements the Board's policy direction on 'an integrated approach to distribution network planning', outlined in the Board's October 18, 2012 Report of the Board - A Renewed Regulatory Framework for Electricity Distributors: A Performance Based Approach.

As outlined in the Chapter 5 filing requirements, the Board expects that the Ontario Power Authority[1] ("OPA") comment letter will include:

- the applications it has received from renewable generators through the FIT program for connection in the distributor's service area;
- whether the distributor has consulted with the OPA, or participated in planning meetings with the OPA;
- the potential need for co-ordination with other distributors and/or transmitters or others on implementing elements of the REG investments; and
- whether the REG investments proposed in the DS Plan are consistent with any Regional Infrastructure Plan.

Wellington North Power Inc. – Distribution System Plan

On August 11, 2015, Wellington North Power Inc. ("Wellington North Power") provided its Renewable Energy Generation Investments Information ("Plan") to the IESO as part of its 5-year Distribution System Plan from 2016-2020. The IESO has reviewed Wellington North Power's Plan and provides the following comments.

OPA FIT/microFIT Applications Received

Wellington North Power's Plan identifies 18 microFIT projects totalling 179.89 kW of capacity, and 1 FIT project totalling 100 kW in capacity that are connected to its distribution system (as of December 31, 2014).

The renewable energy generation connections information of the IESO, as of June 30, 2015, is consistent with the information presented in the Plan. The IESO has offered contracts to 18 microFIT projects representing a capacity of 179.89 kW, and 1 FIT project totalling 100 kW of capacity.

Wellington North Power's Plan conveys that there has been little interest in FIT and micro-FIT projects to date. With no planned or expected FIT projects, 1 microFIT project planned in 2015, and only

[1] On January 1, 2015, the Ontario Power Authority ("OPA") merged with the Independent Electricity System Operator ("IESO") to create a new organization that will combine the OPA and IESO mandates. The new organization is called the Independent Electricity System Operator.

Independent Electricity System Operator
1600 – 120 Adelaide Street West, Toronto, ON M5H 1T1
t 416 967-7474 f 416 967-1947 toll free 1-800-797-9604 customer.relations@ieso.ca www.ieso.ca

1 microFIT project expected per year, the utility does not anticipate reaching the current available capacity on its system for REG connections in the near term. Wellington North Power is therefore not expecting any significant capital expenditures to accommodate REG connections over the 5-year period (2016 to 2020).

Consultation / Participation in Planning Meetings; Coordination with Distributors / Transmitters / Others; Consistency with Regional Plans

For regional planning purposes, the IESO notes that Wellington North Power belongs to two regions: Kitchener-Waterloo-Cambridge-Guelph "Group 1", and Greater Bruce/Huron region "Group 3".

In the KWCG region, Wellington North Power is a fully embedded utility of Hydro One Distribution but was not part of the working group for the Integrated Regional Resource Plan ("IRRP") published on April 28, 2015.[2]

Under the new regional planning process endorsed by the OEB in August 2013, the host distributor (in this case Hydro One Distribution) is required to gather information from their respective embedded LDCs for regional planning purposes. Although the regional planning process does not require that the embedded LDCs be directly involved in the regional planning process, the IESO and Wellington North Power have had conference calls to share updates on the KWCG regional planning activities and local developments in Wellington North Power service area.

Going forward, the IESO will maintain on-going communication with Wellington North Power and will provide updates on the regional planning activities in the KWCG area. Recently, all the embedded LDCs in the KWCG region have been invited to Hydro One's KWCG Regional Infrastructure Plan meetings. However, their participation is not mandatory. Wellington North Power is nonetheless informed of developments in regional planning activities within its territory.

Regarding the status of regional planning for the Greater Bruce/Huron region, Wellington North Power received a letter from Hydro One in November 2014[3] indicating that regional planning for this region may be initiated in Q3 2015. Hydro One's letter indicates that it will notify Wellington North Power and other stakeholders in advance of launching the regional planning process for this region.

The IESO looks forward to participating with Wellington North Power on regional planning activities and appreciates the opportunity to comment on the renewable energy generation information provided as part of its Distribution System Plan.

[2] The KWCG IRRP can be found on the IESO website at http://www.ieso.ca/Documents/Regional-Planning/KWCG/2015-KWCG-IRRP-Report.pdf

[3] The Regional Planning Status letter dated November 28, 2014 can be found on the Hydro One website at http://www.hydroone.com/RegionalPlanning/KWCG/Documents/Wellington%20North%20Power%20Inc%20-%20Planning%20Status%20Letter.pdf

Independent Electricity System Operator
1600 – 120 Adelaide Street West, Toronto, ON M5H 1T1
t 416 967-7474 f 416 967-1947 toll free 1-800-797-9604 customer.relations@ieso.ca www.ieso.ca

Wellington North Power Inc.
290 Queen Street West, PO Box 359, Mount Forest, ON N0G 2L0
Phone: 519.323.1710 Fax: 519.323.2425
E-mail: wnp@wellingtonnorthpower.com
www.wellingtonnorthpower.com

Appendix B: Hydro One Planning Status Letter for Wellington North Power Inc.

Wellington North Power Inc.

Distribution System Plan

2015

Date: September 2015

Hydro One Networks Inc.
483 Bay Street
6th Floor, South Tower
Toronto, ON M5G 2P5
www.HydroOne.com

Tel: (416) 345-5420
Fax: (416) 345-4141
ajay.garg@HydroOne.com

September 8, 2015

Jim Klujber
Manager of Operations
Wellington North Power Inc.
290 Queen Street West, P.O. Box 359
Mount Forest, ON N0G 2L0

Dear Mr. Klujber:

Subject: Regional Planning Status

In reference to your request for a regional planning status letter, please note that your Local Distribution Company (LDC) Wellington North Power Inc. belongs to two regions: Kitchener-Waterloo-Cambridge-Guelph (KWCG) Region, which is in Group 1, and Greater Bruce/Huron Region, which is in Group 3. A map showing details with respect to the 21 regions/groups and list of LDCs in each region is attached in Appendix A and B respectively.

Group 1 – KWCG Region

Planning activity for KWCG Region was already underway prior to the new regional planning process coming into effect. This planning activity for KWCG currently underway was deemed to be in the Integrated Regional Resource Planning (IRRP) phase of the process, led by the IESO. This IRRP was completed and report published on April 28, 2015. As a last step of the regional planning process, the development of a Regional Infrastructure Plan (RIP) led by Hydro One is currently underway and is expected to be completed in December 2015.

Two transmission projects have been identified to address the near- and medium-term needs in this region: the Guelph Area Transmission Reinforcement (GATR) project, and 230 kV in-line switches onto circuits M20D and M21D. The GATR project is currently at the construction stage, while the project for the installation of switches is under development.

Wellington North Power Inc. is an embedded LDC in this region and did not directly participate in the planning process. The Regional Planning process has not currently identified any needs that may have any significant impact or result in any cost implications for Wellington North Power Inc.

Group 3 – Greater Bruce/Huron Region

This letter also confirms that the regional planning process has not been initiated nor has a Regional Infrastructure Plan (RIP) has been developed for the sub-regions within Greater Bruce/Huron Region affecting Wellington North Power Inc. I am expecting, as per the new process, that the regional planning for Greater

Hydro One Networks Inc.
483 Bay Street
6th Floor, South Tower
Toronto, ON M5G 2P5
www.HydroOne.com

Tel: (416) 345-5420
Fax: (416) 345-4141
ajay.garg@HydroOne.com

Bruce/Huron Region may be initiated in the 4th quarter of 2015. Hydro One will formally notify your organization in advance, along with other stakeholders, prior to launching the regional planning process.

The new planning process provides flexibility during the transition period to the new process, and will ensure that both distribution and transmission planning continue to address any short-term needs. Hydro One looks forward to working with Wellington North Power Inc. in executing the new regional planning process.

If you have any further questions, please feel free to contact me.

Sincerely,

Ajay Garg, Manager – Regional Planning Coordination
Hydro One Networks Inc.

Cc:
Steve Coleman, Manager – Key Accounts Manager

Wellington North Power Inc.
290 Queen Street West, PO Box 359, Mount Forest, ON N0G 2L0
Phone: 519.323.1710 Fax: 519.323.2425
E-mail: wnp@wellingtonnorthpower.com
www.wellingtonnorthpower.com

Appendix C: **3rd Party Review**
Distribution System Plan for
Wellington North Power Inc.

Wellington North Power Inc.

Distribution System Plan

2015

Date: September 2015

www.aesi-inc.com
aesi@aesi-inc.com

October 20, 2015

Jim Klujber
Wellington North Power Inc.
290 Queen Street W
Mount Forest, ON
N0G 2L0

Dear Reader

Re: Consolidated Distribution System Plan

As part of the filing requirements set out by the Ontario Energy Board (OEB) for Distributor's, Wellington North Power Inc. has prepared the attached Consolidated Distribution System Plan. The Plan was prepared in accordance with Good Asset Management Practice, Good Utility Practice and the current Chapter 5 Filing Requirements. Wellington North Power Inc. prepared the data and furnished the information contained in the plan.

AESI critiqued this plan and confirms that it addresses the goals and achieves the purpose of the OEB *Chapter 5 Consolidated Distribution System Plan Filing Requirements* dated March 28, 2013.

Sincerely,

AESI Acumen Engineered Solutions International Inc.

775 Main Street E
Suite 1B
Milton, Ontario
Canada L9T 3Z3
P·905.875.2075
F·905.875.2062

1990 Lakeside Pkwy
Suite 250
Tucker, Georgia
USA 30084
P·770.870.1630
F·770.870.1629

Wellington North Power Inc.
290 Queen Street West, PO Box 359, Mount Forest, ON N0G 2L0
Phone: 519.323.1710 Fax: 519.323.2425
E-mail: wnp@wellingtonnorthpower.com
www.wellingtonnorthpower.com

Appendix D: **Hydro One Networks Inc.'s Town of Mount Forest Supply Study for Wellington North Power Inc. Inc.**

Wellington North Power Inc.

Distribution System Plan

2015

Date: September 2015

Hydro One Networks Inc.

Town of Mount Forest Supply Study Results

Prepared for: Wellington North Power Inc.

Prepared by: Distribution Asset Management,
Hydro One Networks, Inc.

January 20, 2015

Table of Contents

Background and Need

The Town of Mount Forest is located within Wellington North Township and is directly served by Wellington North Power Inc (WNP). The town is supplied by the Hydro One Networks Inc. (HONI) subtransmission system through the 44kV Hanover TS M5 feeder circuit. The delivery point from HONI to WNP is located at the end of the M5 feeder, approximately 40 km downstream from Hanover TS.

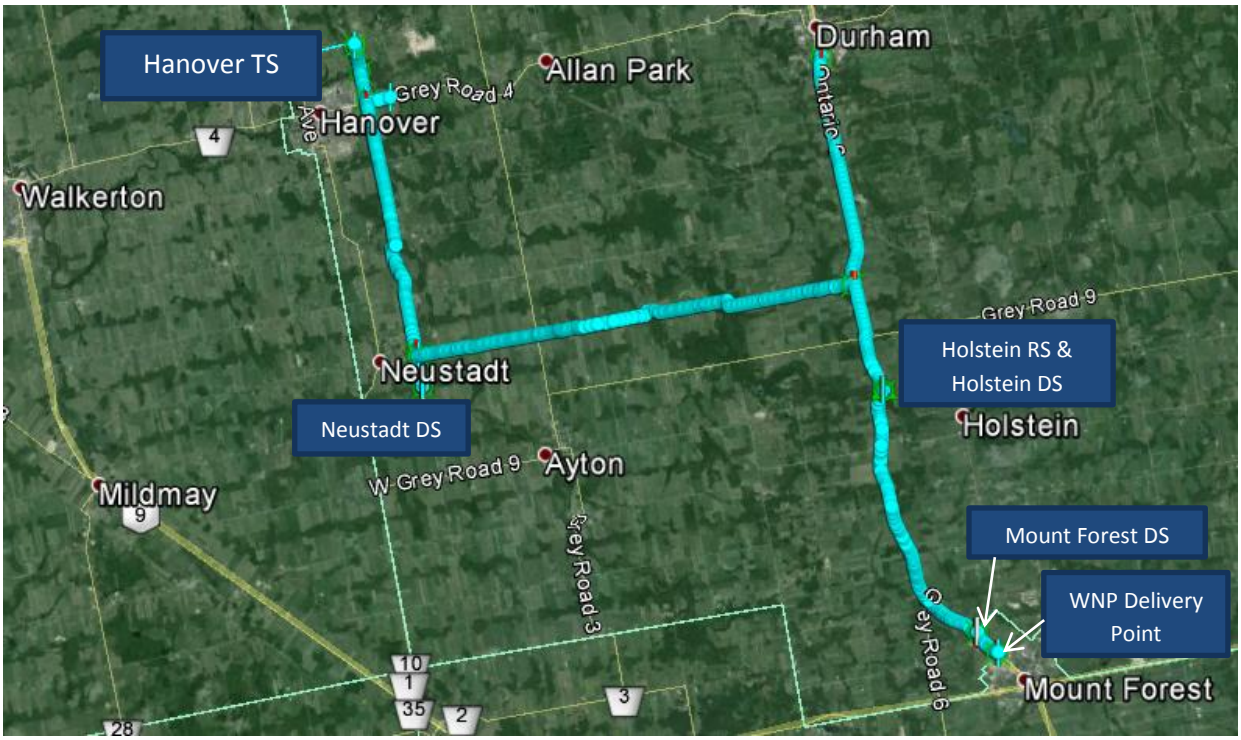


Figure 1: Geographical overview of the Hanover TS M5

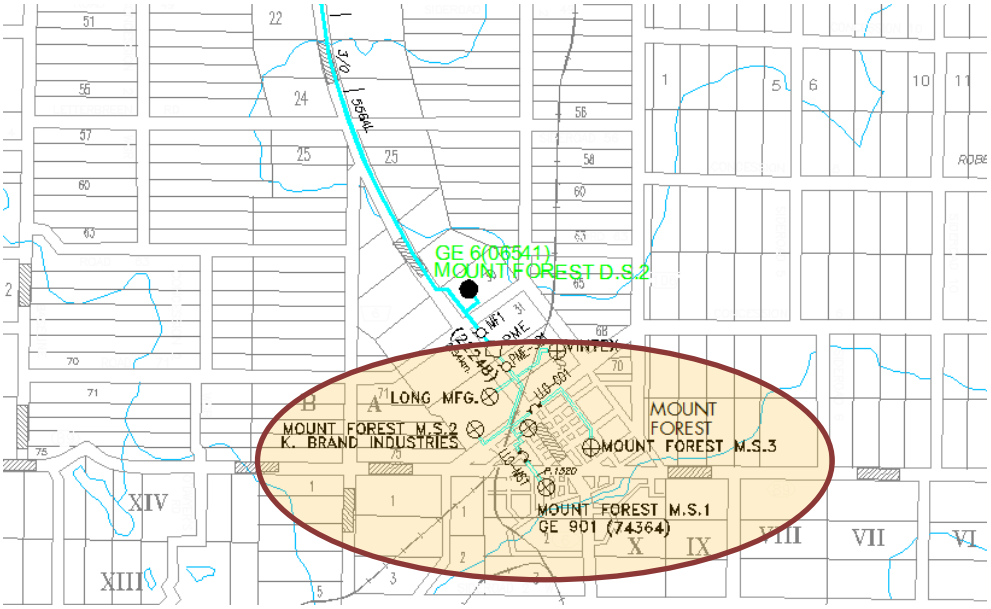


Figure 2: Area served by the WNP Mount Forest delivery point, downstream of PME-SB1 (excerpt from HONI Operating Map)

There are two main issues with the current supply:

(1) Hanover TS M5 has reached its maximum supply capacity and further load increases are expected from both WNP and HONI customers
(2) The current configuration supplies WNP at the end of a single-supply feeder; upstream outages on the M5 affect Mount Forest and there is no backfeed supply available to the town for long outages

Issue 1 - Supply Capacity

The Hanover TS M5 has reached its maximum supply capacity of 25MVA, at which feeder-end voltage is at the minimum acceptable voltage level of 0.94pu as per CSA supply standards. Low voltage is observed in system modelling studies just upstream of Holstein Regulating Station based on existing peak loading. These issues exist because majority of the loading on the M5 feeder occurs near the feeder's end. The voltage downstream of Holstein RS is maintained at acceptable levels by the regulating transformer installed at this station.

The expected increase in loading on the Hanover TS M5 is provided below in Figure 3.

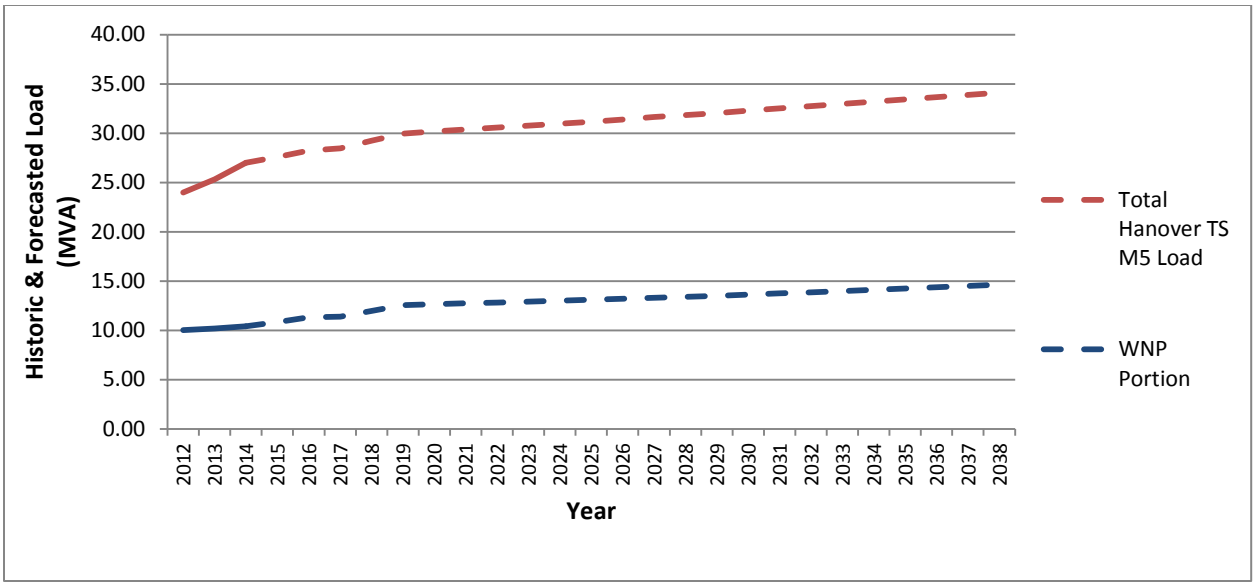


Figure 3: Forecasted & Actual Loads for Hanover TS M5

On average, WNP forecasts an annual increase of 1.6% over the next 25 years, while HONI anticipates an annual increase of 0.8%. These load increases cause the feeder to immediately exceed its available supply capacity, subjecting the feeder to further degradation in voltage levels. By the end of 25 years, the forecast loading exceeds the available supply capacity by about 9 MVA.

Issue 2 - Reliability

With its delivery point located at the end of the M5 feeder, WNP Mount Forest customers are impacted by the majority of outages that occur on the Hanover TS M5. As there is no backup supply for the town, these customers do not have any relief options during extended outages. For example, in April 2013 WNP customers experienced an outage longer than 18 hours due to a loss of supply on the M5. If backup supply was available, the duration of this outage would have been significantly reduced. Longer outages, especially during winter weather periods, pose safety and economical risks for the community. To reduce these risks, critical loads such as hospitals, warming centres and sensitive industrial customers should have backfeed supply options available.

This study considers several alternatives to address these supply capacity and reliability concerns. The comparison of alternatives, recommendations and the proposed expansion route are provided in the following sections. All costs provided in the following sections are planners estimates based on similar projects and are considered to be high-level estimates, for comparison purposes only.

Alternatives

Four main alternatives are considered to address these issues:

1. *Offloading Hanover TS M5*

   Neustadt DS (approximately 4.4MVA) can be transferred from the Hanover TS M5 to the Hanover TS M2, through an 11.5km expansion of the M2. This would free up additional capacity on the M5 to accommodate growth.

2. *Expanding Palmerston TS M2 or M4 to Provide an Alternative Supply*

   The nearest alternative supply options are the Palmerston TS M2 and M4. They would both involve an 11 km line expansion to the south end of Mount Forest and provide additional capacity for the town.

3. *New 44kV Feeder from Palmerston TS*

   A new feeder position could be installed at Palmerston TS. This feeder would run parallel to the existing Palmerston TS M2 route and the existing Palmerston TS M2 loads would be split amongst the two feeders. An 11 km expansion of the Palmerston TS M2 (as described in Alternative 2) would first be required to facilitate this solution.

4. *New Transmission Station*

   A new 115kV / 44kV transmission station closer to Mount Forest and new associated 44kV subtransmission feeders would provide a significant increase in capacity and improved supply reliability.

Alternative 1: Offloading Hanover TS M5

To offload Hanover TS M5 by transferring Neustadt DS to another feeder, an 11.5 km extension of the Hanover TS M2 is required. The extension would run south along Sideroad 30 and then cross over to pick up Neustadt DS.

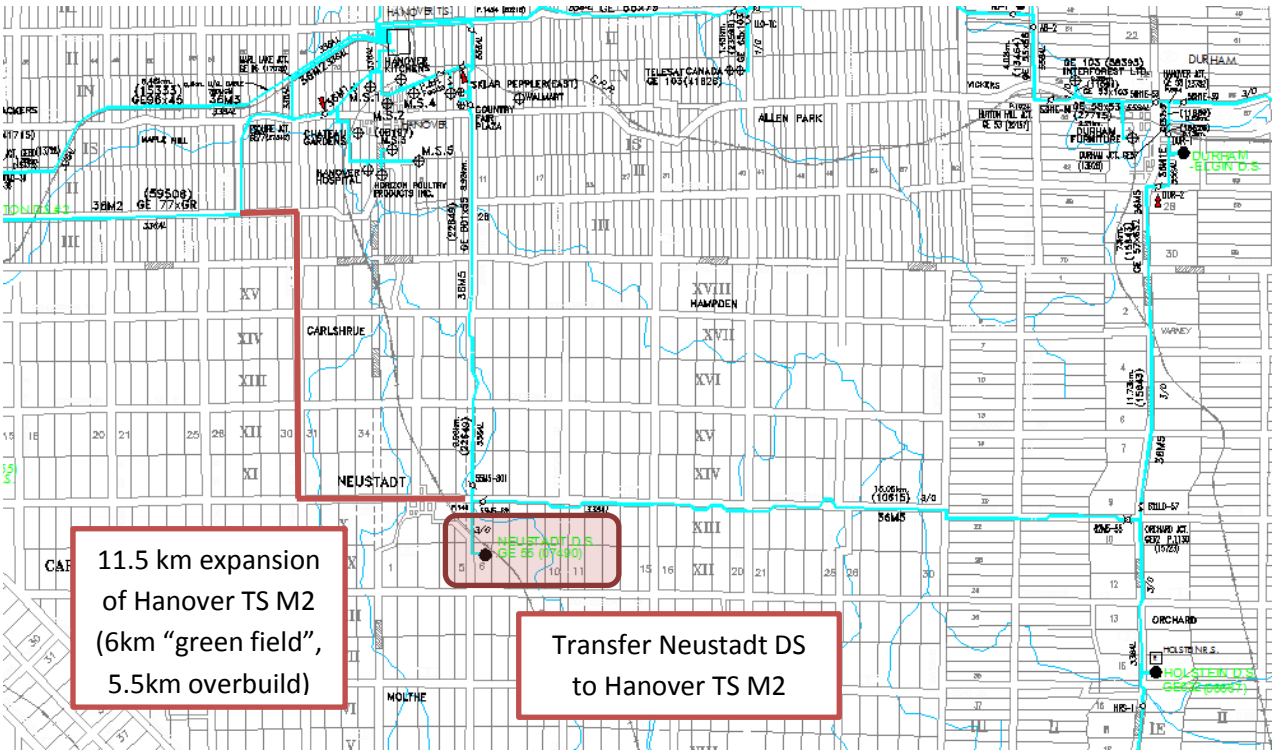


Figure 4: Proposed expansion route to offload Neustadt DS to Hanover TS M2

By transferring Neustadt DS to Hanover TS M2, approximately 4-5 MVA of capacity becomes available on the Hanover TS M5. The voltage levels on the Hanover TS M2 are acceptable with this transfer, but low voltage issues are still observed just upstream of Holstein RS on the M5.

The initial planner estimated capital cost associated with this option is:

Supply Option	Expansion Distance (km)	Planner Estimate $M ($0.25M per km)
Hanover TS M2 Transfer	11.5	2.9

Although this solution provides additional capacity, it does not offer an alternative supply point to improve reliability for the Mount Forest community. Further, it does not meet the long-term additional capacity requirement of 9 MVA over the next 25 years

Alternative 2: Expanding Palmerston TS M2 or M4 to Provide an Alternative Supply

This alternative involves extending either the Palmerston TS M2 or M4 subtransmission feeders to the Town of Mount Forest and splitting the town load between the existing and new supply points. Both

Palmerston feeders offer similar results. Their distances from the current delivery point are comparable, as are their available capacities.

Based on modelling, there are no voltage or protection issues with transferring half of the Mount Forest load to either feeder. The voltage level at feeder-end is approximately 0.97pu for both feeders.

Palmerston TS has an existing peak load of 64MVA compared to available capacity of 105MVA. It can accommodate the transfer of the Mount Forest load from Hanover TS.

For the M2, the Mount Forest load would be connected downstream of the switch KER lateral branch which feeds Kenilworth DS. The required expansion distance is approximately 11km and it can accommodate up to 9 MVA. The M4 is approximatley 13km away from Mount Forest. The expansion would likely start along the main feeder trunk, downstream of switch DAL-1. Both subtransmission expansions involve mostly overbuild construction as majority of the routes already incorporate HONI 8.32kV distribution feeders.

For either Palmerston option, an additional WNP delivery point is required to connect to the new supply feeder. The feeder configurations within Mount Forest would also have to be revised to accommodate this partial load transfer.

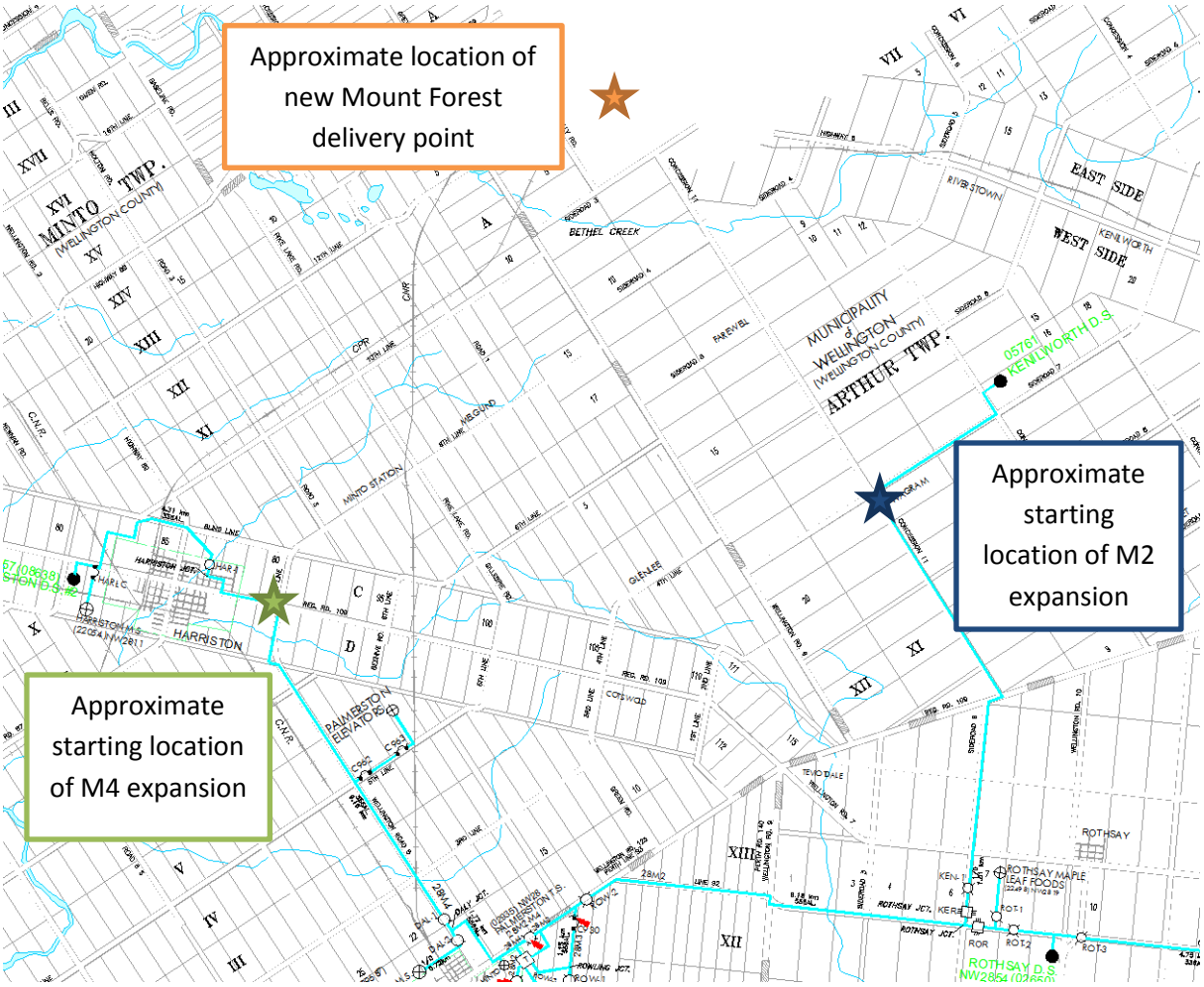


Figure 5: Approximate locations of the starting and ending points for an expansion of either Palmerston TS feeder to the new, additional Mount Forest delivery point

Excluding the Mount Forest load, Hanover TS M5 has a current peak demand of approximately 16.5MVA. Since this is approximately the same as the current loading on either Palmerston TS supply option, it is recommended to split the Mount Forest load as evenly as possible between the M5 and the selected Palmerston TS feeder.

The initial planner estimated capital costs associated with each feeder were:

Supply Option	Expansion Distance (km)	Planner Estimate $M ($0.25M per km)
Palmerston TS M2	11	2.75
Palmerston TS M4	13	3.25

Alternative 3: New 44kV Feeder from Palmerston TS

This alternative expands on an extension of the Palmerston TS M2, as described in Alternative 2, by providing a new 44 kV feeder position at Palmerston TS, and constructing a new subtransmission feeder to off-load the Palmerston TS M2. It would run parallel with the M2 from the station to Rothsay Junction and then take over the load downstream of switch KER including the Mount Forest extension.

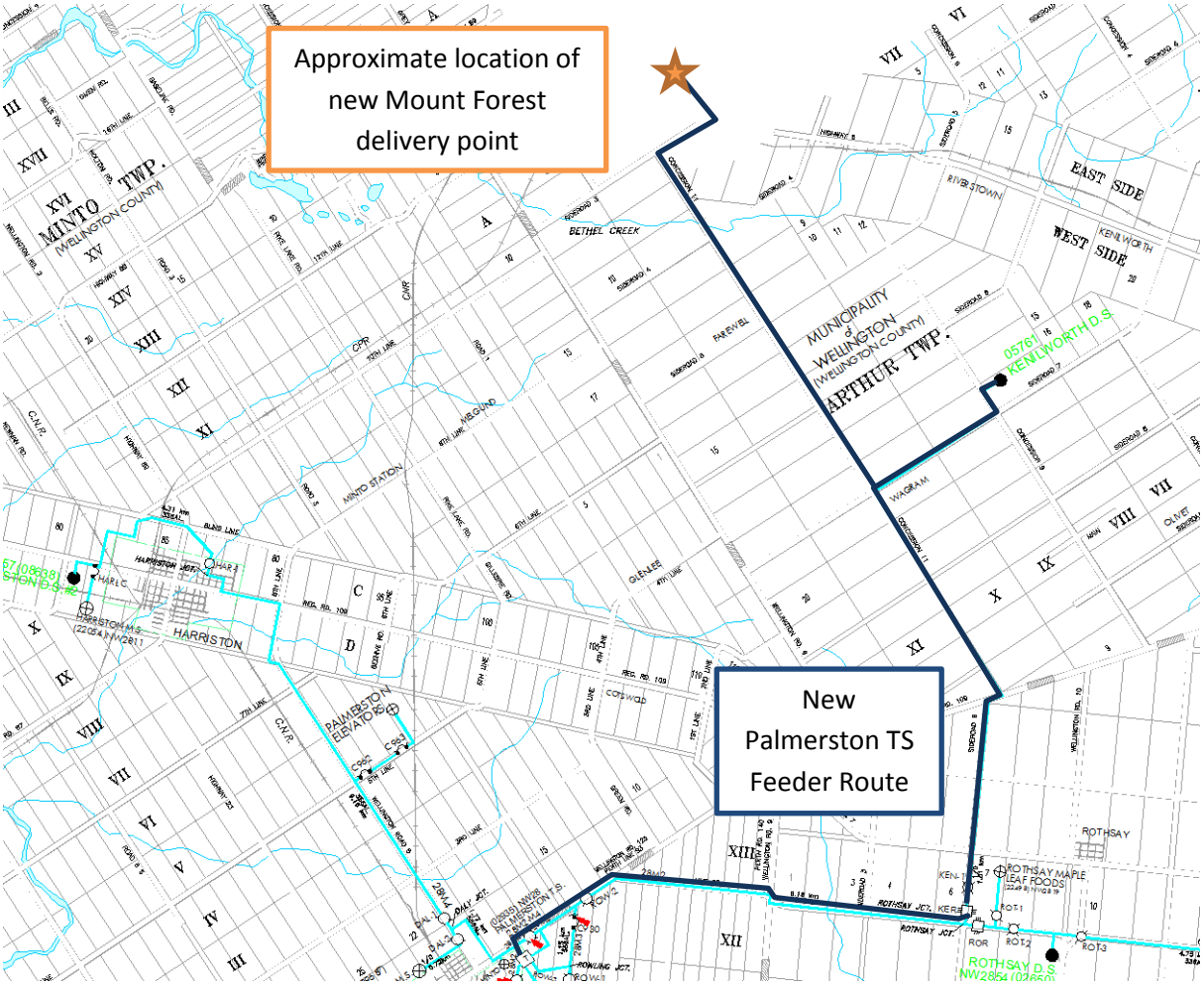


Figure 6: Approximate locations of the starting and ending points for a new feeder from Palmerston TS

As Kenilworth DS would likely be the only other load on this feeder, and it is projected to remain below 5MVA over the next 25 years, the entirety of the Mount Forest load could be transferred to the new feeder.

The estimated costs for this option are:

Portion	Expansion Distance (km)	Planner Estimate $M
New Palmerston TS breaker position	N/A	2.0
Extension of the new feeder to Rothsay Junction	8.5	3.0 ($0.35M per km)
Extension from existing M2 near Kenilworth to Mount Forest (as in Alt 2)		2.75
Total		**7.75**

Alternative 4: New Transmission Station & Subtransmission Feeders

A new transmission station would provide a significant increase in supply capacity (approx. 100 MVA). From a reliability perspective, new subtransmission feeders exiting the station would provide alternative supplies to nearby distribution stations and large customers, increasing the overall backfeed capability for the area. The nearest transmission circuits to the Mount Forest are 115 kV circuit D10H, located 13 km to the west, and 230 kV circuits B4V/B5V, located 20 km to the east. This alternative would require acquisition of property for a new station, and would be subject to a Class Environmental Assessment process. Also, additional technical assessment by HONI Transmission planning, and the Independent Electricity System Operator (IESO) to determine full technical requirements .

Figure 7 : Transmission Facilities Near Mount Forest

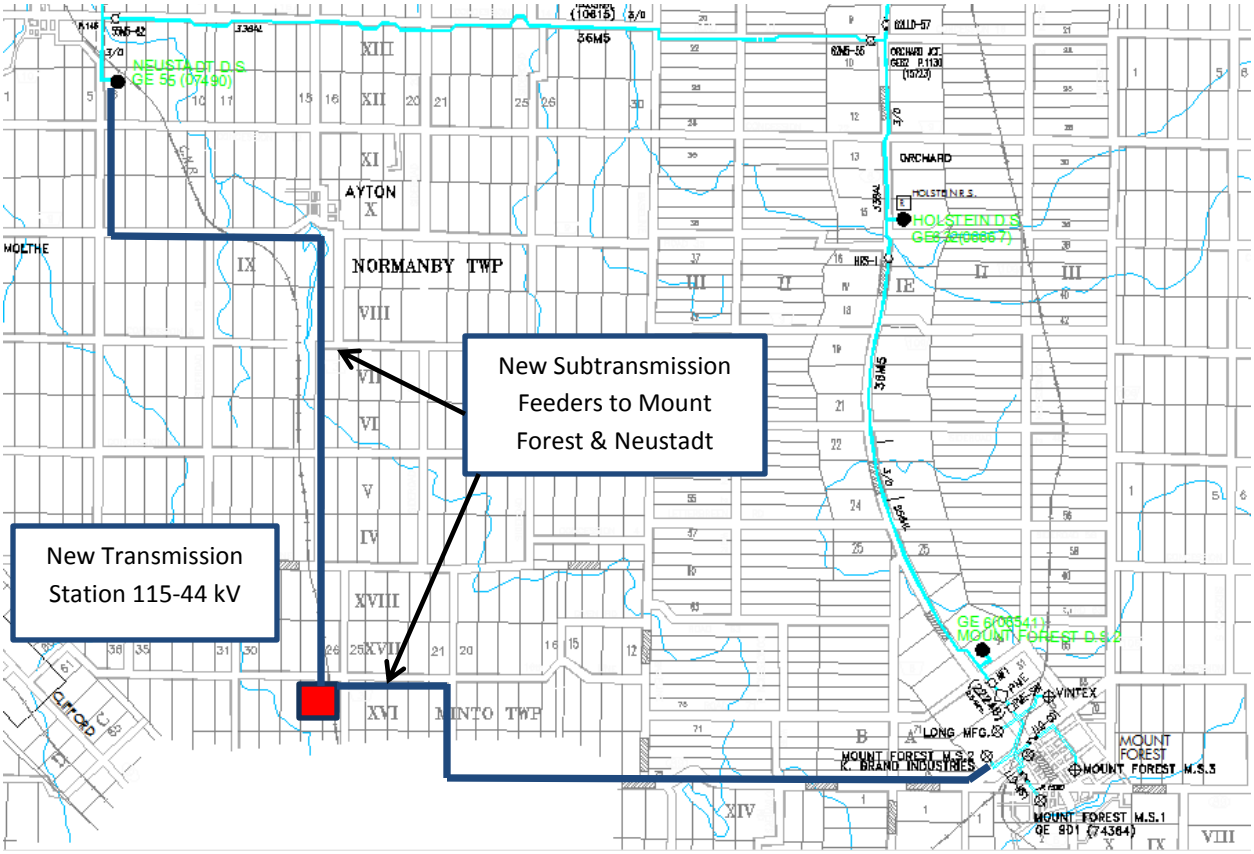


Figure 8 : New Transmission Station and Subtransmission Feeders

The estimated costs for this option, assuming connection to circuit D10H are:

Portion	Expansion Distance (km)	Planner Estimate $M
New TS	N/A	25
Extension of 2 new subtransmission feeders: 1 to Mount Forest; 1 to Neustadt	25	6.25 ($0.25M per km)
Total		**31.25**

Comparison of Alternatives

A comparison of the alternatives based on cost, capacity provided, and impact to local system reliability is provided in the Table below:

Alt	Description	Cost ($M)	Capacity Provided (MVA)	Reliability Impact
1	Off-load Hanover TS M5	2.9	5	No improvement. Mount Forest remains on single radial supply
2	Extend Palmerston TS M2	2.75	10	Redundant supply is provided to Mount Forest. Voltage limited during peak loading conditions
3	New Palmerston TS Feeder	7.75	25	Redundant supply is provided to Mount Forest. Voltage limited during peak loading conditions
4	New Transmission Station	31.25	100	Redundant supply is provided to Mount Forest, plus other HONI loads on Hanover TS M5

Alternatives 1 and 2 are the least cost options and have similar estimated costs, however, Alternative 1 would not meet the forecast additional capacity requirement of 9 MVA for the next 25 years. Further, Alternative 1 does not provide any improvement in reliability since Mount Forest would remain on a radial supply with no alternate feed. Alternative 3 would be 2.5x the cost of Alternative 2 but does not offer any immediate additional benefits, since Alternative 2 already meets the forecast capacity requirement, and Alternative 3 would have the same voltage limits for back-up supply as Alternative 2 does. Alternative 4 would provide the most significant improvement to local reliability; however, it is more than 10x the cost of the Alternative 2.

Recommended Alternative

The two lower cost options (Alternatives 1 and 2) were presented to WNP during a customer meeting on February 27, 2013[1]. The Palmerston supply option was preferred by WNP, as it provides more capacity and improves supply reliability.

[1] Meeting occurred at WNP's offices in Mount Forest on February 27, 2013. WNP representatives included Judy Rosebrugh (President & CEO) and Matthew Aston. HONI representatives included Arthur Fischer (Account Executive), Richard Shannon (Senior Network Management Engineer) and Elise Andrey (Assistant Network Management Officer).

HONI is in agreement with the Palmerston TS supply option since it meets the capacity needs for the next 25 years at the lowest cost, and provides an alternate feed for Mount Forest. Temporary transfers between the two supply points could be employed to reduce the impact of sustained outages. The ability to execute these transfers will depend on actual overall system loading conditions at the time of the proposed transfer.

WNP has requested that HONI construct the 44kV expansion up to WNP's territory boundary at Hwy 6 and Bentley Street. HONI has completed a Class A cost estimate to expand the Palmerston TS M2 to Mount Forest as it is more cost-effective than expanding the Palmerston TS M4. In addition, an extension of the Palmerston TS M2 enables the ability to apply Alternative 3, a new Palmerston TS feeder, in the future if required due to any unforeseen additional capacity requirement in the area.

The new supply from Palmerston TS M2 will accommodate approximately half of the forecasted Mount Forest load. The remaining load is to continue to be supplied by the Hanover TS 36M5.

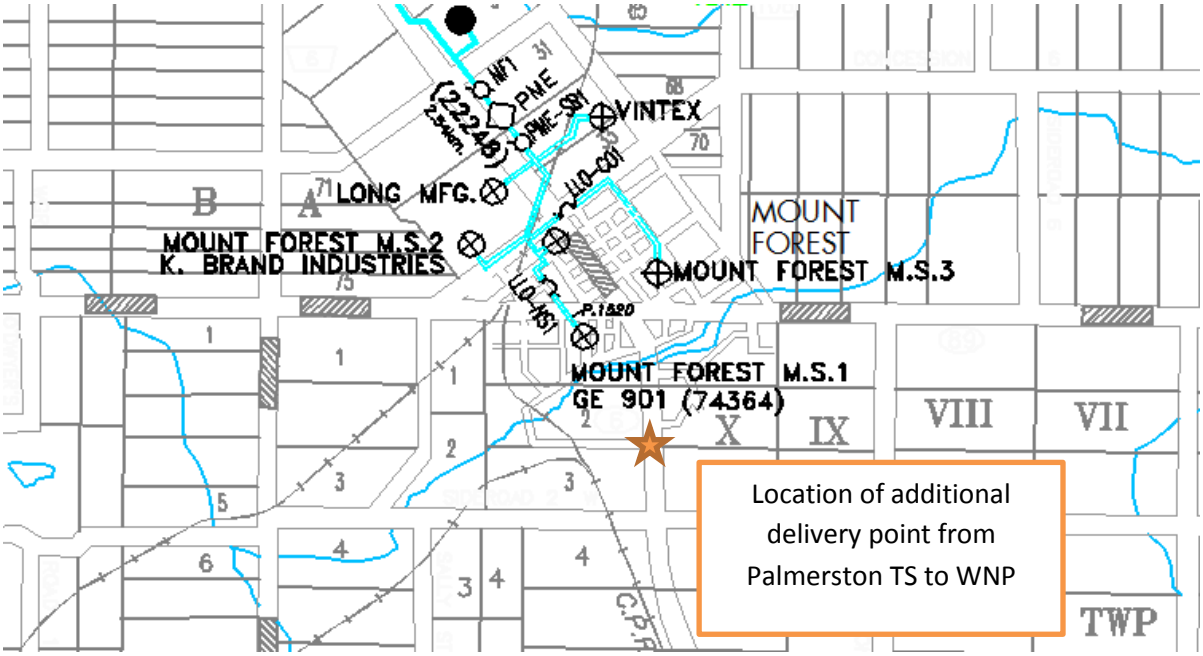


Figure 5: Location of WNP's new delivery point – Hwy 6 and Bentley St

Available Feeder Capacities under Normal and Emergency Conditions

Under the proposed work, normal and emergency capacity for the two supply feeders feeding Mount Forest have been determined.

The Normal available capacity is the spare capacity that would be available on each feeder based on the subtransmission feeder planned load guideline of 25 MVA and assumes that the Mount Forest load is split evenly between both feeders.

The Emergency available capacity is based on equipment thermal limits, emergency system protection limits, and meeting minimum feeder delivery voltage for all customers connected to the feeders. For emergency conditions, it is assumed that all other loads on the feeder are at 80% of peak loading condition. The emergency loading values below reflect the total amount of Mount Forest load that could be supplied by either feeder under the conditions noted above.

	Palmerston TS M2		**Hanover TS M5**	
Year	Normal	Emergency	Normal	Emergency
2019	2.6	18.9	2.6	15.9
2024	2.0	18.1	2.0	15.2
2029	1.4	17.3	1.4	14.6
2034	0.7	16.5	0.7	14.0
2039	0	15.7	0	13.4

Alternative 2 – Available Supply Capacity (MVA)

Results of the Class “A” (Detailed) Cost Estimate

Following the selection of the Palmerston TS M2, the expansion route was developed.

The proposed expansion route for the Palmerston TS M2 is, as follows:

- Extend the M2 North from Sideroad 7 West to Sideroad 3 West along Concession 11 (7.3 km)
- Continue east along Sideroad 3 West to Highway 6 (1.1 km)
- Continue north along Highway 6 to the intersection of Bentley St (2.6 km)

The complete expansion route is provided in Figure 6.

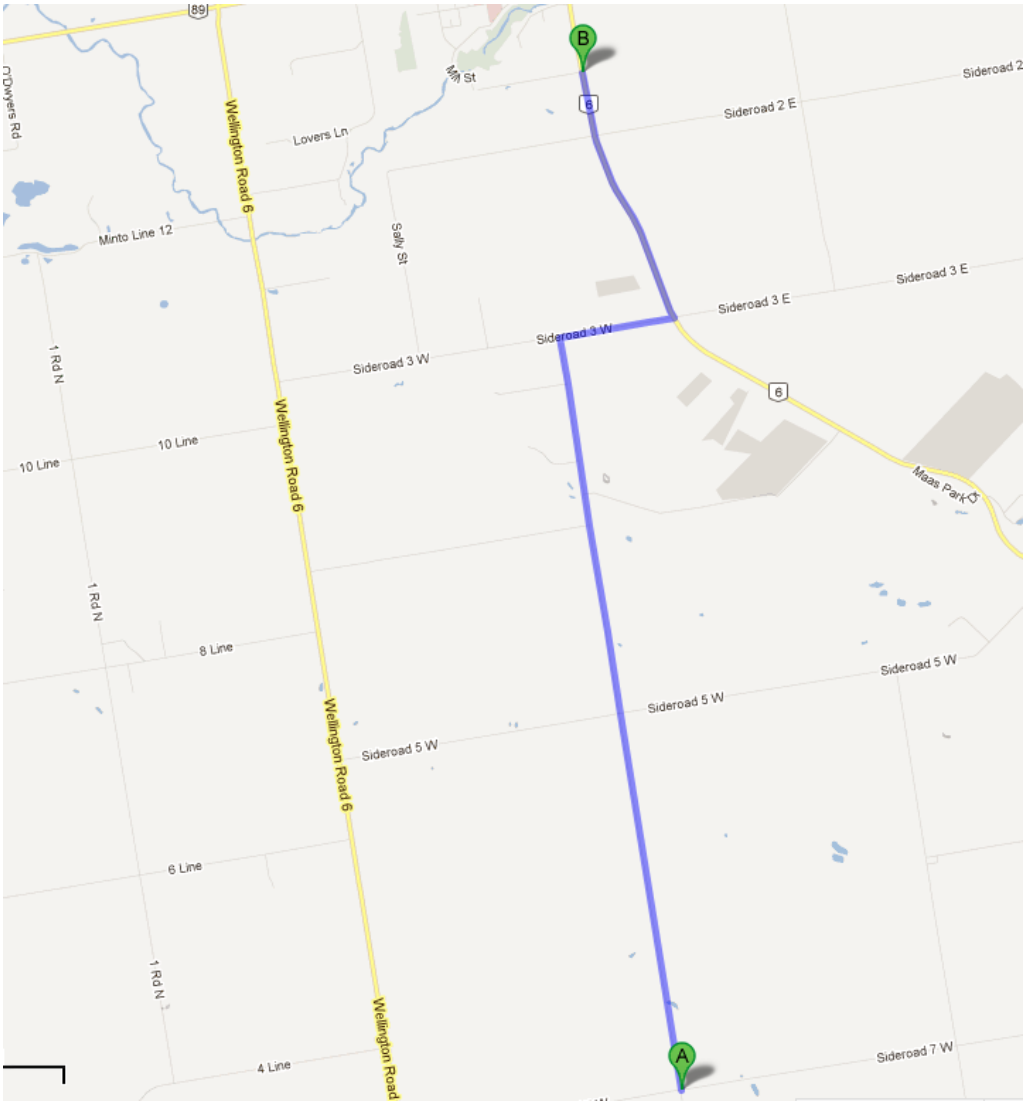


Figure 6: Expansion route of the Palmerston TS M2 from Sideroad 7 West and Concession 11 to Bentley Street and Highway 6

Based on a detailed design estimate completed in 2013, the Class A (+/- 10%) estimated cost for the required work based on 2014 construction is $2,403,280.

WNP Required Capital Contribution

Of the total 9 MVA forecast incremental capacity required for loads currently supplied from the Hanover TS M5 feeder, 50% of this is attributable to WNP forecast incremental load, and 50% is attributable to HONI forecast load. As such, WNP is responsible for 50% of the cost of the work, or $1,201,640.

As per HONI Conditions of Service, a preliminary Discounted Cash Flow calculation was performed to determine WNP required capital contribution, taking into account WNP's share of the capital cost, incremental OM&A costs (50% attributable to WNP), and anticipated incremental revenues associated with WNP's forecast incremental load.

The results of this preliminary DCF calculation indicate that WNP will need to make a capital contribution of approximately $1,000,000 towards the Palmerston TS M2 feeder expansion. This figure is subject to finalization based on an updated Class A cost estimate reflecting proposed 2016 construction, updated HONI distribution tariffs, and an updated load forecast from WNP.

Wellington North Power Inc.
290 Queen Street West, PO Box 359, Mount Forest, ON N0G 2L0
Phone: 519.323.1710 Fax: 519.323.2425
E-mail: wnp@wellingtonnorthpower.com
www.wellingtonnorthpower.com

Appendix E: Customer Letters relating to Wellington North Power Inc.

Wellington North Power Inc.

Distribution System Plan

2015

Date: September 2015

Dana Holding Corporation
205 Industrial Drive
Mount Forest, ON N0G2L1
July 27, 2015

Jim Klujber
Chief Operating Officer
Wellington North Power
290 Queen Street West P.O. Box 359
Mount Forest, ON N0G2L0

Jim Klujber:

The Mount Forest Dana Plant officially celebrated 20 Years of Operation earlier this year. The message given to the employees was one of future business and prosperity for this Facility. Our 65,000 Sq. Ft. Facility provides employment for over 275 people with plans for future growth.

The Dana Holding Corporation is a worldwide supplier of powertrain components such as axles, drive-shafts, off-highway transmissions, sealing and thermal-management products, and service parts. As an intensive manufacturer, we are dependent on reliable electricity to meet our demands. Our current electrical load is reaching our substation's capacity of approximately 2500kVa and we're researching the expansion of that capacity by at least 1000kVa in the next few years to support current and future business demand.

I am writing to you in support of any efforts to ensure stable, reliable supply of electricity to the Town of Mount Forest and our Facility. Over the years we have lost tens of thousands of dollars of product and production time due to power interruptions. These costs are considered when deciding where to invest in expansions and the future viability of the existing operations.

Sincerely,

Scott Howes
Maintenance Supervisor
Dana Holding Corporation
Power Technologies Group
Mount Forest, Ontario

"MOUNT FOREST PLANT OF CHOICE"

Township of Wellington North

P.O. Box 125 • 7490 Sideroad 7 W • Kenilworth • ON • N0G 2E0

January 19, 2015

RE: Second Feeder Line for Wellington North Power

To Whom It May Concern:

The Township of Wellington North is a customer of Wellington North Power Inc. and strongly recommends the Ontario Energy Board's approval of a second feeder line from Hydro One's Palmerston Transformer Station to the area serving Mount Forest.

Wellington North Power Inc. prides itself in its ability in delivering electricity in a safe, reliable and cost-effective manner. The Township of Wellington North encourages a safe and reliable utility service for the residents of Arthur and Mount Forest and believes that a second feeder line will further enhance reliability for these customers.

The Township of Wellington North is responsible for the provision of Water and Wastewater services to the residents of Arthur and Mount Forest. Any power interruptions, especially long-term disruptions, have an extremely detrimental impact on these services and can impact the Township's ability to provide safe drinking water.

The Township of Wellington North has been advised by Wellington North Power Inc. that the current single electricity feed to Mount Forest from Hydro One's Hanover Transformer Station is at full capacity. The Township is concerned that this could limit the opportunity for existing and future economic development within our municipality.

The Township of Wellington North fully supports and recognizes the need for a second feeder line from Hydro One's Palmerston Transformer Station and asks that you give due consideration to Wellington North Power Inc.'s request.

Yours truly,

Michael Givens
Chief Administrative Officer
MG

Tel 519-848-3620 Toll Free 1-866-848-3620 Fax 519-848-3228
www.wellington-north.com township@wellington-north.com

Wellington North Power Inc.
290 Queen Street West, PO Box 359, Mount Forest, ON N0G 2L0
Phone: 519.323.1710 Fax: 519.323.2425
E-mail: wnp@wellingtonnorthpower.com
www.wellingtonnorthpower.com

Appendix F: **3rd Party Review Substation Condition Assessment Study.**

Wellington North Power Inc.

Distribution System Plan

2015

Date: September 2015

Substation Condition Assessment Study

Prepared for:

Wellington North Power

costello
Utility Consultants

June 2013

1 INTRODUCTION

As part of Wellington North Power's (WNP) Asset Management Program, Costello Associates Inc. has been engaged to provide a preliminary assessment of six (6) municipal distribution substations. This assessment is based on visual inspections and limited maintenance records that were available at the time of the inspections.

This initial assessment is intended to provide the foundation for an ongoing program that includes capital planning, periodic maintenance, inspections, and testing.

1.1 Goals of Asset Condition Report

Asset management plans are necessary to provide a long term, systematic approach to system planning, as well as managing business and operational risk. Utilities utilize strategies for replacing aging assets, taking into consideration factors such as health and safety, environment, asset condition, life expectancy, and risk exposure.

As part of the overall asset condition process, the assessment of the condition of WNP's municipal substations can be used to prioritize stations rehabilitation and replacement projects, based on electrical condition, health and safety issues, and age.

1.2 Criteria for Substations Assessment

All stations were field inspected and assessed based on a model that was developed by Thunder Bay Hydro, with minor changes based on our own experiences. This model has been promoted within the Electrical Distributors Association (EDA), and has been submitted to the Ontario Energy Board (OEB) by several Local Distribution Companies (LCD's).

In determining the overall condition of a station, the evaluation model considers three main areas of concern:

- Public Safety
- Worker Safety
- Risk of Major Equipment Failure

Classification ratings of the above categories are as follows:

- Blue – excellent condition. No mitigation is required for twenty or more years.
- Purple –good condition. No mitigation is required for eleven to twenty years.
- Yellow – average condition. Mitigation is required between four and 11 years.
- Orange – fair condition. Mitigation is required between two to three years.
- Red – poor condition. Mitigation is required immediately, within one year.

In the cases, maintenance and safety issues may degrade the condition classification on a temporary basis. Once corrective action is taken, the condition classification may improve.

1.3 Summary of Stations Deficiencies

Deficiencies in the stations area can be classified in three main areas: age, environmental, and public/worker safety.

1.3.1 Age

Major substation equipment such as power transformers and switchgear generally has a life expectancy of forty (40) years. Other equipment, such as insulated feeder cables, protection systems, batteries, and building structures may have shorter life expectancy. Life expectancy can often be extended with regular maintenance.

The age of two of the pieces of major substation equipment assessed are over 40 years with one approaching 50 years. Two more are classed between 25 and 30 years and the two newer are less than 10 years old. **Clearly the age of some of these stations is a concern, and will require a strategy for replacement.**

1.3.2 Environment

The common of environmental concern in substations is PCB contamination. To the best of our knowledge WNP has no contaminated substation transformers. We have no knowledge if older transformers were once PCB contaminated and cleaned. If so, it is possible that the soil in some of the substations has been contaminated with PCB's as a result of minor transformer leaks. No soil analysis was performed as part of this assessment. It is expected that in the event that any substation be decommissioned, a detailed soil study would be completed and any problems be dealt with in accordance with applicable regulations.

A minor environmental concern with a few stations is the close proximity to storm drains and ditches. Should there be a catastrophic failure of a power transformer, none of the WNP stations have oil containment features. It is therefore possible that a large quantity of transformer oil may be released. The utility would be held accountable to clean up such a spill and the costs for cleaning a spill into a waterway would be substantial. Where applicable, this poses a significant environmental risk, and therefore stations in proximity to water, ditches, or storm drains may want to be considered for oil containment.

The use of oil containment systems in small distribution substations historically was not considered necessary. However, we strongly believe that the benefits of oil containment outweigh the present-day risks and liabilities associated with a major oil leak. We recommend that WNP install oil containment as part of any stations rehabilitation work and on any new stations constructed in the future.

1.3.3 Public and Worker Safety

Public and worker safety is often considered the highest priority for any electric utility. Any station with a public safety issue automatically resulted in the lowest "Code Red" classification. Serious worker safety issues also attracted this classification. It should be noted that in some cases the work required to remedy safety issues is minor, and could be completed very quickly. These stations could then be reclassified to a more favorable rating.

Common safety issues observed include gaps in perimeter fences (public safety), climbing hazards near fences allowing possible access to station yard (public safety), lack of fence grounding (public and worker safety) and missing locks on station equipment (public safety).

Several substations may have problems with their transformer neutral connections. It is recommended that this be further investigated by engineering and maintenance personnel during planned maintenance.

The Mt. Forest MS-4 station was found to have a transformer neutral wire connected only to the ground grid. This is extremely dangerous to the public and workers and therefore it is recommended that the station be de-energized immediately.

The Arthur MS-5 station was found to have a communication cable connected between the station power meter and a radio located in a nearby building. The shield on the cable can transfer high voltages from the station to the nearby building and is an extreme safety hazard. This cable should be removed and replaced with a fiber optic cable.

1.3.4 Nomenclature

All operating equipment must be clearly labeled with unique operating nomenclature. This is required as per the Utility Work Protection Code in order to ensure that utility personnel can clearly identify the apparatus that is to be operated.

The nomenclature that is presently in place is a combination of old and new labels, with some apparatus having multiple designations, some with no designations and some designations that only reference the general area that the apparatus feeds.

We recommend that WNP develop a nomenclature strategy as a high priority project and to deploy updated nomenclature as soon as possible.

1.3.5 Maintenance Activities

WNP has been performing regular maintenance on its substations. Various local contractors have been employed to do this work over the past number of years. It appears as though the majority of the maintenance work is consistent with industry standards.

Several serious deficiencies we found were not noted in any of the recent test reports. We also noted that in several instances, test reports were incomplete or test results indicated potential serious conditions but the apparatus was re-energized without remediation.

We recommend that WNP continue with performing regular maintenance activities, and work with qualified contactors accustomed to working in utility environments and to industry-recognized standards.

2 SUBSTATION CONDITION ASSESSMENT SUMMARY

2.1 Mt. Forest MS-1 Substation

The Mt. Forest MS-1 substation transformer was installed in 1988 and therefore should still have at least 10 or more years of useful life remaining. The transformer has higher than usual CO and CO_2 levels, which is usually attributed to excessive loading. These gas levels have not increased in the past seven years, which may indicate that the transformer has not been routinely overloaded in that time. The transformer may however have suffered some loss of life.

The station appears to be in good operating condition. There are several maintenance issues noted in the attached deficiencies section. Nomenclature requires review and updating.

The station has been assessed to be a “Red” condition, but with some maintenance work, its rating will improve to “Yellow”.

2.2 Mt. Forest MS-2 Substation

The MS-2 station is over 40 years old and has several potentially serious safety concerns. Diagnostic maintenance testing also indicates that there are potential concerns with the reliability of the main 5kV switchgear and some of the feeder cables. This station is a candidate for major rehabilitation work.

The station perimeter fence is falling over in places, and the ground around the bottom of the fence fabric has been eroded in several places. Attempts have been made to block the fence gaps with wooden timbers. In our view this fence should be replaced immediately.

The nearby Canada Post mailbox is within arms-reach of the station fence, and it is possible that someone could receive a shock if they simultaneously touched the fence and mailbox. The mailbox should be relocated away from the station fence.

The station also requires several padlocks to be placed on equipment to prevent access to high voltage areas. As with all stations, the operating nomenclature requires updating as soon as possible.

The MS-2 substation has been assigned a rating of “Red”, which will improve to “Yellow” once the safety issues are resolved and switchgear deficiencies are corrected.

2.3 Mt. Forest MS-3 Substation

The Mt. Forest MS-3 substation contains a transformer that was refurbished in 1988. Oil sample tests show rising CO level, likely due to excessive loading, dropping CO2 levels and rising combustible gas levels. Due to these results it is recommended that it be sampled and tested every 4 months.

History shows that rewound transformers do not usually attain the average service life of 40 years as with new ones. Due to this fact coupled with the changing gas levels in the coolant oil, plans should be made to exchange the transformer in the coming years.

Diagnostic maintenance tests show that there may also be concerns with feeder cables. Due to these test results, it is recommended that these pieces of equipment also be considered for replacement in the near future.

The majority of the safety issues with this station are similar to the others. Padlocks must be placed on power transformer tap changers and high voltages cabinets, grounding and bonding must be added or corrected, perimeter yard maintenance must be performed and as with all stations operating nomenclature must be updated.

The Mt. Forest MS-3 station has received a “Red” rating due mainly to diagnostic testing results of the transformer and feeder cables. Once safety and equipment concerns have been resolved, the station should receive a rating of “Orange”.

2.4 Mt. Forest MS-4 Substation

The Mt. Forest substation is the oldest of the utility at an age of 49 years. It also shares many of the same issues as other stations in terms safety and shows signs of age. It does although contain a much more serious issue. The system neutral has been attached only to the station ground grid, which in extremely dangerous. Due to this fact, it was recommended that the station be de-energized during inspection. The neutral system must be re-engineered prior to re-energization.

Inspection revealed that other equipment deficiencies are also present. The transformer secondary side cables are improperly installed and are putting pressure on the transformer radiator. Furthermore, test results also suggest that there are problems with feeder cables.

Remaining problems found in the station are similar as in the other stations. There are missing locks on power transformers and distribution-side switchgear, wiring code violations, bonding and grounding issues and operating nomenclature must be updated.

The station is classified as “Red” due to the age of the transformer, the system neutral connection, and diagnostic test results. This station is a candidate for replacement.

2.5 Arthur MS-5 Substation

The Arthur MS-5 substation contains a transformer that was rebuilt in 1994. The station age is estimated to be much older. The transformer itself seems to only require minor maintenance to fix problems described in the deficiencies section. Diagnostic maintenance testing suggests that there is very low insulation resistance in both bus and cables and therefore should be investigated and repaired.

The transformer pad appears to be deteriorating. There is a good deal of “honey combing” which has been patched over the years. It is recommended that the pad be further inspected by a qualified civil engineer.

A serious concern noted was the communication cable connected between the station power meter and a radio located in a nearby building. The shield on the cable can transfer high voltages from the station to the nearby building and is a shock hazard. This cable should be removed and replaced with a fiber optic cable to provide electrical isolation.

The Arthur MS-5 substation is currently not outfitted with any oil spill containment, which could be problematic in the case of catastrophic transformer failure. There is an exposed storm drain located directly across the road. If a spill was to occur and oil made its way to the storm drain, the cleanup costs could be substantial. Therefore it is recommended that an oil containment system be planned for this station.

In addition to the common issues such as missing locks, inconsistent nomenclature and perimeter yard maintenance, there are climbing hazards that must be resolved. There must not be anything near the substation fence that could permit climbing and ease of access to the yard.

Considering the transformer was rebuilt in 1994 it should still have sufficient life remaining. This station has been given a rating of “Orange” but may be upgraded to a “Yellow” once maintenance issues have been remedied.

2.6 Arthur MS-6 Substation

The Arthur MS-6 station transformer was installed in 2010. The station appears to be in reasonable condition, although there are minor maintenance issues.

In general the public safety of this station is very good other than the metal fence that is attached to the substation fence. This metal fence must be disconnected as soon as possible. A wooden fence may be inserted in between the substation fence and metal fence to provide isolation.

The remainders of the problems are again similar as for other stations such as missing padlocks, inconsistent nomenclature, improper grounding and bonding, wiring code violations and the necessary disposal of an obsolete switch stick.

As stated above, the condition of this station is generally quite good. The station received a “Red” rating, but considering its equipment should provide many more years of reliable service, once the maintenance and safety issues are resolved it should be assessed a rating of “Purple”.

3 RECOMMENDATIONS

3.1 Maintenance Program

A regular maintenance program is critical to ensuring the safety and reliability of station assets. Regular maintenance, coupled with periodic (i.e. monthly) site inspections are commonplace in Ontario LDC’s. Municipal substations are typically withdrawn from service for maintenance every three to five years, depending on the condition of the equipment and the resources available to the utility.

It is recommended that WNP continue a regular maintenance schedule on its substations as it has done in the past. It should be emphasized that it is important to work with qualified contractors accustomed to working in a utility environment and to industry-recognized standards.

3.2 Aging Plant

As mentioned above, two substations have exceeded the average life expectancy for this type of equipment. Two other stations are approaching their end of life. A strategy is required to plan for the replacement of these assets. The replacement cost of substation equipment is significant, and costs have been rising steadily over the past few years due to the increase in cost of metals.

The replacement of station assets should be forecasted, based on the safety, reliability, and age of the stations, in concert with consideration for distribution projects. Ongoing periodic condition assessments should be performed to determine the priority of replacement projects.

3.3 Feeder Protection & Coordination

We recommend that WNP perform a detailed review of the 44 and 4.16 kV feeder protection and coordination. There is some evidence to suggest that some of the distribution system may not have adequate overcurrent protection. This is a public safety issue, and poses a risk to WNP equipment.

3.4 Budgeting for Station Replacement

A long term forecast should be developed to plan for the budgeting and execution of station replacement projects. In conjunction with other distribution projects, the costs and timing of station projects should be coordinated and prioritized to provide a long term plan for all aspects of the distribution system.

4 CONCLUSION

There are numerous safety issues with the WNP substations that should be immediately addressed. A short term work plan is required to make necessary repairs as part of the 2013 operating program.

In addition, the general age and condition of the stations warrant the development of a long term replacement/ rehabilitation program.

Wellington North Hydro

Substation Asset Condition Assessment

Station Rankings

June 2013 - Costello Associates Inc.

No.	Station ID	Address	Size	Transformer Installed	Voltage	Transformer Age	Public Safety	Worker Safety	Risk of Failure	Overall Assessment	Comments
1	Mt. Forest MS-1	290 Queen St West	5 MVA	1986	4.16 kV	27	Orange	Red	Yellow	Red	After maintenance, condition = Yellow
2	Mt. Forest MS-2	398 Foster St	5 MVA	1972	4.16 kV	41	Red	Red	Yellow	Red	After maintenance, condition = Yellow
3	Mt. Forest MS-3	320 King St East	5 MVA	1988	4.16 kV	25	Orange	Red	Red	Red	After maintenance, condition = Orange
4	Mt. Forest MS-4	460 Durham St West	2 MVA	1964	4.16 kV	49	Orange	Red	Red	Red	Station candidate for replacement
5	Arthur MS-5	195 Isabella St South	5 MVA	1994	4.16 kV	19	Yellow	Yellow	Red	Orange	After maintenance, condition = Yellow
6	Arthur MS-6	159 Preston St North	5 MVA	2010	4.16 kV	3	Red	Red	Orange	Red	After maintenance, condition = Purple

MS #3 WELLINGTON NORTH POWER INC.
(SUPPLIED FROM HYDRO ONE HANOVER TS, FEEDER 36M5)

44kV, 3 PHASE, 3-WIRE OVERHEAD LINE STRUCTURE

AIR BREAK SWITCH, 48.3kV, 600A, 250kV BIL, 40KA IR
DOMINION CUTOUT, CAT# 57D46600,

GE TRANQUIL
INTERMEDIATE CLASS, POLYMER
LIGHTNING ARRESTORS
GE 48kV/39kV MCOV
CAT#9L2PPA048AS

S&C 46kV SMD-2C TYPE
HOLDER:300E CAT# 18692R1T4
LINK: 80E, CAT# 485080R3, TCC:119-1

PADMOUNT STATION TRANSFORMER
NORTHERN TRANSFORMER
SERIAL# 88-147, YEAR 1988
5MVA 44000VΔ /4160-2400VY, (ONAN)
Z%=5.9% (ONAN)
HV: 250KV BIL, 67.3A
LV: 75KV BIL, 694A

PANEL LAYOUT

METERING BOX			FEEDER 2	JUNCTION BOX	FEEDER 3	FEEDER 4

FEEDER #1	FEEDER #2	FEEDER #3	FEEDER #4
METAL ENCLOSED LOAD BREAK SWITCH 4.16 kV, 600A MARKHAM ELECTRIC SR NO. 78502212 YEAR: 1976	METAL ENCLOSED LOAD BREAK SWITCH 4.16 kV, 600A MARKHAM ELECTRIC SR NO. 78502212 YEAR:1976	METAL ENCLOSED LOAD BREAK SWITCH 4.16 kV, 600A MARKHAM ELECTRIC SR NO. 78502212 YEAR: 1976	METAL ENCLOSED LOAD BREAK SWITCH 4.16 kV, 600A MARKHAM ELECTRIC SR NO. 78502212 YEAR: 1976
WESTINGHOUSE LINK: 400A CAT# 832C151A06 TYPE: 4AB0800	WESTINGHOUSE LINK: 400A CAT# 832C151A06 TYPE: 4AB0800	WESTINGHOUSE LINK: 400A CAT# 832C151A06 TYPE: 4AB0800	WESTINGHOUSE LINK: 400A CAT# 832C151A06 TYPE: 4A0800
LIGHTNING ARRESTORS OHIO BRASS CAT# 213703PDV	LIGHTNING ARRESTORS OHIO BRASS CAT# 213703PDV	LIGHTNING ARRESTORS OHIO BRASS CAT# 213703PDV	DISTRIBUTION CLASS LIGHTNING ARRESTORS OHIO BRASS CAT# 213703PDV
NOT IN SERVICE	500MCM 5kV, RW90, CU XLPE	500MCM 15KV CABLE	500MCM 15KV CABLE
4160V	4160V	4160V	4160V

NOTES:

LEGEND

- TRANSFORMER
- FUSE
- AIRBREAK/ LOAD BREAK SWITCH
- LIGHTNING ARRESTORS
- KEY INTERLOCK

LICENSED PROFESSIONAL ENGINEER
K. A. PATEL
100145043
22 June 2012
PROVINCE OF ONTARIO

NO.	REVISION DESCRIPTION	BY	DATE
2	SINGLE LINE DIAGRAM REVISED WITH COMMENTS	MF	06/12
1	SINGLE LINE DIAGRAM REVISED WITH COMMENTS	KC	06/12
0	SINGLE LINE DIAGRAM	KC	05/12

Ascent™
Tel: 519-842-6458
Fax: 519-842-3775
Toll Free: 1-800-565-6790
14719 Bayham Drive, RR #3,
Tillsonburg, ON N4G 4G8
www.ascent.ca

DRAWN BY: KC	DATE: 06/12	SCALE:	AS NOTED
CHCK'D BY: KP	DATE: 06/12	SHEET:	3 OF 6
APPRV'D BY:	DATE:	JOB NO.:	12-24638EEA

TITLE:
SINGLE LINE DIAGRAM FOR
MS #3, WELLINGTON NORTH POWER INC,

SITE:
MS#3 320 KING STREET EAST
MOUNT FOREST, ONT

DWG NUMBER: 12-24638EEA-01 REV: 2

Costello Associates

Substation Risk Assessment Form

Station WNP MS-3 Year Built tx-1988

Section 1: Public Safety – conditions that impact public safety at the station:

Area of Concern	Check		
	1	2	3
Perimeter Security	✓		
Fence Grounding and Bonding			✓
Station Yard			✓
Station Building	N/A		
Station Setting – Proximity	✓		
Station Setting - Encroachments	✓		
Overall public safety condition			✓

1 = Acceptable

2 = Some deficiencies

3 = Needs attention soon

Overall Public Safety Risk Rating	Blue	Purple	Yellow	Orange	Red
	20+ Years	11-20 years	4-10 years	2-3 years	1 year
				✓	

Section 2: Worker Safety – conditions that impact worker safety at the station:

Area of Concern	Check		
	1	2	3
Grounding and Bonding			✓
Safe limits of approach	✓		
Working clearances	✓		
Switching access difficult	✓		
Multiple sources of voltage	✓		
Porcelain		✓	
Operational Issues			✓
Maintenance Issues			✓
Overall worker safety condition			✓

1 = Acceptable

2 = Some deficiencies

3 = Needs attention soon

Maintenance issues that can be quickly rectified may be eliminated from risk assessment.

Overall Worker Safety Risk Rating	Blue	Purple	Yellow	Orange	Red
	20+ Years	11-20 years	4-10 years	2-3 years	1 year
					✓

Inspected by: _____ Date: _____

Costello Associates
Substation Risk Assessment Form

Section 3: Risks of Major Equipment Failure

A. Condition of Equipment

Area of Concern	Check		
	1	2	3
Power Transformers			✓
High-side switchgear	N/A		
Distribution-side switchgear	✓		
Protection and Control Equipment	✓		
Underground cables			✓
Structures	✓		
Overall equipment condition			✓

1 = Acceptable

2 = Some deficiencies

3 = Needs attention soon

B. Factors that may impact the consequences of major equipment failure

Concern	Impact of Consequence		
	L	M	H
Station setting – proximity	More than 100m	Between 100m and 10m	10m or less
Station setting – watercourses	None	Storm sewers/drains	Open water
Lack of backup supply	<2 hours switching	Between 2 – 24h outage	No backup
Critical loads (hospitals etc)	None	With generators	No generators
Grounding and bonding	Today's code	Some deficiencies	Poor
Oil containment	Yes	Partial	None
Explosion barriers	Yes	Partial	None
Fire fighting capability	Hydrants	Storage Tanks	None
Presence of PCB's	None	Storage Only	In-service
Overall equipment condition	**L**	**M**	**H**

C. Based on the equipment condition and consequences, state the risk rating for a major equipment failure:

Overall Failure Risk Rating	Blue	Purple	Yellow	Orange	Red
	20+ Years	11-20 years	4-10 years	2-3 years	1 year
					✓

Section 4: Overall Substation Risk Assessment

Station Risk Assessment	Blue	Purple	Yellow	Orange	Red
	20+ Years	11-20 years	4-10 years	2-3 years	1 year
					✓

Comments: Low rating due primarily to diagnostic testing results on transformer and feeder cables.

Inspected by: _____ Date: _____

REVISIONS			
REV	DESCRIPTION	DATE	BY

costello
Utility Consultants

WNP
Wellington North Power Inc.

Wellington North Power Inc.

Condition Assessment Study 2013

Mt. Forest
MS3 – 1

Drawn By: K. England	Date: 30/05/2013
Checked By: K. England	Date: 30/05/2013
Approved By: S.Costello	Date: 30/05/2013
Drawing #:	Rev. #:

REVISIONS			
REV	DESCRIPTION	DATE	BY

costello
Utility Consultants

WNP
Wellington North Power Inc.

Wellington North Power Inc.

Condition Assessment Study 2013

Mt. Forest
MS3 – 2

Drawn By: K. England	Date: 30/05/2013
Checked By: K. England	Date: 30/05/2013
Approved By: S.Costello	Date: 30/05/2013
Drawing #:	Rev. #:

Wellington North Power Inc.
290 Queen Street West, PO Box 359, Mount Forest, ON N0G 2L0
Phone: 519.323.1710 Fax: 519.323.2425
E-mail: wnp@wellingtonnorthpower.com
www.wellingtonnorthpower.com

Appendix G: 2011 – 2014 Capital Programs with Materiality Explanations

Wellington North Power Inc.

Distribution System Plan

2015

Date: September 2015

Prepared by: **Wellington North Power Inc.**

Table of Contents

1.0 Historical Capital Expenditure

This Appendices supports wellington North Power Inc.'s 2015 Distribution System Plan and provides a review of the capital investments undertaken between the years of 2011 to 2014.

The following table illustrates Wellington North Power historical capital expenditure for the period 2011 to 2014 and 2015 planned expenditure by asset class:

Table 1 Wellington North Power - Historical Capital Expenditure (2011-2014) and Planned (2015)

Asset	GL Account	2011	2012	2013	2014	2015
		Actual	Actual	Actual	Actual	Planned
Land	*1805*	$0	$0	$1,424	$0	$0
Land Rights	*1806 / 1612*	$1,006	$1,650	$9,345	$9,411	$0
Buildings & Fixtures	*1808*	$13,668	$56,564	$3,450	$4,250	$75,000
Distribution Station Equipment - Normally < 50 kV	*1820*	$14,100	$9,565	$49,609	$237,846	$0
Poles	*1830*	$84,286	$126,331	$127,006	$94,034	$234,818
Overhead Conductor	*1835*	$86,632	$116,505	$64,609	$51,847	$19,373
Conduit	*1840*	$4,687	$888	$0	$0	$72,499
Underground Conductor	*1845*	$17,895	$22,150	$5,261	$123,029	$2,042
Transformers	*1850*	$77,258	$99,196	$83,751	$96,958	$77,768
Services	*1855*	$35,433	$27,651	$42,589	$83,350	$60,000
Meters	*1860*	$46,440	$715,944	$22,378	$20,340	$3,500
Office Equipment	*1915*	$12,101	$0	$16,600	$0	$2,000
Computer Hardware	*1920*	$29,173	$62,867	$8,886	$18,484	$85,000
Computer Software	*1611*	$244,594	$286,532	$10,143	$10,320	$23,000
Trucks	*1930*	$6,719	$0	$309,831	$0	$35,000
Stores Equipment	*1935*	$0	$1,842	$0	$0	$0
Tools& Equipment	*1940*	$0	$4,400	$0	$3,340	$0
Communication Equipment	*1955*	$8,800	$4,995	$2,009	$0	$0
SCADA Equipment	*1980*	$27,911	$3,810	$0	$0	$200,000
Capital Spend		**$710,704**	**$1,540,890**	**$756,891**	**$753,208**	**$890,000**
Contributions and Grants - Credit	*1995*	($113,405)	($4,691)	$795	($113,297)	($130,000)
Capital Spend including Capital Contributions		**$597,299**	**$1,536,199**	**$757,686**	**$639,911**	**$760,000**
Smart Meters and Computer Equipment			$42,695			
MS2 New Substation (Incremental Capital Module - as per 2014 IRM Application EB-2013-0178)					$1,433,955	
Total Capital Invested		**$597,299**	**$1,578,894**	**$757,686**	**$2,073,866**	**$760,000**

The above table illustrates that the Capital Expenditure for the LDC has been steady over the five year period ranging from $421,750 to $760,000 (excluding one-off investments and including Capital Contributions). It viewing this table, the following points need to be recognized:

2012: Although the LDC received approval for its annual capital expenditure of $760,000 in its 2012 Cost of Service (file number 2011-0249), the amount invested was $571,148 (before Capital Contributions). The LDC was delayed in filing its rate application and received approval in September 2012 for rates effective 1st October 2012. In this year, Wellington North Power was prudent in its spending awaiting the outcome of its rate application.

2013: The LDC's capital investment for this year at $757,686 (including Capital Contributions) was in-line with the annual capital budget that was approved in its 2016 Cost of Service rate application (rates for 2012 to 2015 with an annual CapEx budget of $760,000).

2014 The LDC's capital investment for this year is also on-par with the annual capital budget that was approved in its 2012 Cost of Service rate application (rates for 2012 to 2015 with an annual CapEx budget of $760,000). In this year, the company completed the replacement of a new substation. In its 2013 Incentive Rate Mechanism (IRM) rate application seeking approval for 2014 distribution rates, Wellington North Power Inc. included an Incremental Capital Module (ICM) requesting approval and recovery for building a new substation to replace an existing station that, in a 3rd party assessment, had major deficiencies. The ICM was approved as per Decision and Order EB-2013-0178 dated March 13th 2014. The LDC spent $1,433,955 on this ICM project that was energized and in-service in December 2014 (as planned).

It should be noted that as part of the IRM application for 2014 distribution rates (file number EB-2013-0178), Wellington North Power presented its "revised" 2014 CapEx plan to include only those non-discretionary projects that needed to be undertaken within the year. Consequently, through this discretionary / non-discretionary review of 2014 CapEx projects, annual planned capital budget reduced from $760,000 to $636,000

2015: For the Bridge Year, the LDC's planned capital investment is balanced in-line with the annual CapEx approved amount as per the 2012 Cost of Service (file number EB-2011-0249) rate application.

1.1 Historical Capital Investment

The table below illustrates the five-year capital investment made by Wellington North Power as grouped by the Investment Categories defined by the OEB as per Chapter 5 - "Consolidated Distribution System Plan Filing Requirements", section 5.1.1 Investment categories (March 28, 2013):

Table 2 Wellington North Power - Historical Capital Expenditure (2011-2015)

Base Projects		2011	2012	2013	2014	2015
	Investment Category	*Historic*	*Historic*	*Historic*	*Historic*	*Budget Bridge Year*
	General Plant	$327,991	$138,275	$361,688	$38,617	$220,000
	System Access	$42,931	$107,171	$57,730	$239,084	$172,500
	System Renewal	$192,014	$307,636	$283,467	$413,894	$155,500
	Systems Service	$34,362	$13,375	$54,802	$61,613	$212,000
	Total	**$597,299**	**$566,457**	**$757,686**	**$753,208**	**$760,000**
	% Allocation by Category	**2011**	**2012**	**2013**	**2014**	**2015**
	General Plant	55%	24%	48%	5%	29%
	System Access	7%	19%	8%	32%	23%
	System Renewal	32%	54%	37%	55%	20%
	Systems Service	6%	2%	7%	8%	28%
Special Projects						
		2011	**2012**	**2013**	**2014**	**2015**
Investment Category	**Project**	*Historic*	*Historic*	*Historic*	*Historic*	*Budget Bridge Year*
System Renewal	MS2 Substation (2014)				$1,433,955	
	Total Capital Expenditure	**$597,299**	**$566,457**	**$757,686**	**$2,187,163**	**$760,000**

In reviewing each "historic" capital project to best determine the investment category, Wellington North Power Inc. defined what was the "driver" of each project and used the table below as a reference tool.

Investment Category	Driver
General Plant	Non-system physical plant - Building structure
General Plant	Non-system physical plant - Equipment & Tools
General Plant	Non-system physical plant - Land Rights / Acquisition
General Plant	Non-system physical plant - Software / Hardware
General Plant	System capital investment support - Study
System Access	Customer service request - Modification to existing customer connection
System Access	Customer service request - New customer connection
System Access	Customer service request - New customer connection (Contribution & Grants)
System Access	Finance compliance (OEB and International Accounting Standards Board) - IFRS software and deployment
System Access	Mandated by OEB and Ministry of Energy (Smart Meters)
System Access	Mandated service obligations - metering
System Access	Other 3rd party infrastructure development requirements - System modification for infrastructure development
System Renewal	Failure risk - Asset replacement
System Service	System operational effectiveness - functionality (drawing design & layouts)
System Service	System operational effectiveness - safety (bury cables underground)
System Service	System operational effectiveness - safety (protection)
System Service	System operational effectiveness - system efficiency (study)
System Service	System operational effectiveness -power quality measurement (SCADA)

1.2 Threshold Materiality

The Minimum Filing Requirements state that a distributor with a distribution revenue requirement less than $10 million must use $50,000 as a materiality threshold. Wellington North Power Inc.'s 2016 proposed base revenue requirement is considerably less than $10 million and therefore the LDC has used $50,000 as a materiality threshold when justifying variances and or costs.

The information below identifies the material projects for 2011 to 2015 grouped by investment category. A summary of each budget item is provided for those projects that are equal to or above the LDC's materiality threshold of $50,000 (as per requirement in Section 5.4.5.2 of the Chapter 5 filing requirements).

1.3 2011 Capital Expenditure Review by Materiality Threshold

The table below summarizes the capital projects that were undertaken in 2011 grouped by investment category:

Table 3 2011 Capital Expenditure

2011 Capital Projects						
Classification	Budget Item	Estimate	Actual		Variance	
General Plant	Non-system physical plant - Building structure	$7,500	$19,274		$11,774	157%
	Non-system physical plant - Equipment & Tools	$0	$6,719		$6,719	
	Non-system physical plant - Land Rights / Acquisition	$0	$1,006		$1,006	
	Non-system physical plant - Software / Hardware	$41,800	$42,532		$732	2%
	Compliance - Financial Software	$169,000	$230,549		$61,549	36%
	System capital investment support - Study	$25,000	$27,911		$2,911	12%
System Access	Customer Service Request	$105,869	$100,386		($5,483)	-5%
	Customer Service Request - Contributed Capital	$0	($113,405)		($113,405)	
	Metering	$39,000	$41,576		$2,576	7%
	Other 3rd party infrastructure development requirements	$11,500	$14,374		$2,874	25%
System Renewal	Failure risk - Asset replacement	$231,435	$192,014		($39,421)	-17%
System Service	Operational Effectiveness	$39,113	$34,362		($4,751)	-12%
	Total	**$670,218**	**$597,299**		**($72,919)**	**-11%**

Projects Over Materiality Threshold of =>$50,000

Project	Name	Classification & Budget Item	Estimate	Actual		Variance	
2011-022	Great Plains (Financial System) Installation	System Access - Finance compliance (OEB and International Accounting Standards Board) - IFRS software and deployment	$169,000	$230,549		$61,549	36%
2011-001	Smith St - system upgrade of poles, conductors and transformers	System Renewal - Failure risk - Asset replacement	$96,684	$91,945		($4,739)	-5%

System Access - Customer Service Request:

This is a budget item used to fund the assets provided by the company to connect new services, to connect temporary services or modification to an existing customer connection. This includes the installation of distribution poles, conductor, and transformation and Overhead/Underground service cables. Any work driven by the new service connections, installation of temporary services or modifications to existing services are allocated to this budget item.

In 2011, Wellington North Power Inc.'s spent less on this budget item when compared to actual spend (an underspend of 5%). This budget item is difficult to forecast as it is driven by customers; however the LDC does gather information from discussions with local developers and the Township regarding new and proposed developments.

One such project was a new service installation, driven by the OPP constructing a new building in Mount Forest (project #2011-010). The objective of completing this project is to provide a new service for the OPP's forensic building. This project saw the installation of one new 300kVA, 2.4kV-347/600V, pad-mount, transformer, one new distribution pole, and 10m of 3-#2 ACSR primary conductor. The total cost of this particular project was $21,602.

Alignment to Objectives	
Renewed Regulatory Framework primary outcome achieved:	✓ **Customer Focus** Responding to the connection needs desired by the customer, both efficiently and safely, as well as promoting customer satisfaction
LDC Strategic Objective achieved	✓ Provide outstanding customer service

System Renewal – Failure Risk – Asset Replacement:

This budget item involves replacement of distribution assets (such as poles and transformers) where the equipment has deteriorated, is at/beyond its useful life, is damaged and cannot be viably repaired, is a risk/safety hazard or has been identified as a replacement asset through the LDC's Asset Inspection program (as per Asset Management Process Overview discussed above.) In 2011, Wellington North Power Inc. spent $38,911 in replacing aged, broken or deteriorated assets.

Also, this budget item includes capital projects with the objective of modernizing distribution equipment to maintain service and system reliability. For example, in 2011, the LDC completed an overhead conductor re-build on the Main Street South in Mount Forest (project # 2011-011) as per the company's asset management plan. The objective of this project is to provide our customers with new, reliable, modernized, electricity distribution assets, increase the capacity of our distribution system for embedded generation projects as well as re-route an existing distribution circuit to the public road allowance. (The "old" primary conductor was 3-#2 ACSR; whereas the installed "new" conductor was 3-336MCM Al.) This project cost $42,170 which was 13%

($6,052) below the Estimate due to the LDC benefitting from the Township closing the road for construction work therefore the ability to complete the project in fewer days.

In 2011, there was one "System Renewal - Failure Risk – Asset Replacement" project that exceeded the materiality threshold of $50,000. This project was an overhead pole line re-build on the Smith Street in Arthur (project #2011-001) driven by the company's asset management plant in conjunction with some roadway construction the Township of Wellington North completed in the summer of 2011. The objective of completing this project was to provide our customers with new, reliable, modernized, electricity distribution assets. The wooden poles are circa 1975, 35', with primary conductor of 3-#2 ACSR; whereas the newly installed poles are 45', class 3, and 40' class 3, wood poles with 3-336MCM Al. primary conductor. This project involved the installation of 14 new distribution poles, 160m of overhead primary conductor, and one distribution transformer. This project cost $91,945 which was 5% ($4,739) below the Estimate.

Alignment to Objectives	
Renewed Regulatory Framework primary outcome achieved:	✓ **Operational Effectiveness** Delivering on system reliability and quality objectives
LDC Strategic Objective achieved	✓ Manage a safe and reliable distribution system in an efficient and cost effective manner

Of particular interest to note regarding System Access:

- <u>System capital investment support: Study</u> – this was the completion of the LDC's Asset Management Plan by a 3rd party that was started in 2010 and completed in 2011. This study identified the LDC's assets and provided a proposed plan for asset replacement based upon a condition assessment. This Asset Management Plan has been used to assist with capital planning at the LDC as well as in Wellington North Power Inc.'s latest Cost of Service rate application (file number EB-2011-0249) seeking approval for 2012 distribution rates.

<u>General Plant –</u> <u>Compliance – Financial Software:</u>

Capital project #2011-022 was to fund the purchase of licenses, training, and installation of Great Plains, a financial package that supports Canada's transition to the International Financial Reporting Standards (IFRS). Wellington North Power Inc. adopted IFRS accounting methodology on January 1st 2015, with a transition date of

January 1st 2014. This funding also included consultancy costs from a 3rd party Great Plains vendor (BDO) to assist with training, system integration and implementation within Wellington North Power Inc.

During system implementation, the LDC identified an opportunity to include the Fixed Asset Module component of Great Plains, which was not included in the budgeted estimated cost or project scope. The LDC did review, test and purchase the Fixed Asset Module as an additional component and this explains the 36% overspend for this project. The Fixed Asset Module now contains financial asset data (i.e. cost, depreciation rate, net book value and asset age) and has been instrumental in reporting the LDC's assets when migrating to IFRS accounting methodology.

Alignment to Objectives	
Renewed Regulatory Framework primary outcome achieved:	✓ **Public Policy Responsiveness** Meeting mandated obligations (i.e. adoption of IFRS accounting methodology)
LDC Strategic Objective achieved	✓ Meet all (regulatory) mandated obligations

1.4 2012 Capital Expenditure Review by Materiality Threshold

The table below summarizes the capital projects that were undertaken in 2012 grouped by investment category:

Table 4 2012 Capital Expenditure

2012 Capital Projects					
Classification	Budget Item	Estimate	Actual	Variance	
General Plant	Non-system physical plant - Building structure	$55,164	$56,564	$1,400	3%
	Non-system physical plant - Equipment & Tools	$5,128	$1,842	($3,286)	-64%
	Non-system physical plant - Land Rights / Acquisition	$1,650	$2,843	$1,193	72%
	Non-system physical plant - Software / Hardware	$90,514	$77,026	($13,488)	-15%
System Access	Customer Service Request	$73,541	$89,303	$15,762	21%
	Customer Service Request - Contributed Capital	$0	($4,691)	($4,691)	
	Metering	$13,172	$15,587	$2,415	18%
	Other 3rd party infrastructure development requirements	$5,733	$6,972	$1,238	22%
System Renewal	Failure risk - Asset replacement	$270,863	$307,636	$36,772	14%
System Service	Operational Effectiveness	$9,157	$13,375	$4,219	46%
	Total	**$524,923**	**$566,457**	**$41,535**	**8%**

Projects Over Materiality Threshold of =>$50,000

Project	Name	Classification & Budget Item	Estimate	Actual	Variance	
2012-BS1, 2012-BS2, 2012-106, 2012-110	Building Study and Renovations	General Plant -Non-system physical plant - Building structure	$55,164	$56,564	$1,400	3%
2012-009, 2012-035, 2012-022, 2012-028, 2012-041, 2012-097, 2012-041	IT software / hardware purchases, licences	General Plant -Non-system physical plant - Software / Hardware	$90,514	$77,026	($13,488)	-15%

General Plant – Non-system physical plant – Building Structure:

This included an independent building study, by a 3rd party, (project #s 2012-BS1 & 2012-BS2) of the LDC's main offices at 290 Queen Street West, Mount Forest which identified:

a) The current use of space versus the future need for space in ten and twenty years considering storage for files, server room requirements, facilities for employees, storage of fleet vehicles overnight and parking for staff, visitors and customers

b) Identification of current building defects and deficiencies including air flow, heating and ventilation and compliance with latest building regulations.

These two reports have assisted Wellington North Power Inc. in creating a building renovation plan that aims to address defects over the next ten years. These items have been prioritized to address critical defects whilst trying to balance the annual capital budget. For example, in 2012:

- Project #2012-106 - The office flat-roof was re-laid and sealed to prevent water leakage and;

- Project #2012-110 - The furnace was replaced and installed in a new furnace room.

The total cost for these renovations and the building study was $56,564 (3% above the Estimate).

Alignment to Objectives	
Renewed Regulatory Framework primary outcome achieved:	✓ **Operational Effectiveness** Providing an accessible office where customers can visit to pay their electricity accounts and speak directly with utility staff coupled with a safe working environment for utility employees that encourages continuous improvement and productivity
LDC Strategic Objective achieved	✓ Provide outstanding customer service By having a good working environment, in WNP's opinion, this encourages staff retention and creates a positive team working including process improvements

General Plant – Non-system physical plant – Software/Hardware:

This budget item included the following software / hardware purchases and installation:

Hardware / Software	Cost
Cyber-Security (Project #2012-009) Upgrade of the IT Firewall to enhance cyber-security protection to store and protect data	$11,753
Job Estimating (Project #2012-028) Upgrade of Quadra software. This is used by Operations to provide quotes for projects that feed into budgets and prioritization plans. This quoting system (Quadra) was also integrated with the company's financial system (Great Plains) to enable tracking of approved estimates versus actual costs once capital projects were approved	$7,159
Design Tool and GIS Conversion (Project #2012-097) Purchased and installed "ESRI Software". This is a design tool used by Operations to provide layout drawings for new services as well as designs for re-build projects (e.g. pole-line re-build, transformer relocation). These drawings conform to industry standards and specifications. At the same time, the LDC migrated to a new version of GIS and converted historical data to the new program. The previous GIS version was dated with a high probability that vendors would not provide future support to maintain this version	$25,661
Hydro Monitoring Maintenance Agreement (Project #2012-035) Upgrading of the software in its hydro monitoring system (i.e. substation data). This included an annual maintenance support agreement with Schneider Electric whereby alert reports are automatically generated and issued to Operations notifying of any erroneous substation data	$4,995
Customer Connect and Separate server (Project #2012-041) Tested, purchased and installed Customer Connect – an on-line tool for customers to access information regarding their electricity usage and payment history. This enables Wellington North Power Inc. to utilize software to graphically present Smart Meter consumption data, as mandated by the Minister of Energy. A separate server was purchased and installed to house Customer Connect data so as to separate this information from Customer Information Systems (CIS) records and company data	$27,458
Total	**$77,026**

In 2012, IT investment was 15% ($13,488) below the Estimate. The majority of this variance can be attributed to the LDC being able to re-use a server when installing its IT Firewall cyber security software and avoided the cost of purchasing a new server (a new server had been included in the Estimate.)

Alignment to Objectives	
Renewed Regulatory Framework primary outcome achieved:	✓ **Operational Effectiveness** Delivering on system reliability and quality objectives through maintaining and managing data safely and securely
LDC Strategic Objective achieved	✓ Manage a safe and reliable distribution system in an efficient and cost effective manner By using software that incorporates latest design safety parameters to ensure that service-layout drawings and capital project designs comply with industry standards

System Access - Customer Service Request:

This is a budget item used to fund the assets provided by the company to connect new services, to connect temporary services or modification to an existing customer connection. This includes the installation of distribution poles, conductor, and transformation and Overhead/Underground service cables. Any work driven by the new service connections, installation of temporary services or modifications to existing services are allocated to this budget item.

In 2012, Wellington North Power Inc.'s spent more on this budget item when compared to actual spend (an overspend of 21% equating to $15,762). This budget item is difficult to forecast as it is driven by customers; however the LDC does gather information from discussions with local developers and the Township regarding new and proposed developments. In 2012, there were no individual new service connections, service modifications or temporary services that met the LDC's materiality threshold of $50,000.

Alignment to Objectives	
Renewed Regulatory Framework primary outcome achieved:	✓ **Customer Focus** Responding to the connection needs desired by the customer, both efficiently and safely, as well as promoting customer satisfaction
LDC Strategic Objective achieved	✓ Provide outstanding customer service

System Renewal – Failure Risk – Asset Replacement:

This budget item involves replacement of distribution assets (such as poles and transformers) where the equipment has deteriorated, is at/beyond its useful life, is damaged and cannot be viably repaired, is a risk/safety hazard or has been identified as a replacement asset through the LDC's Asset Inspection program (as per Asset Management Process Overview discussed above.) In 2012, Wellington North Power Inc. spent $98,276 in replacing aged, broken or deteriorated assets (compared to an annual estimated budget of $90,000).

This budget item also includes capital projects with the objective of modernizing distribution equipment to maintain service and system reliability. For example, in 2012, the LDC completed an overhead pole line re-build on Elgin Street in Mount Forest (project #2012-049), driven by the company's asset management plan. The objective of completing this project was to provide our customers with new, modernized, electricity distribution assets. The wooden poles were circa 1975, 30', with primary conductor of 1-#2 ACSR; whereas the newly installed poles will be 35', class 3, and 45', class 3, wood poles with 1-#2 ACSR primary conductor. This project saw the installation of 7 new distribution poles, 100m of 1-phase primary conductor and one new distribution transformers. The total project cost was $42,620 with an Estimate of $36,310 – an overspend of $6,310 equating to a variance of 17%. The overspend was due to (i) under-estimation of hours subcontractors required (approximately $2,400; (ii) higher use of time used for both bucket truck and RBD truck than estimated (approximately $3,200); and (iii) under-estimation of cost of materials (approximately $800). This project was the largest individual project spend classified under the "Failure Risk – Asset Replacement" category for the year.

Alignment to Objectives	
Renewed Regulatory Framework primary outcome achieved:	✓ **Operational Effectiveness** Delivering on system reliability and quality objectives
LDC Strategic Objective achieved	✓ Manage a safe and reliable distribution system in an efficient and cost effective manner

1.5 2013 Capital Expenditure Review by Materiality Threshold

The table below summarizes the capital projects that were undertaken in 2013 grouped by investment category:

Table 5 2013 Capital Expenditure

2013 Capital Projects					
Classification	Budget Item	Estimate	Actual	Variance	
General Plant	Non-system physical plant - Building structure	$7,500	$7,384	($116)	-2%
	Non-system physical plant - Equipment & Tools	$330,000	$309,831	($20,169)	-6%
	Non-system physical plant - Land Rights / Acquisition	$6,700	$6,835	$135	2%
	Non-system physical plant - Software / Hardware	$30,900	$35,528	$4,628	15%
System Access	Customer Service Request	$52,850	$55,279	$2,429	5%
	Metering	$2,000	$2,450	$450	23%
System Renewal	Failure risk - Asset replacement	$273,001	$283,467	$10,466	4%
System Service	Non-system physical plant - Software / Hardware	$2,000	$2,110	$110	6%
	Operational Effectiveness	$55,500	$54,802	($698)	-1%
	Total	**$760,451**	**$757,686**	**($2,765)**	**0%**

Projects Over Materiality Threshold of =>$50,000

Project	Name	Classification & Budget Item	Estimate	Actual	Variance	
2013-132	Replacement pick-up truck (TR51)	General Plant -Non-system physical plant - Equipment & Tools	$30,000	$29,631	($369)	-1%
2013-126	Replacement double bucket truck (TR35)	General Plant -Non-system physical plant - Equipment & Tools	$300,000	$280,200	($19,800)	-7%
2013-143	Waterloo St - replace conductor	System Renewal - Failure risk - Asset replacement	$81,501	$77,748	($3,754)	-5%

General Plant – Non-system physical plant – Equipment and Tools:

In 2013, Wellington North Power replaced a 2008 Quad Cab pick-up truck with a 2013 Quad Cab pick-up truck (project #2013-132). In the same year, the LDC also replaced its 1998 Double Bucket truck (fifteen years old) with a 2013 Freightliner Double Bucket truck (project #2013-126). Wellington North Power had budgeted $300,000 for a replacement double truck; however the LDC managed to acquire a demonstration model for just over $280,000 – this explains the variance of $19,800 (-7%) between Estimate and Actual for this category.

Alignment to Objectives	
Renewed Regulatory Framework primary outcome achieved:	✓ **Operational Effectiveness** Savings from operational effectiveness are sustainable as demonstrated by acquiring a demonstration model bucket truck at a reduced price (compared to the new retail price.)
LDC Strategic Objective achieved	✓ Manage a safe and reliable distribution system in an efficient and cost

	effective manner – by ensuring that fleet vehicles are reliable, safe and maintained to prolong their life

System Access - Customer Service Request:

This is a budget item used to fund the assets provided by the company to connect new services, to connect temporary services or modification to an existing customer connection. This includes the installation of distribution poles, conductor, and transformation and Overhead/Underground service cables. Any work driven by the new service connections, installation of temporary services or modifications to existing services are allocated to this budget item.

In 2013, Wellington North Power Inc.'s spent more on this budget item when compared to actual spend (estimate was $52,850 versus actual of $55,279 - an overspend of 5% equating to $2,429). This budget item is difficult to forecast as it is driven by customers; however the LDC does gather information from discussions with local developers and the Township regarding new and proposed developments. In 2013, there were no individual new service connections, service modifications or temporary services that met the LDC's materiality threshold of $50,000.

Alignment to Objectives	
Renewed Regulatory Framework primary outcome achieved:	✓ **Customer Focus** Responding to the connection needs desired by the customer, both efficiently and safely, as well as promoting customer satisfaction
LDC Strategic Objective achieved	✓ Provide outstanding customer service

System Renewal – Failure Risk – Asset Replacement:

This budget item involves replacement of distribution assets (such as poles and transformers) where the equipment has deteriorated, is at/beyond its useful life, is damaged and cannot be viably repaired, is a risk/safety hazard or has been identified as a replacement asset through the LDC's Asset Inspection program (as per Asset Management Process Overview discussed above.) In 2013, Wellington North Power Inc. spent $70,000 in replacing aged, broken or deteriorated assets (compared to an annual estimated budget of $61,500), which included replacing components of three Primary Metering Equipment (PME) at $16,130 that was unplanned.

This budget item also includes capital projects with the objective of modernizing distribution equipment to maintain service and system reliability. In 2013, there was one project that exceeded the materiality threshold of $50,000 – this was to replace aged conductor with 336 MCM conductor along the length of Waterloo Street in Mount Forest (project #2013-143). This project was estimated at $81,500 yet the actual completed cost was $77,748 (5% under budget).

Alignment to Objectives	
Renewed Regulatory Framework primary outcome achieved:	✓ **Operational Effectiveness** Delivering on system reliability and quality objectives
LDC Strategic Objective achieved	✓ Manage a safe and reliable distribution system in an efficient and cost effective manner

System Service – Operational Effectiveness:

In 2013, Wellington North Power Inc. commissioned a 3rd party (Costello Associates – project #2013-056) to perform a study of its six substations. The cost of this independent study was $12,038 and has proved invaluable in identifying substation defects and deficiencies as well as supporting the LDC's Incentive Rate Mechanism Rate (IRM) application requesting approval of 2014 distribution rates which included an Incremental Capital Module (ICM) seeking the Ontario Energy Board's approval to replace MS2 Substation which was over 50 years old. The OEB approved the Applicant's IRM application together with the ICM as per Decision and Order dated March 13th 2014, case number EB-2013-0178.

Wellington North Power Inc. commissioned Costello Associates to design the replacement MS2 substation in 2013 (project #2013-111) in preparation for commencing construction in 2014. The cost of this design work was $31,616 (5% equating to $1,616 above the Estimate.)

The substation condition assessment study identified a number of equipment issues and WNP proceeded to develop a paced and prioritized plan to make necessary equipment repairs and replacements, for instance at MS4 substation the neutral connection was repaired using an engineered work instruction at a cost of $5,955 resulting in the station was out of service from May 8, 2013 to November 19, 2013 for this repair work (project #2013-112).

The LDC completed burying cables underground along a small portion of Birmingham Street East in Mount Forest. There is a Retirement Home at this location and Wellington North Power buried cables at the frontage of this property to protect the public as they enter/leave the building. The cost for this project was $5,193 (project #2013-089).

The cost of these four Operational Effectiveness activities in 2013 was $54,802.

Alignment to Objectives	
Renewed Regulatory Framework primary outcome achieved:	✓ **Operational Effectiveness** Continuous improvement in productivity and performance as demonstrated by addressing the defects and deficiencies identified by the 3rd party substation assessment
LDC Strategic Objective achieved	✓ Manage a safe and reliable distribution system in an efficient and cost effective manner

1.6 2014 Capital Expenditure Review by Materiality Threshold

The table below summarizes the capital projects that were undertaken in 2014 grouped by investment category:

Table 6 2014 Capital Expenditure

2014 Capital Projects					
Classification	Budget Item	Estimate	Actual	Variance	
General Plant	Non-system physical plant - Building structure	$10,000	$4,250	($5,750)	-58%
	Non-system physical plant - Equipment & Tools	$0	$3,340	$3,340	
	Non-system physical plant - Land Rights / Acquisition	$3,500	$3,993	$493	14%
	Non-system physical plant - Software / Hardware	$11,000	$27,034	$16,034	146%
System Access	Customer Service Request	$222,760	$221,881	($879)	0%
	Customer Service Request - Contributed Capital	($113,000)	($113,297)	($297)	0%
	Metering	$6,000	$17,203	$11,203	187%
System Renewal	Failure risk - Asset replacement	$400,000	$413,894	$13,894	3%
System Service	Operational Effectiveness	$65,500	$61,613	($3,887)	-6%
	Total	**$605,760**	**$639,911**	**$34,151**	**6%**
Special Project:					
System Renewal	Failure risk - Asset replacement	$1,356,100	$1,433,955	**$77,855**	**6%**

Projects Over Materiality Threshold of =>$50,000

Project	Name	Classification & Budget Item	Estimate	Actual	Variance	
2013-101	Preston Street Townhomes - subdivision development	System Access - Customer service request - New customer connection	$180,000	$169,154	($10,846)	-6%
2014-035	Substation Transformer	System Renewal - Failure risk - Asset replacement	$240,000	$240,000	$0	0%
2013-094	Pole Line replacement - Georgina Street	System Renewal - Failure risk - Asset replacement	$55,000	$67,204	$12,204	22%

Special Project

Project	Name	Classification & Budget Item	Estimate	Actual	Variance	
2014-035	* Substation Replacement (MS2 Substation)	System Renewal - Failure risk - Asset replacement	$1,356,100	$1,433,955	$77,855	6%

* Note excludes cost of substation transformer replacement

System Access - Customer Service Request:

This is a budget item used to fund the assets provided by the company to connect new services, to connect temporary services or modification to an existing customer connection. This includes the installation of distribution poles, conductor, and transformation and Overhead/Underground service cables. Any work driven by the new service connections, installation of temporary services or modifications to existing services are allocated to this budget item.

In 2014, Wellington North Power Inc.'s spent $221,881 on this budget item and of this, $169,154 relates to one project - a new subdivision of forty-five town-houses, project #2013-101. This project cost included the

provision of transformation up to 500kVA provided by the LDC and the labour, equipment, materials, engineering and administration involved in this distribution system expansion activity. The developer appointed Wellington North Power Inc. to manage the civil construction and electric connections of these projects, which the LDC outsourced. The LDC routinely visited the development to monitor progress and has provided an issues list to the developer of issues that needs addressing. Wellington North Power Inc. received a Contributed Capital payment for this project for $113,297 as shown in the above table. There were no other projects within this category that reached the materiality threshold of $50,000.

Alignment to Objectives	
Renewed Regulatory Framework primary outcome achieved:	✓ **Customer Focus** Responding to the connection needs desired by the customer, both efficiently and safely, as well as promoting customer satisfaction
LDC Strategic Objective achieved	✓ Provide outstanding customer service

System Renewal – Failure Risk – Asset Replacement:

This budget item involves replacement of distribution assets (such as poles and transformers) where the equipment has deteriorated, is at/beyond its useful life, is damaged and cannot be viably repaired, is a risk/safety hazard or has been identified as a replacement asset through the LDC's Asset Inspection program (as per Asset Management Process Overview discussed above.) In 2014, Wellington North Power Inc. spent $84,219 in replacing aged, broken or deteriorated assets (compared to the annual estimated budget of $80,000).

Excluded from this actual cost and estimate was the replacement of the substation transformer at MS2 substation, project #2014-035. The LDC budgeted $240,000 for this specific asset and had included this item in the revised 2014 Capital Plan as submitted in LDC's Incentive Rate Mechanism Rate (IRM) application requesting approval of 2014 distribution rates which included an Incremental Capital Module (ICM) seeking the Ontario Energy Board's approval to replace MS2 Substation which was over 50 years old (the OEB approved the Applicant's IRM application together with the ICM as per Decision and Order dated March 13th 2014, case number EB-2013-0178.) In this IRM application, Wellington North Power revised its 2014 Capital Plan to include non-discretionary projects (i.e. those projects that could not be deferred for another year) and consequently, the plan reduced from $760,000 to $636,000 for this year. This revised plan included $240,000 for MS2 substation transformer. The substation transformer component was replaced as in 2014 as part of the MS2 Substation replacement project.

This budget item also includes capital projects with the objective of modernizing distribution equipment to maintain service and system reliability. In 2014, there was one project that exceeded the materiality threshold of $50,000 – this was to pole-line project to replace nine poles along Georgina Street in Arthur, project #2013-094. This project was estimated at $55,000 yet the actual completed cost was $67,204 (22% over budget or $12,204) and this overspend was due to replacing two pole-mount transformers that were not originally included in the scope of the project.

Alignment to Objectives	
Renewed Regulatory Framework primary outcome achieved:	✓ **Operational Effectiveness** Continuous improvement in productivity and performance
LDC Strategic Objective achieved	✓ Manage a safe and reliable distribution system in an efficient and cost effective manner

System Service – Operational Effectiveness:

In 2014, Wellington North Power Inc. completed several "Operational Effectiveness" capital projects with a total cost of $61,613. None of these projects individually costed more than the materiality threshold of $50,000. Examples of projects within this category, with actual costs incurred, included:

- Underground Re-build work at Byeland Drive in Mount Forest ($26,827);
- Installation of additional Switches across the overhead distribution system of the service territory to enable re-routing of electricity in the event of a power outage ($15,631);
- Replacement of ground-grids at substations as identified in the defect/deficiency list within the 2013 Substation Condition Assessment report ($8,125);
- Installation of Open Points within the distribution system near a General Service 1,000 to 4999 kW customer to enable re-routing of electricity in the event of a power outage ($3,120).

Alignment to Objectives	
Renewed Regulatory Framework primary outcome achieved:	✓ **Operational Effectiveness** Continuous improvement in productivity and performance as demonstrated by addressing the defects and deficiencies identified by the 3rd party substation assessment
LDC Strategic Objective achieved	✓ Manage a safe and reliable distribution system in an efficient and cost effective manner

1.7 2014 Special Project: System Renewal – Failure Risk: Asset Replacement

In 2013, Wellington North Power Inc. submitted in LDC's Incentive Rate Mechanism Rate (IRM) application requesting approval of 2014 distribution rates which included an Incremental Capital Module (ICM) seeking the Ontario Energy Board's approval to replace MS2 Substation which was over 50 years old. The Ontario Energy Board approved the Applicant's IRM application together with the ICM as per Decision and Order dated March 13th 2014, case number EB-2013-0178. Within the application, the LDC provided a summary of Estimated costs of $1,356,100 with an approved Eligible Incremental Capital Amount of $1,412,449 (as per filed Incremental Capital Workform – *"WellingtonNorth_EB-2013-0178_2014_IRM3_Incremental_Captial_Wrkfrm_V1.1_IR1*.") The replacement substation was constructed and enegerized in December 2014, as per plan. The table below illustrates the Estimated costs versus the Actual costs that were incurred for replacing MS2 Substation:

Table 7 MS2 Substation Replacement: Estimate versus Actual

	Component	Estimated Cost	Actual Cost	Variance between Estimated to Actual Costs	
1)	Consultancy / Project Mgmt Work (Costello Assoc)	$107,250	$83,613	-$23,637	-22%
2)	Major Equipment (Purchased by WNP)	$592,900	$504,860	-$88,040	-15%
3)	Design-Build Contractor	$865,150	$998,399	$133,249	15%
4)	WNP Work (incl inventory materials)	$30,800	$74,334	$43,534	141%
5)	Other Work(GroundStudy,Geotechnical)		$12,750	$12,750	
	Sub-Total	**$1,596,100**	**$1,673,955**	**$77,855**	5%
	Less: Substation Transformer	($240,000)	($240,000)	$0	0%
	Total	**$1,356,100**	**$1,433,955**	**$77,855**	6%

In its 2014 IRM application with ICM component for MS2 Substation replacement, case number EB-2013-0178, Wellington North Power Inc. explained that the LDC had already provisioned for $240,000 for a substation transformer which was included in the company's CapEx plans for 2014 as included in in the LDC's 2012 Cost of Service application. Therefore, in its IRM application, the LDC was seeking approval for $1,356,100 in its Incremental Capital Module component (i.e. the total estimated project cost less $240,000 for a new transformer.) This is reflected in the above table.

The MS2 substation project, completed and energized in 2014, resulted in a total cost of $1,433,955 (excluding transformer) representing a 6% overspend (or $77,855). This overspend was as a result of the following:

a) During site excavation the soil conditions under the locations for the new transformer and switchgear were found to be unsuitable for construction. As a result additional excavation and disposal of the material was required. Suitable fill was required to be transported to site and compacted to provide a suitable foundation to build on. The preliminary geotechnical studies did not uncover the problem as

bore holes could not be completed in the specific locations poor soil was found. (Approximate cost $27,265).

b) The original concept planned on re-use of some of the existing underground conduit for Feeder 4 crossing Foster Road to Sligo Road. During demolition an investigation on the conduit was completed. The conduit was cleaned and inspected. It was found to be collapsed and not usable. A new overhead concept was engineered costing additional engineering and installation by field staff. Overhead work consisted of reconfiguration of the 44kV and was completed during a weekend to:
    i. Minimize impact to customers – customers had been notified of a planned power outage early on Sunday morning; however this was not required, and;
    ii. Reduce worker risk - this location is at a road junction and traffic volumes are considerably lighter on a weekend compared to a weekday during business hours and school time. (Approximate cost $44,800).

c) The site is compact making access difficult for maintenance crew. In order to facilitate the removal of the main transformer in the event of catastrophic failure an addition gate and entrance was added. (approximate cost $3,290).

d) The main transformer had numerous drawing reviews and was extremely late through manufacture. The transformer failed during testing at the plant causing further delays. A great deal of additional time was spent managing the project. (approximate cost $2,500).