newfoundland labrador hydro
a nalcor energy company

Hydro Place. 500 Columbus Drive.
P.O. Box 12400. St. John's. NL
Canada A1B 4K7
t. 709.737.1400 f. 709.737.1800
www.nlh.nl.ca

April 13, 2018

Via Email & Courier

Board of Commissioners of Public Utilities
Prince Charles Building
120 Torbay Road, P.O. Box 21040
St. John's, NL
A1A 5B2 Canada

Attention: Ms. Cheryl Blundon
Director of Corporate Services & Board Secretary

Dear Ms. Blundon:

Re: 2017 General Rate Application – Additional Information – 2017 Actuals

Enclosed with this letter please find one (1) original plus thirteen (13) copies of tables, figures, schedules, and exhibits provided in the 2017 GRA Evidence that now include the 2017 Actuals. We have also enclosed a listing of these items for ease of reference. This information is being provided to the Board and Intervenors to assist in connection with the 2017 GRA.

In addition to information provided in Exhibit 7 of the 2017 GRA, Hydro's 2017 Annual Report on Key Performance Indicators will be provided following Hydro's update to the Q4 2017 Quarterly Report to the Board to reflect 2017 financial information.

If you have any questions, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

Geoffrey P. Young
Corporate Secretary & General Counsel
GPY/skc

cc: Gerard Hayes - Newfoundland Power
Paul Coxworthy - Stewart McKelvey
Denis J. Fleming - Cox & Palmer
ecc: Van Alexopoulos - Iron Ore Company
Senwung Luk - Olthuis Kleer Townshend LLP
Dennis Browne, Q.C. – Brown Fitzgerald Morgan & Avis
Dean Porter - Poole Althouse
Benoît Pepin - Rio Tinto

Additional Information - List of Tables, Figures, Schedules, and Exhibits

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2017 General Rate Application

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Volume II		Exhibit 6

Table-2-2 Hydro Customer Totals[1]

Year-end	2012	2013	2014	2015	2016	2017A
Total	37,584	38,030	38,251	38,379	38,602	38,673

[1] Excludes street and area lighting customers.

Table 2-3 Customer Initiated Contacts

Year	2013	2014	2015	2016	2017-Q1	2017A
Customer Calls	48,067	45,230	43,922	42,519	22,527[1]	48,393
Emails	3,238	3,234	3,877	4,641	2,243	8,356
After-Hours Calls[2]				3,356	1,471	7,252
myNLhydro[3]				185	450	842
Total	51,305	48,464	47,799	50,701	26,691	64,843

[1] Hydro has experienced a high volume of customer calls during Q1-2017 due to Rate Stabilization Plan Refund inquiries.
[2] Hydro started using an after-hours call service in July 2016.
[3] *myNLhydro* is detailed in Section 2.2.1 of the 2017 GRA Evidence.

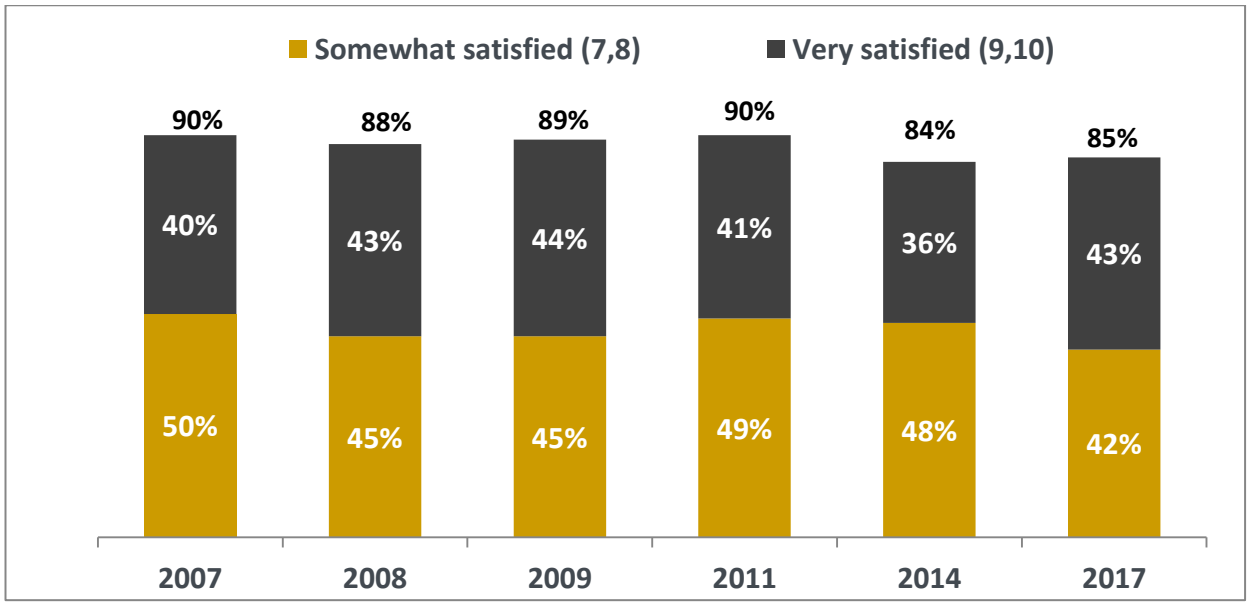

Figure 2-2 Commercial Customer Satisfaction Index 2007 to 2017

Table 2-4 Customer Service O&M Costs 2013 to 2019 TY ($000s)

Year	2013	2014	2015	2016	2017F	2017A	2018 TY	2019 TY
O&M	3,314	3,576	4,075	3,791	4,035	3,818	4,064	4,099

Table 2-5 Hydro Energy Conservation Program Energy Savings (MWh)

	2009-2016	2017F	2017A	2018F	2019F	Total[1]
Residential	9,962	572	1,581	617	215	**11,366**
Commercial	2,725	644	932	710	758	**4,837**
Industrial[2]	25,772	-	-	-	-	**25,772**
Total	**38,459**	**1,216**	**2,513**	**1,327**	**973**	**41,975**

[1] Totals include 2017 Forecast, not 2017 Actual. Totals with 2017 Actual are 12,375; 5,125; and 43,272 respectively.
[2] Due to the magnitude and variability of energy savings in the Industrial Program, no energy savings are forecast until customers provide some indication of participation.

Table 2-6 Hydro Energy Conservation Program Costs ($000s)

	2009-2016	2017F	2017A	2018F	2019F	Total[1]
Residential	6,155	1,478	1,321	1,478	1,478	**10,589**
Commercial	1,025	362	197	362	362	**2,111**
Industrial[2]	1,813	390	41	390	390	**2,983**
Total	**8,993**	**2,230**	**1,559**	**2,230**	**2,230**	**15,683**

[1] Totals include 2017 Forecast, not 2017 Actual. Totals with 2017 Actual are 10,432; 1,946; 2,634; and 15,012 respectively.

[2] Some costs are forecast for the Industrial Program to make allowance for potential participation.

Table 2-7 Hydro Internal Energy Efficiency Savings

	2009-2016	2017F	2017A	2018F	2019F	Total[1]
MWh	15,677	220	405	280	390	**16,567**

[1] Total includes 2017 Forecast, not 2017 Actual. Total with 2017 Actual is 16,752.

Table 3-1 Net FTEs from 2015 TY to 2019 TY

	2015 TY	2015 Actual	2016 Actual	2017 Forecast	2017 Actual	2018 TY	2019 TY
Net FTEs	888	861	809	860	815	852	850

Table 3-2 End Consumer Performance[1]

	2012	2013[2]	2014[3]	2015	2016	2017A[4]
SAIFI	1.25	2.14	5.15	2.00	1.30	1.66
SAIDI	1.88	8.61	10.58	3.07	2.42	3.76

[1] The measure is a combination of Hydro's service continuity data and Newfoundland Power service continuity data for loss of supply outages resulting from events on Hydro's transmission system. Therefore, the SAIFI and SAIDI data contained in Table 3-2 is a measure of the frequency and duration of service interruptions experienced as a result of Hydro system events and does not reflect interruptions to Newfoundland Power customers from issues on Newfoundland Power's system.

[2] This includes the January 2013 Winter storm which contributed 0.82 to End Consumer SAIFI and 5.26 to End Consumer SAIDI.

[3] This includes the January 2014 Events which contributed 3.43 to End Consumer SAIFI and 7.71 to End Consumer SAIDI.

[4] This includes the March 2017 Wind Storm which contributed 0.33 to End Consumer SAIFI and 0.99 to End Consumer SAIDI

Table 3-3 Transmission Performance (Planned and Forced Outages) – All Regions

	2012	2013[1]	2014[2]	2015	2016	2017A[3]
T- SAIFI	1.87	3.45	3.78	3.10	2.86	2.25
T- SAIDI	170.79	468.45	457.71	476.63	324.73	512.90

[1] This includes the January 2013 Winter storm which contributed 0.73 to T-SAIFI and 73.41 to T-SAIDI.
[2] This includes the January 2014 Events which contributed 0.68 to T-SAIFI and 120.50 to T-SAIDI.
[3] This includes the March 2017 Wind Storm which contributed 0.12 to T-SAIFI and 114.57 to T-SAIDI.

Table 3-4 Distribution Performance (Planned and Forced Outages) – All Regions

	2012	2013	2014	2015	2016	2017A
SAIFI	4.40	5.76	6.75	6.95	6.62	5.30
SAIDI	8.31	18.85	18.32	17.54	15.68	19.63

Table 3-5 Hydraulic Generation Performance – DAFOR

	2012	2013	2014	2015	2016	2017A
Hydraulic DAFOR	0.95	0.56	5.97	2.66	5.51	2.29

Table 3-6 Thermal Generation Performance – DAFOR

	2012	2013	2014	2015	2016	2017A
Thermal DAFOR	5.98	36.58	13.74	5.04	19.42	14.91

Table 3-7 Gas Turbine Performance to UFOP

	2012	2013	2014	2015	2016	2017A
Hardwoods/Stephenville/Happy Valley UFOP	44.21	26.57	14.34	12.13	9.35	6.93
Holyrood Gas Turbine UFOP	-	-	-	3.06	1.65	2.02

Table 3-8 Safety Performance 2012 to 2017

	2012	2013	2014	2015	2016	2017A
Lost Time[1]	6	2	0	3	1	1
Medical Treatment Injuries[2]	11	7	4	7	5	5
All Injury Frequency Rate[3]	2.25	1.16	0.48	1.16	0.74	0.71
Lost Time Injury Frequency Rate[4]	0.79	0.26	0.00	0.35	0.12	0.12
Severity Rate[5]	44.53	7.07	0.00	75.96	0.25	3.67
Days Lost[6]	337	55	0	656	2	31
High Potential Incidents[7]	10	9	7	9	10	7

[1] Lost Time Injury is a standard safety performance metric and is defined as a work related injury where an employee requires medical attention and is unable to return to work for his/her next scheduled shift.
[2] Medical Treatment Injury is a standard safety performance metric and is defined as a work related injury where an employee requires medical attention; however, he/she is able to return to work for the next scheduled shift.
[3] All Injury Frequency Rate is a standard safety performance metric and is defined as the total number of employee Lost Time Injuries and Medical Treatment Injuries per 200,000 hours worked.
[4] Lost Time Injury Frequency Rate is a standard safety performance metric and is defined as the total number of employee Lost time injuries per 200,000 hours worked.
[5] Severity Rates is a standard safety performance metric and is defined as the number of calendar days lost due to a workplace injury or illness per 200,000 hours worked.
[6] Days Lost is defined as the number of calendar days that an employee is unable to work beyond the day of a workplace injury or illness as recommended by a physician or other health care professional.
[7] High Potential Incident is defined as an undesired event that results in, or has the potential to result in, harm to people, damage to equipment, property, or the environment.

Table 3-9 Summary of Percentage Change in Hydro's Electricity Requirements (2015 TY to 2019 TY) Island Interconnected System (GWh)

	2015 TY	Percentage change from 2015 TY to 2018 TY	2017A	2018 TY	Percentage change from 2018 TY to 2019 TY	2019 TY
Newfoundland Power	5,924.1	-1.7%	5895.1	5824.5	0.2%	5,833.6
Island Industrial Customers	621.4	16.8%	586.6	726.0	2.4%	743.3
Hydro Rural Interconnected	463.9	-1.5%	474.4	457.0	-1.2%	451.5
Losses	225.7	-4.7%	220.7	215.0	-3.8%	206.9
Total Hydro Island Interconnected Electricity Requirements	**7,235.1**	**-0.2%**	**7176.7**	**7222.5**	**0.2%**	**7,235.3**

Table 3-10 Summary of Percentage Change of Hydro's Electricity Requirements (2015 TY to 2019 TY) Labrador Interconnected System (GWh)

	2015 TY	Percentage change from 2015 TY to 2018 TY	2017A	2018 TY	Percentage change from 2018 TY to 2019 TY	2019 TY
Hydro Rural Customers	688.1	0.1%	674.0	688.6	0.0%	688.5
Industrial Customers	1,790.0	-3.1%	1753.0	1,734.3	-0.1%	1,733.1
CFB Goose Bay Secondary	10.2	-99.6%	0.1	< 0.0	< 0.0%	< 0.0
Losses	188.6	-19.9%	149.2	151.1	-0.1%	150.9
Total Hydro Labrador Interconnected Electricity Requirements	2,676.9	-3.8%	2576.2	2,574.0	-0.1%	2572.5

Table 3-11 Summary of Percentage Change in Hydro's Electricity Requirements (2015 TY to 2019 TY) Isolated Systems (MWh)

	2015 TY	Percentage change from 2015 TY to 2018 TY	2017A	2018 TY	Percentage change from 2018 TY to 2019 TY	2019 TY
L'Anse au Loup	25.0	7.4%	25.3	26.8	0.7%	27.0
Labrador Isolated Systems[1]	44.9	2.7%	43.0	46.1	0.4%	46.3
Island Isolated Systems	7.6	-1.3%	7.0	7.5	-0.4%	7.5
Total Isolated Systems	77.5	3.8%	75.4	80.5	0.5%	80.8

[1] Excludes L'Anse au Loup System.

Table 3-12 Summary of Percentage Change in Power Purchases (2015 TY to 2019 TY)
Island Interconnected System (GWh)

	2015 TY	Percentage change from 2015 TY to 2018 TY	2017A	2018 TY	Percentage change from 2018 TY to 2019 TY	2019 TY
Exploits	633.5	-2.9%	519.2	615.1	0%	614.9
Star Lake	142.2	-0.9%	138.0	140.9	0.8%	142.0
Rattle Brook	15.0	-1.1%	14.2	14.8	-	14.8
CBPP Co-Gen	51.1	30.3%	70.4	66.5	-	66.5
CBPP Secondary	-	-	14.1	-	-	-
St. Lawrence Wind	104.8	-	97.6	104.8	-	104.8
Fermeuse Wind	84.4	-	88.8	84.4	-	84.4
Total Purchases	1031.0	-0.4%	942.4	1026.5	0.1%	1027.4

Table 3-14 Summary of Year-Over-Year Changes in Holyrood Thermal Generating Station Requirements (GWh)

	2015 TY	2015 Actual	2016 Actual	2017 Forecast	2017 Actual	2018 TY	2019 TY
Thermal Generation Required	1,593	1,543	1,707	1,521	1,671	1,554	1,560
Change over previous year	N/A	(50)	164	(186)	(36)[1]	33[2]	6

[1] As compared to 2016 Actual
[2] As compared to 2017 Forecast

Table 3-15 Summary of Year-Over-Year Changes in Holyrood Thermal Generating Station Conversion Factor (KWh/bbl)

	2015 Board Approved Conversion Factor	2015 Actual	2016 Actual	2017 Forecast	2017 Actual	2018 TY	2019 TY
Conversion Factor	618	602	608	603	601	616	616
Change over previous year	N/A	(16)	6	(5)	(7)[1]	13	-

[1] As compared to 2016 Actual

Table 3-16 Forecast Gas Turbine and Diesel Production (GWh)

	2015 TY	2015 Actual	2016 Actual	2017 Forecast	2017 Actual	2018 TY	2019 TY
Forecast Production	11	41	120	57	56	41	41

Table 3-17 Hydro's Operating Costs 2015 TY to 2019 TY ($000s)

2015 TY	2015 GRA Order	2015 Approved TY	2015 Actual	2016 Actual	2017 Forecast	2017 Actual	2018 TY	2019 TY
139,569	(6,832)	132,737	150,921	123,912	134,341	130,213	142,377	145,333

Table 3-18 Operating Costs by Cost Type 2015 TY to 2019 TY ($000s)

Cost Type	2015 TY	2015 GRA Order	2015 Approved TY	2015 Actual	2016 Actual	2017 Forecast	2017 Actual	2018 TY	2019 TY
Labour	88,888	(5,633)	83,255	90,566	77,547	81,574	81,582	85,269	86,830
SEM	26,825	(41)	26,784	31,927	25,048	25,694	25,791	26,228	26,796
Other[1]	30,922	(1,040)	29,882	36,334	24,687	28,021	25,370	29,645	29,634
Cost Allocations	(7,066)	(118)	(7,184)	(7,906)	(3,370)	(948)	(2,530)	1,235	2,073
Total	**139,569**	**(6,832)**	**132,737**	**150,921**	**123,912**	**134,341**	**130,213**	**142,377**	**145,333**

[1] Please refer to Schedule 3-IX filed with the 2017 GRA evidence and included in this package for additional information.

Table 3-19 Operation Costs - Labour Costs 2015 TY to 2019 TY ($000s)

Labour Cost	2015 TY	2015 GRA Order	2015 Approved TY	2015 Actual	2016 Actual	2017 Forecast	2017 Actual	2018 TY	2019 TY
Labour related	75,611	(5,633)	69,978	73,287	64,481	71,107	68,328	73,906	75,224
EFB[1]	8,371	-	8,371	6,690	6,902	6,285	6,282	6,489	6,705
Overtime	4,906	-	4,906	10,589	6,164	4,182	6,972	4,874	4,901
Total	**88,888**	**(5,633)**	**83,255**	**90,566**	**77,547**	**81,574**	**81,582**	**85,269**	**86,830**

[1] Employee Future Benefits.

Table 3-20 Operation Costs - Cost Allocation 2015 TY to 2019 TY ($000s)

Cost Allocation	2015 TY	2015 GRA Order	2015 Approved TY	2015 Actual	2016 Actual	2017 Forecast	2017 Actual	2018 TY	2019 TY
Hydro Admin Recovery[1]	(5,652)	(118)	(5,770)	(6,514)	(3,235)	(2,271)	(2,211)	(2,256)	(2,306)
Nalcor Admin Fee[2]	-	-	-	-	3,350	3,948	3,415	4,642	6,242
Business System Fee[3]	-	-	-	-	253	1,029	339	2,542	1,894
Productivity Allowance[4]	-	-	-	-	-	-	-	(1,039)	(1,102)
CDM Program Deferral[5]	(695)	-	(695)	-	(1,153)	(2,100)	(1,472)	(2,100)	(2,100)
Phase II Cost Deferral[6]	-	-	-	-	(869)	(1,000)	(264)	-	-
Other cost recoveries[7]	(719)	-	(719)	(1,392)	(1,716)	(554)	(2,337)	(554)	(555)
Total	**(7,066)**	**(118)**	**(7,184)**	**(7,906)**	**(3,370)**	**(948)**	**(2,530)**	**1,235**	**2,073**

[1] Hydro recovers costs associated with the operation of Hydro Place from the other lines of business by charging rent to occupants. As well, Hydro recovers costs associated with the telephones and network fees from other lines of business. In 2015, Admin Fee recoveries included recoveries for human resources, safety and health and information systems. These services are no longer provided by Hydro for all lines of business. Please refer to Exhibit 5 of the 2017 GRA evidence.

[2] Nalcor charges Hydro for services provided for human resources, health and safety, environmental services, and information systems. In 2015, these services were provided by Hydro to all lines of business and accordingly, there were no charges from Nalcor for these services. Please refer to Exhibit 5 of the 2017 GRA evidence.

[3] Fees associated with the Business System Transformation program outlined in Section 3.7.1 of the 2017 GRA evidence are also included in this category.

[4] This is an allowance imposed by Hydro Management to reflect the Company's commitment to cost management and efficiency activities.

[5] Deferral of costs associated with Conservation and Demand Management costs. Please refer to Chapter 2: Customers of the 2017 GRA evidence for more information on these programs.

[6] Order No. P.U. 13 (2016) approved the deferral of costs related to Phase II of the investigation into the reliability and adequacy of power on the Island Interconnected system after the interconnection with the Muskrat Falls generating station.

[7] Includes general cost recoveries and varies from year to year.

Table 3-21 Operating Costs by Function 2015 TY to 2019 TY ($000s)

Function	2015 TY	2015 GRA Order	2015 Approved TY	2015 Actual	2016 Actual	2017 Forecast	2017 Actual	2018 TY	2019 TY
Operations	107,551	-	107,551	117,025	97,844	99,879	99,618	104,476	107,551
General and Administration	32,018	-	32,018	36,638	26,068	34,462	30,595	37,901	37,782
Adjustment - EFB[1]	-	-	-	(2,742)	-	-	-	-	-
GRA Order Disallowances	-	(6,832)	(6,832)	-	-	-	-	-	-
Total	**139,569**	**(6,832)**	**132,737**	**150,921**	**123,912**	**134,341**	**130,213**	**142,377**	**145,333**

[1] The EFB adjustment was not allocated by Division.

Table 3-22 Operating Costs - Operations 2015 TY to 2019 TY ($000s)

Operations	2015 TY	2015 Actual	2016 Actual	2017 Forecast	2017 Actual	2018 TY	2019 TY
Transmission & Distribution & NLSO	54,920	59,718	47,495	46,168	46,375	46,999	47,605
Production	41,143	46,372	41,526	41,500	43,514	43,253	43,742
Engineering Services	4,176	3,772	2,424	4,069	2,615	4,591	4,964
Information & Operations Technology	7,312	7,163	6,399	8,142	7,114	9,633	11,240
Total	**107,551**	**117,025**	**97,844**	**99,879**	**99,618**	**104,476**	**107,551**

Table 3-23 Operating Costs - General and Administration 2015 TY to 2019 TY ($000s)

General and Administration	2015 TY	2015 Actual	2016 Actual	2017 Forecast	2017 Actual	2018 TY	2019 TY
Executive Leadership	1,868	2,537	1,909	2,771	3,431	2,793	2,859
Financial Services	8,584	9,819	6,084	10,118	9,308	10,970	11,199
Business System Fee	-	-	253	1,029	339	2,542	1,894
Corporate Services & Regulatory Affairs	21,566	24,282	17,822	20,544	17,517	21,596	21,830
Total	**32,018**	**36,638**	**26,068**	**34,462**	**30,595**	**37,901**	**37,782**

Newfoundland and Labrador Hydro
Actual and Forecast Electricity Requirements for 2015 to 2019
Island Interconnected System

	2015 Test Year		2015 Actual		2016 Forecast[1]		2016 Actual		2017 Forecast[2]		2017 Actual		2018 Test Year[2]		2019 Test Year[2]	
	MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh
Newfoundland Power[3]	1,295.0	5,924.1	1,307.3	6,072.1	1,333.4	5,881.1	1,341.1	5,844.7	1,325.1	5,824.7	1344.1	5895.1	1,322.8	5,824.5	1,322.3	5,833.6
NLH Rural Interconnected	95.2	463.9	99.0	476.6	97.4	463.1	96.4	476.5	100.0	464.7	95.3	474.4	98.6	457.0	96.9	451.5
Industrial Customers[4]	81.5	621.4	82.8	498.5	77.1	537.1	79.0	510.8	92.2	643.4	95.8	586.6	97.5	726.0	96.5	743.3
Total Deliveries[5]	1,448.3	7,009.4	1,474.0	7,047.3	1,477.8	6,881.3	1,445.1	6,832.0	1,475.8	6,932.8	1468.1	6956.1	1,490.5	7,007.5	1,487.6	7,028.4
Transmission Losses[5,6]	74.7	225.7	76.0	238.5	70.6	228.5	75.9	207.2	78.3	245.0	71.8	220.7	79.5	215.0	79.0	206.9
Hydro Island Interconnected System Electricity Requirement[7,8]	1,523.0	7,235.1	1,550.0	7,285.8	1,548.4	7,109.8	1,521.0	7,039.2	1,554.1	7,177.8	1539.9	7176.7	1,570.0	7,222.5	1,566.6	7,235.3

Notes:

1. The 2016 Forecast is sourced to the March 16, 2016 Island Operating Load Forecast.
2. The 2017 to 2019 Forecast is sourced to the March 2017 Island Operating Load Forecast.
3. Newfoundland Power MW's reflect the maximum annual MW purchased by Newfoundland Power from Hydro.
4. Industrial MW's for 2015 and 2016 actuals reflect sum of annual maximum customer demands.
5. MW's for Total Deliveries and Transmission Losses are coincident with system peak. MW transmission losses include Hydro's station services.
6. MW Transmission losses include the station service requirements for Holyrood, Bottom Brook, and Soldiers Pond as appropriate.
7. Hydro's Requirement MW's are Hydro system coincident MW's and include customer firm demand requirements only. Forecast MW's are annual maximums.
8. Differences in totals vs. addition of individual components due to rounding.

Newfoundland and Labrador Hydro
Actual and Forecast Electricity Requirements for 2015 to 2019
Labrador Interconnected System

	2015 Test Year		2015 Actual		2016 Forecast		2016 Actual		2017 Forecast		2017 Actual		2018 Test Year		2019 Test Year	
	MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh
Hydro Rural Interconnected	160.0	688.1	153.0	634.6	156.2	637.7	150.2	626.0	160.7	682.3	155.2	674.0	162.4	688.6	161.5	688.5
Department of National Defence	-	10.2	-	0.0	-	-	-	0.1	-	0.0	-	0.1	-	0.0	-	0.0
Iron Ore Company of Canada	252.0	1,719.9	243.1	1,703.5	252.5	1,785.1	252.5	1,753.0	245.0	1,733.1	266.7	1747.4	245.0	1,733.1	245.0	1,733.1
Wabush Mines	18.0	70.1	1.9	5.4	0.7	2.8	0.7	3.6	0.4	2.4	1.3	5.6	0.3	1.2	-	-
Industrial Customers	270.0	1,790.0	244.9	1,708.8	253.2	1,787.9	253.2	1,756.6	245.4	1,735.5	268.1	1753.0	245.3	1,734.3	245.0	1,733.1
Total Deliveries	383.5	2,488.3	379.1	2,343.4	362.8	2,425.6	370.1	2,382.7	368.0	2,417.8	380.4	2427.0	369.4	2,422.9	368.3	2,421.6
Transmission Losses	48.3	188.6	31.2	149.5	45.7	154.0	46.9	148.4	31.0	150.9	33.0	149.2	31.3	151.1	30.7	150.9
Total Hydro Labrador Interconnected Electricity Requirement	431.8	2,676.9	410.3	2,492.9	408.5	2,579.6	417.0	2,531.1	399.0	2,568.7	413.4	2576.2	400.7	2,574.0	399.0	2,572.5

Notes:
1. Actuals reflect rounded values to the nearest tenth of a GWh.
2. Actual customer peaks are annual maximums. System peak excludes interruptible and secondary load.
3. The 2016 Forecast is sourced to the March 16, 2016 Island Operating Load Forecast.
4. The 2017 to 2019 Forecast is sourced to the March 2017 Island Operating Load Forecast.
5. Sales to CFB Goose Bay are secondary sales.
6. Demands for Total Deliveries and Transmission Losses are coincident with system peak.

Newfoundland and Labrador Hydro
Actual and Forecast Electricity Requirements for 2015 to 2019
Isolated System

	2015 Test Year		2015 Actual		2016 Actual		2017 Forecast		2017 Actuals		2018 Test Year		2019 Test Year	
	KW[2]	MWh[3]	KW[2]	MWh[3]	KW[2]	MWh[3]	KW[2]	MWh[3]	KW[2]	MWh[3]	KW[2]	MWh[3]	KW[2]	MWh[3]
L'Anse au Loup	5,736	24,953	5,598	25,796	5,959	26,734	6,015	26,681	6,218	25,313	6,060	26,789	6,105	26,988
Labrador Isolated Systems	10,448	44,911	10,469	43,481	10,463	43,875	10,750	45,717	9,963	43,013	10,851	46,140	10,901	46,342
Total Labrador Isolated Combined Systems	16,184	69,864	16,067	69,278	16,422	70,609	16,766	72,398	16,181	68,326	16,912	72,929	17,006	73,330
Island Isolated Systems	2,263	7,645	2,351	7,624	2,233	7,284	2,108	7,581	2,107	7,042	2,098	7,545	2,090	7,516
Total Isolated Systems[4]		77,509		76,901		77,893		79,979		75,368		80,474		80,846

Notes:

1. Forecast source is Hydro Spring 2016 Rural Operating Load Forecast.
2. Peaks are non-coincident net annual maximums.
3. Net production excludes station services.
4. Differences in totals vs. addition of individual components due to rounding.

Hydro's annual energy requirements and production by plant is detailed in the "12 Month-to-date This Year" column of its Summary of Power Generation and Distribution, issued December 2017. This has been provided as Attachment 1.

SUMMARY OF POWER GENERATION AND DISTRIBUTION

MONTHLY POWER REPORT (kWhrs)

Island Interconnected System

Month of: December 2017

	MONTH	MONTH	12 M-T-D	12 M-T-D	TO DATE	CHANGE
GENERATION	**LAST YEAR**	**THIS YEAR**	**LAST YEAR**	**THIS YEAR**	**KWHRS**	**%**
Bay d'Espoir	293,452,800	272,169,600	2,521,315,200	2,514,422,400	(6,892,800)	-0.27%
Hinds Lake	42,109,992	16,980,480	349,015,122	335,592,030	(13,423,092)	-3.85%
Upper Salmon	56,005,515	47,576,250	526,987,080	572,888,880	45,901,800	8.71%
Cat Arm	76,899,450	84,568,250	724,046,750	833,034,500	108,987,750	15.05%
Paradise River	3,893,315	4,225,193	29,165,088	28,437,079	(728,009)	-2.50%
Granite Canal	20,160,180	23,677,470	239,358,735	232,143,165	(7,215,570)	-3.01%
Mini Hydro Sites	353,970	229,140	4,245,832	3,593,910	(651,922)	-15.35%
SUB TOTAL HYDRO GENERATION	**492,875,222**	**449,426,383**	**4,394,133,807**	**4,520,111,964**	**125,978,157**	**2.87%**
Holyrood Thermal	230,920,000	278,400,000	1,707,120,000	1,769,960,000	62,840,000	3.68%
GNP Diesel & Other Mobile	14,854	22,120	1,143,527	528,898	(614,629)	-53.75%
Hardwoods GT	648,000	864,000	13,248,000	4,033,000	(9,215,000)	-69.56%
Holyrood CT	13,372,000	10,059,000	112,906,000	64,780,000	(48,126,000)	-42.62%
Holyrood Diesels	4,918	154,159	1,588,003	653,477	(934,526)	-58.85%
Stephenville GT	209,876	194,656	5,444,788	1,331,913	(4,112,875)	-75.54%
SUB TOTAL THERMAL GENERATION	**245,169,648**	**289,693,935**	**1,841,450,318**	**1,841,287,288**	**(163,030)**	**-0.01%**
SYSTEM GROSS GENERATION	**738,044,870**	**739,120,318**	**6,235,584,125**	**6,361,399,252**	**125,815,127**	**2.02%**
STATION SERVICES						
Bay d'Espoir	550,895	448,355	4,372,714	4,852,740	480,026	10.98%
Hinds Lake	142,560	134,569	1,359,810	1,291,140	(68,670)	-5.05%
Upper Salmon	429,700	387,200	3,504,200	3,450,900	(53,300)	-1.52%
Cat Arm	160,623	141,833	1,550,182	1,630,391	80,209	5.17%
Paradise River	7,800	7,130	89,520	255,540	166,020	185.46%
Granite Canal	272,939	126,962	2,143,595	1,705,105	(438,490)	-20.46%
Holyrood Thermal	10,737,106	14,670,355	86,188,617	98,624,712	12,436,095	14.43%
Stephenville GT	179,028	177,965	1,660,654	1,807,329	146,675	8.83%
Hardwoods GT	69,747	109,187	1,014,627	895,286	(119,341)	-11.76%
Mini Hydro Sites	4,140	2,565	36,961	46,866	9,905	26.80%
GNP Diesel	94,180	76,420	845,256	801,192	(44,064)	-5.21%
TOTAL STATION SERVICES	**12,648,718**	**16,282,541**	**102,766,136**	**115,361,201**	**12,595,065**	**12.26%**
SYNCHRONOUS CONDENSOR CONSUMPTION						
Bay d'Espoir	0	7,300	190,000	268,100	78,100	41.11%
Cat Arm	0	100,000	500,000	100,000	(400,000)	-80.00%
Hardwoods GT	144,000	576,000	4,968,000	6,048,000	1,080,000	21.74%
Stephenville GT	461,376	519,592	4,897,271	5,662,638	765,367	15.63%
TOTAL SYNC. CONDENSOR USE	**605,376**	**1,202,892**	**10,555,271**	**12,078,738**	**1,523,467**	**14.43%**
SYSTEM NET GENERATION	**724,790,776**	**721,634,885**	**6,122,262,719**	**6,233,959,313**	**111,696,595**	**1.82%**
Hydro Requested Nfld Power	0	280,947	1,401,187	964,082	(437,105)	-31.20%
Hydro Requested Vale	0	90,560	282,304	528,978	246,674	87.38%
CBPP Secondary	902,688	1,204,823	8,415,591	14,117,331	5,701,741	67.75%
CBPP Exchanged/Transferred Energy (to NLH)	0	0	0	0	0	0.00%
Nalcor - Grand Falls and Bishop's Falls	48,062,952	28,367,358	495,379,594	519,212,362	23,832,768	4.81%
Nalcor - Star Lake	10,531,598	7,784,859	135,727,322	138,008,760	2,281,438	1.68%
Rattle Brook	551,914	879,818	15,164,860	14,231,904	(932,956)	-6.15%
CBPP CoGen	6,464,544	7,656,066	70,566,373	70,388,667	(177,706)	-0.25%
Nalcor - Buchans	0	0	0	0	0	0.00%
St. Lawrence Wind	10,711,370	9,953,341	103,054,642	97,613,294	(5,441,348)	-5.28%
Fermeuse Wind	8,626,411	8,407,094	86,981,831	88,806,979	1,825,148	2.10%
Maritime Link Imports	0	96,627	0	96,627	96,627	0.00%
TOTAL OTHER SOURCES	**85,851,477**	**64,721,493**	**916,973,704**	**943,968,984**	**26,995,281**	**2.94%**
TOTAL NET GENERATION	**810,642,254**	**786,356,377**	**7,039,236,422**	**7,177,928,297**	**138,691,875**	**1.97%**
			12 M-T-D	**12 M-T-D**	**TO DATE**	**CHANGE**
ENERGY DISTRIBUTION	**LAST YEAR**	**THIS YEAR**	**LAST YEAR**	**THIS YEAR**	**KWHRS**	**%**
Vale Newfoundland and Labrador Ltd.	16,366,801	24,041,242	186,959,567	269,647,471	82,687,904	44.23%
Praxair Canada Inc.	3,605,522	3,719,798	40,914,719	42,329,701	1,414,982	3.46%
Corner Brook Pulp & Paper Co. Ltd.	2,312,776	3,047,905	45,695,223	24,657,855	(21,037,369)	-46.04%
Teck Resources Ltd.	432,650	319,710	6,048,149	3,357,744	(2,690,405)	-44.48%
North Atlantic Refining Ltd.	21,108,015	21,862,877	231,190,506	246,628,192	15,437,686	6.68%
TOTAL INDUSTRY	**43,825,764**	**52,991,533**	**510,808,164**	**586,620,963**	**75,812,799**	**14.84%**
Newfoundland Power	701,229,630	671,655,684	5,844,734,737	5,895,095,713	50,360,976	0.86%
Maritime Link Exports	0	1,188,733	0	1,188,733	1,188,733	0.00%
Rural Bulk Deliveries	52,879,448	50,421,276	476,456,642	474,366,416	(2,090,226)	-0.44%
TOTAL UTILITY	**754,109,078**	**723,265,693**	**6,321,191,379**	**6,370,650,862**	**49,459,483**	**0.78%**
CBP&P Exchanged/Transferred Energy Credit (from NLH)	0	0	0	0	0	0.00%
TOTAL ENERGY DISTRIBUTED	**797,934,842**	**776,257,226**	**6,831,999,543**	**6,957,271,825**	**125,272,282**	**1.83%**
TRANSMISSION, TRANSFORMER LOSSES	12,707,411	10,099,152	207,236,879	220,656,472	13,419,593	6.48%
	1.57%	1.28%	2.94%	3.07%		
ISLAND PEAK MW	1673.15	1648	1673.15	1714	Established	1714
ISLAND PEAK TIME	17:17	16:42	17:17	07:12	Record Peaks	10:07
ISLAND PEAK DATE	Dec/17/2016	Dec/27/2017	Dec/17/2016	Feb/08/2017		Feb/10/2014
Printed Date/Time:	08-Jan-2018	15:21				
Comments:						

Newfoundland and Labrador Hydro
Energy Supply and Fuel Expense for 2015 to 2019
Island Interconnected System

	2015 Test Year[1]	2015 Actual	2016 Actual	2017 Forecast	2017 Actual	2018 Test Year	2019 Test Year
Total Energy Requirement (GWh)	7,235.1	7,285.8	7,039.3	7,177.8	7176.7	7,222.5	7,235.3
Hydraulic Production (GWh)	4,603.6	4,823.4	4,380.4	4,601.5	4506.5	4,600.5	4,606.4
Energy Receipts and Purchases (GWh)[2]	1,031.0	962.5	917.1	997.9	943.9	1,026.5	1,027.4
Gas Turbine/Diesels Production (GWh)[3]	11.4	41.4	120.9	57.0	56.0	41.1	41.1
Holyrood Production (GWh)	1,593.0	1,458.5	1,620.9	1,521.5	1671.3	1,554.4	1,560.3
Holyrood No. 6 Fuel Conversion Factor (kWh/bbl)	618	602	608	603	601	616	616
Holyrood No. 6 Fuel Consumption (bbl)	2,577,657	2,423,337	2,664,019	2,522,893	2,776,834	2,522,118	2,533,629
No. 6 Fuel Production Cost ($000)	166,026	162,872	123,601	186,476	190,500	217,927	220,709
Gas Turbine/Diesel Production Cost ($000)	3,561	14,995	29,210	13,094	19,274	12,302	13,024

Notes:
1. 2015 Test Year forecast values reflect Hydro's Compliance filing to Order No. P.U. 49(2016).
2. Energy receipts and purchases in 2015 and 2016 reflect lower than anticipated production at Nalcor Energy Exploits facilities.
3. Standby generation operation in 2015 and 2016 include operation to support system operations and maintenance requirements.

Newfoundland and Labrador Hydro
Energy Purchases by Suppliers for 2015 to 2019
Island Interconnected System

Supplier	2015 Test Year		2015 Actuals		2016 Actuals		2017 Forecast		2017 Actual		2018 Test Year		2019 Test Year	
	GWh	$000	GWh	$000	GWh	$000	GWh	$000	GWh	$000	GWh	$000	GWh	$000
NP at Hydro Request	-	-	0.6	183	1.7	370	-	-	1.0	262.7	-	-	-	-
CBPP Secondary[1]	-	-	9.1	174	8.4	231	-	-	14.1	481	-	-	-	-
Star Lake	142.2	5,687	135.3	5,413	135.7	5,429	140.3	5,610	138.0	5,520	140.9	5,635	142.0	5,679
Rattle Brook	15.0	1,254	13.5	1,103	15.2	1,283	14.8	1,252	14.2	1,178	14.8	1,264	14.8	1,282
Corner Brook Cogen	51.1	10,281	62.5	11,879	70.6	13,317	66.5	12,934	70.4	13,225	66.5	12,536	66.5	12,554
St. Lawrence Wind	104.8	7,514	94.8	6,806	103.1	7,420	104.8	7,535	97.6	7,048	104.8	7,567	104.8	7,598
St. Lawrence Wind Ecoenergy Incentive Credit[2]	-	(638)	-	(466)	-	(828)	-	(560)		(688)	-	(621)	-	(31)
Fermeuse Wind	84.4	6,488	87.2	6,744	87.0	6,728	84.4	6,513	88.8	6,888	84.4	6,539	84.4	6,565
Fermeuse Wind Ecoenergy Incentive Credit[2]	-	(632)	-	(653)	-	(651)	-	(527)		(665)	-	(621)	-	(86)
Nalcor Exploits	633.5	25,340	559.5	22,380	495.4	19,815	587.0	23,482	519.2	20,768	615.1	24,603	614.8	24,594
CBPP Capacity Assistance	-	1,680	0.3	1,752	0.8	2,232	-	2,100	1.2	2,413	-	2,520	-	2,520
Vale Capacity Assistance	-	442	0.2	304	0.4	371	-	213	0.5	397	-	302	-	302
Vale Capacity Assistance (Curtailable Load)	-	-	-	-	-	-	-	126	-	168	-	168	-	168
Praxair Capacity Assistance[3]	-	-	-	-	0.0	35	-	140	0.0	124	-	140	-	140
Total Power Purchases[4]	1,031.0	57,416	962.9	55,618	918.2	55,752	997.9	58,819	945.0	57,120	1,026.5	60,032	1,027.4	61,286

Notes:

1. CBPP Secondary amounts represent the actuals delivered to the Island Interconnected System.
2. Ecoenergy Incentive Credits are paid to Hydro quarterly at $0.0075/kwh on the eligible production (up to a maximum of 82.78 GWh annually)
3. 2016 Actuals appear as 0 due to rounding.
4. Differences in totals vs. addition of individual components due to rounding.

Newfoundland and Labrador Hydro
Monthly No. 6 Fuel Purchase Prices for 2015 to 2019 ($/bbl)

Month	2015 Test Year	2015 Actual[1]	2016 Actual[1]	2017 Forecast	2017 Actual[1]	2018 Test Year	2019 Test Year
January	57.55	57.38	35.00	73.18	75.21	88.39	87.80
February	59.85	70.27	36.76	73.18	72.01	90.49	87.80
March	61.41	65.67	38.12	73.18	67.32	85.59	87.80
April	61.41	60.55	41.66	72.90	68.47	83.70	87.80
May	62.64	-	50.59	74.30	64.56	84.09	87.80
June	62.64	-	-	75.78	-	85.60	87.80
July	62.64	74.61	-	77.60	-	87.50	87.80
August	62.64	-	55.85	78.70	63.20	88.80	87.80
September	62.64	-	58.30	79.38	68.38	87.40	87.80
October	66.51	-	64.18	84.90	-	87.79	87.80
November	71.70	51.81	59.07	88.08	79.53	88.29	87.80
December	76.05	55.31	69.53	88.58	80.27	83.69	87.80
Weighted Purchase Price	**64.41**	**60.55**	**47.55**	**78.84**	**72.38**	**86.68**	**87.80**

Notes:
1. There were no purchases in months with a blank.
2. 2015 Test Year forecast values reflect Hydro's Compliance filing to Order No. P.U. 49(2016).

Newfoundland and Labrador Hydro
Isolated Fuel and Purchased Power Costs for 2015 to 2019 ($000)

	2015 Test Year [1]	2015 Actual	2016 Actual	2017 Forecast[2]	2017 Actual	2018 Test Year[2]	2019 Test Year[2]
Diesel Fuel							
Total Diesel Fuel[3]	18,592	16,227	13,994	17,769	14,157	19,561	20,976
Purchased Power							
L'Anse au Loup[4]	3,055	2,679	2,367	3,090	2,624	3,397	3,717
Ramea[5]	232	166	138	182	147	213	227
Mary's Harbour	-						
Total Purchased Power	3,287	2,844	2,505	3,272	2,771	3,610	3,944
Total	**21,879**	**19,071**	**16,499**	**21,041**	**16,929**	**23,171**	**24,920**

Notes:

1. 2015 Test Year Forecast sourced to October 2014 Isolated Fuel and Power Purchase budgets.
2. Forecast dollars based on Hydro's Rural Load Forecast, Spring 2016 and a fuel price forecast, prepared February 2017
3. L'Anse au Loup fuel purchases include deferred fuel savings.
4. Ramea power purchases includes Frontier and Nalcor WHD and are based on historical averages. It is assumed that wind generation will be available throughout the forecast period.
5. Power purchases from Hydro Quebec are assumed to be available throughout the forecast period.
6. Differences in totals vs. addition of individual components due to rounding.

Newfoundland and Labrador Hydro
Total Operating Expenses by Cost Type
$ thousands

	2015 TY	2015 GRA Order	2015 Approved TY	2015 Actual	2016 Actual	2017 Forecast	2017 Actual	2018 Test Year	2019 Test Year
Labour									
Labour related costs	75,611	(5,633)	69,978	73,287	64,481	71,107	68,328	73,906	75,224
Employee future benefits	8,371	-	8,371	6,690	6,902	6,285	6,282	6,489	6,705
Overtime	4,906	-	4,906	10,589	6,164	4,182	6,972	4,874	4,901
Total Labour	88,888	(5,633)	83,255	90,566	77,547	81,574	81,582	85,269	86,830
System Equipment and Maintenance	26,825	(41)	26,784	31,927	25,048	25,694	25,791	26,228	26,796
Other									
Office supplies and expenses	2,804	-	2,804	2,762	2,249	2,307	2,118	2,516	2,520
Professional services	9,494	(540)	8,954	14,408	6,662	8,846	6,142	9,112	8,825
Insurance	2,607	-	2,607	2,508	2,530	3,038	3,175	3,345	3,425
Equipment rentals	3,066	-	3,066	4,218	4,197	3,591	3,817	3,749	3,746
Travel	3,717	(500)	3,217	3,250	1,984	2,442	2,412	2,757	2,759
Miscellaneous expenses	5,654	-	5,654	5,789	4,974	5,643	5,447	5,784	5,867
Building rental and maintenance	1,217	-	1,217	1,497	1,109	1,077	1,164	1,100	1,100
Transportation	2,245	-	2,245	1,649	856	959	1,009	1,164	1,274
Customer costs	118	-	118	253	126	118	86	118	118
Total Other	30,922	(1,040)	29,882	36,334	24,687	28,021	25,370	29,645	29,634
Cost Allocations	(7,066)	(118)	(7,184)	(7,906)	(3,370)	(948)	(2,530)	1,235	2,073
Total operating costs	139,569	(6,832)	132,737	150,921	123,912	134,341	130,213	142,377	145,333

Newfoundland and Labrador Hydro
Total Operating Expenses by Functional Area
$ thousands

	2015 TY	2015 GRA Order	2015 Approved TY	2015 Actual	2016 Actual	2017 Forecast	2017 Actual	2018 Test Year	2019 Test Year
Operations									
Transmission & Distribution & NLSO	54,920		54,920	59,718	47,495	46,168	46,375	46,999	47,605
Production	41,143		41,143	46,372	41,526	41,500	43,514	43,253	43,742
Engineering Services	4,176		4,176	3,772	2,424	4,069	2,615	4,591	4,964
Information & Operations Technology	7,312		7,312	7,163	6,399	8,142	7,114	9,633	11,240
Total Operations	107,551		107,551	117,025	97,844	99,879	99,618	104,476	107,551
General and Administration									
Executive Leadership	1,868		1,868	2,537	1,909	2,771	3,431	2,793	2,859
Financial Services	8,584		8,584	9,819	6,084	10,118	9,308	10,970	11,199
Business System Fee	-		-	-	253	1,029	339	2,542	1,894
Corporate Services & Regulatory Affairs	21,566		21,566	24,282	17,822	20,544	17,517	21,596	21,830
Total Corporate Services	32,018	-	32,018	36,638	26,068	34,462	30,595	37,901	37,782
Adjustment – EFB[1]	-	-	-	(2,742)	-	-	-	-	-
GRA Order Disallowances[2]	-	(6,832)	(6,832)	-	-	-	-	-	-
Total Operating Costs	139,569	(6,832)	132,737	150,921	123,912	134,341	130,213	142,377	145,333

1. The EFB adjustment was not allocated by Division.
2. Hydro did not allocate the disallowance noted in Order No. P.U. 49(2016) by Functional department.

Newfoundland and Labrador Hydro
Revenue Requirement Analysis ($000s)

	Test Year 2015	Actual 2015	Actual 2016	Forecast 2017	Actual 2017	Test Year 2018	Test year 2019	Variance from 2015 Test year to 2018 Test Year $	Variance from 2015 Test Year to 2019 Test Year $
Revenue requirement									
Energy sales	564,002	550,403	559,525	556,551	561,071	671,574	691,324	107,572	127,322
Generation Demand Cost Recovery	1,387	1,262	1,288	1,213	1,258	1,482	1,442	95	55
Fuel Rider[1]	39,141	-	-	-	-	-	-	(39,141)	(39,141)
Total revenue requirement	604,530	551,665	560,813	557,764	562,329	673,056	692,766	68,526	88,236
Expenses									
Operating expenses	132,737	150,921	123,912	134,341	130,213	142,377	145,333	9,640	12,596
Other Income and expense	4,074	(12,895)	(16,703)	4,360	1,167	2,081	2,081	(1,993)	(1,993)
Fuels[2]	226,605	220,359	210,950	179,623	184,772	250,232	255,157	23,627	28,552
Power Purchases	62,827	60,667	60,117	64,275	61,717	65,838	67,428	3,011	4,601
Depreciation	64,055	63,222	67,436	76,028	77,356	87,885	93,189	23,830	29,134
Accretion of asset retirement obligation	748	699	645	189	189	362	364	(386)	(384)
	491,046	482,973	446,357	458,816	455,414	548,775	563,552	57,729	72,506
Other Adjustments:									
CIAC Revenue	(825)	(356)	(773)	(1,847)	(1,810)	(1,618)	(1,658)	(793)	(833)
Other revenue	(2,508)	(1,825)	(1,863)	(2,068)	(2,838)	(2,088)	(2,109)	420	399
Compliance Adjustments [3]	-	(25,282)	(9,017)	-	-	-	-	-	-
Cost of service exclusions[4]	(1,177)	(1,303)	(1,919)	(1,315)	(1,941)	(1,644)	(1,439)	(467)	(262)
	486,536	454,207	432,785	453,586	448,825	543,425	558,346	56,889	71,810
Return on rate base	117,994	97,458	128,028	104,178	113,504	129,631	134,420	11,637	16,426
Average rate base	1,785,353	1,747,243	1,886,283	2,075,503	1,979,748	2,263,109	2,364,465		
Rate of return on rate base [5]	6.61%	5.58%	6.79%	5.02%	5.73%	5.73%	5.68%		

[1] 2015 Test Year Revenue Requirement includes the forecast recoveries of $39.1 million from the Fuel Rider currently reflected in customer rates as approved by the Board in order No. P.U. 22(2017).
[2] 2015 Test Year Fuel restated to include fuel rider.
[3] Adjustments in accordance with the Board's ruling on Hydro amended GRA in order No.P.U.22(2017)
[4] Depreciation on assets excluded from rate base.
[5] In P.U. 39(2017) the Board indicated the Supply Cost Deferrals noting the GRA may be the most convenient forum to address issues related to recovery. Earnings for 2017 included amounts related to the 2014, 2015 and 2016 Cost and Supply Deferrals. Annual Returns for years 2014 - 2017 will be refiled when issues related to recovery are addressed in a future Board Order. Upon refile, Hydro anticipates the rate of return on rate base for 2017 actuals to be 5.07%.

Newfoundland and Labrador Hydro
Financial Results and Forecasts (Proposed Rates)
Statement of Income and Retained Earnings ($000s)

		Test Year 2015	Actual 2015	Actual 2016	Forecast 2017	Actual 2017	Test Year 2018	Test Year 2019
1	**Revenue**							
2	Energy sales	564,002	550,403	559,525	556,551	561,071	671,574	691,324
3	Generation Demand Cost Recovery	1,387	1,262	1,288	1,213	1,258	1,482	1,442
4	CIAC Revenue	825	356	773	1,847	1,810	1,618	1,658
5	Other revenue	2,508	1,825	1,863	2,068	2,838	2,088	2,109
6	**Total revenue**	568,722	553,846	563,449	561,679	566,977	676,762	696,533
7								
8	**Expenses**							
9	Operating expenses	132,737	150,921	123,912	134,341	130,213	142,377	145,333
10	Other Income and expense	4,074	(12,895)	(16,703)	4,360	1,167	2,081	2,081
11	Amortization of foreign exchange losses	2,157	2,157	2,157	2,157	2,157	2,157	2,157
12	Fuels[1]	187,464	220,359	210,950	179,623	184,772	250,232	255,157
13	Power purchases	62,827	60,667	60,117	64,275	61,717	65,838	67,428
14	Depreciation	64,055	63,222	67,436	76,028	77,356	87,885	93,189
15	Accretion of asset retirement obligation	748	699	645	189	189	362	364
16	Interest	87,296	94,654	95,721	71,324	73,487	94,817	96,833
17	**Total expenses**	541,358	579,784	544,235	532,297	531,058	645,749	662,542
18								
19	**Net income (loss) before compliance adjustments**	27,364	(25,938)	19,214	29,382	35,919	31,013	33,991
20	Compliance Adjustments[2]	-	25,282	9,017	-		-	-
21	**Net Income (loss) after compliance adjustments**	27,364	(656)	28,231	29,382	35,919	31,013	33,991
22								
23	**Retained earnings**							
24	Balance at beginning of year	259,556	231,626	235,464	263,695	246,814	293,077	324,090
25	Opening adjustment - retained earnings[3]	-	4,494	-	-	-	-	-
26	Dividends	-	-	-	-	-	-	-
27	**Balance at end of year**	286,920	235,464	263,695	293,077	282,733	324,090	358,081

[1] Fuel Rider of $39.1 million excluded.

[2] In P.U. 39(2017) the Board indicated the Supply Cost Deferrals noting the GRA may be the most convenient forum to address issues related to recovery. The 2017 actuals included earnings of $8.5 million (2016 - loss of $9.0 million) related to the 2014, 2015 and 2016 Cost and Supply Deferrals of $8.5 million (2016 - loss of $9.0 million). Annual Returns for years 2014 - 2017 will be refiled when issues related to recovery are addressed in a future Board Order.

[3] Opening adjustment related to the calculation of employee future benefits.

Newfoundland and Labrador Hydro
Financial Results and forecasts (Proposed Rates)
Balance Sheet ($000s)

		Test Year 2015	Actual 2015	Actual 2016	Forecast 2017	Actual 2017	Test Year 2018	Test Year 2019
1	**Assets**							
2	Current assets							
3	Cash and cash equivalents	12,113	3,959	3,025	-	7,986	-	-
4	Accounts receivable	174,278	82,669	95,561	68,808	111,111	81,800	88,960
5	Inventory	89,642	65,557	76,198	126,327	93,208	116,726	88,858
6	Prepaid expenses	3,366	4,336	3,765	4,015	4,440	4,082	4,092
8		279,399	156,521	178,549	199,150	216,745	202,608	181,910
9								
10	Property, plant, and equipment[1]	1,908,342	1,689,805	1,820,573	2,113,913	2,072,099	2,230,663	2,286,878
11	Sinking funds	238,850	242,592	266,985	203,446	190,170	220,442	238,113
12	Regulatory assets	69,856	152,189	180,718	79,259	117,488	87,702	71,186
13								
14	**Total assets**	2,496,447	2,241,107	2,446,825	2,595,768	2,596,502	2,741,415	2,778,087
15								
16	**Liabilities and shareholder equity**							
17	Current liabilities							
18	Promissory notes	-	97,000	435,000	234,954	369,000	129,361	148,219
19	Accounts payable and accrued liabilities	8,322	72,704	113,116	97,376	129,666	104,727	63,083
20	Accrued interest	23,868	28,751	27,107	22,207	23,711	26,229	26,229
21	Deferred credits	-	438	370	370	321	370	370
22	Due to (from) related parties	687	387	3,223	3,738	(3,206)	3,701	3,707
23	Promissory notes - non-regulated	(8,187)	(11,110)	(11,067)	(11,067)	(23,463)	(11,067)	(11,067)
24		24,690	188,170	567,749	347,578	496,029	253,321	230,541
25								
26	Deferred capital contribution[1]	18,860	18,255	32,173	33,467	36,778	32,593	31,324
27	Long-term debt	1,649,544	1,240,339	1,014,314	1,661,582	1,488,977	1,912,197	1,912,850
28	Regulatory liabilities	287,382	324,942	343,987	31,018	74,939	(13,317)	9,186
29	Asset retirement obligations	25,526	27,946	14,456	14,545	13,864	14,810	15,077
30	Employee future benefits[2]	97,230	81,924	80,907	84,963	86,792	88,102	91,356
31	Contributed capital	100,000	100,000	100,000	100,000	100,000	100,000	100,000
32	Shareholder's equity / retained earnings	286,920	235,464	263,695	293,077	282,733	324,090	358,081
33	Accumulated other comprehensive income	6,295	24,067	29,544	29,538	16,390	29,619	29,672
34								
35	**Total liabilities and shareholder's equity**	2,496,447	2,241,107	2,446,825	2,595,768	2,596,502	2,741,415	2,778,087

[1] Contributions for assets that are still under construction have been included in property, plant and equipment and excluded from deferred capital contributions.
[2] Please refer to Schedule 4-II, Page 7.

Newfoundland and Labrador Hydro
Financial Results and Forecasts (Proposed Rates)
Cash Flow ($000s)

		Test Year 2015	Actual 2015	Actual 2016	Forecast 2017	Actual 2017	Test Year 2018	Test Year 2019
1	**Cash provided by (used in)**							
2	**Operating activities**							
3	Net income	27,364	(656)	28,231	29,382	35,919	31,013	33,991
4	Adjusted for items not involving cash flow							
5	Amortization	64,055	63,222	67,436	76,028	77,356	87,885	93,189
6	Asset retirement obligation and long term debt accretion	1,243	1,246	1,185	837	812	977	1,017
7	Amortization of deferred contributions	(825)	(356)	(773)	(1,848)	(1,810)	(1,618)	(1,659)
8	Employee future benefits	6,241	3,398	(1,017)	4,056	5,885	3,139	3,254
9	Other income and expense	1,904	3,246	6,598	3,637	4,331	-	-
10	Other	(13,185)	(13,638)	(12,570)	(10,574)	75	(10,381)	(11,085)
11		86,797	56,462	89,090	101,518	122,568	111,015	118,707
12	**Changes in non-cash balances**							
13	Accounts receivable	(74,929)	1,924	(12,930)	26,753	(15,550)	(12,992)	(7,160)
14	Inventory	(6,642)	19,938	(10,641)	(50,129)	(17,010)	9,601	27,868
15	Prepaid expenses	(24)	138	571	(250)	(675)	(67)	(10)
16	Regulatory assets	44,156	(45,466)	(28,529)	101,459	46,349	(8,443)	16,516
17	Regulatory liabilities	41,121	78,539	19,045	(312,969)	(269,048)	(44,335)	22,503
18	Accounts payable and accrued liabilities	(39,220)	(23,550)	40,412	(15,740)	16,550	7,351	(41,644)
19	Accrued interest	(3,600)	-	(1,644)	(4,900)	(3,396)	4,022	-
20	Due to related parties	274	1,976	2,836	515	(6,429)	(37)	6
21		47,933	89,961	98,210	(153,743)	(126,641)	66,115	136,786
22	**Financing activities**							
23	Increase in long-term debt	400,000	-	-	782,483	612,200	250,000	-
24	Decrease in deferred credits	-	(247)	(68)	-	(49)	-	-
25	Increase in deferred capital contributions	1,386	11,455	17,090	742	4,016	744	390
26	Long-term debt repayment	-	-	(225,100)	(135,881)	(150,000)	-	-
27	(Decrease) increase in promissory notes	(145,564)	39,647	338,043	(200,046)	(78,396)	(105,593)	18,858
28		255,822	50,855	129,965	447,298	387,771	145,151	19,248
29	**Investing activities**							
30	Additions to property, plant and equipment	(283,492)	(136,625)	(220,959)	(370,937)	(344,606)	(204,616)	(149,384)
31	(Increase) decrease in sinking funds	(8,150)	(8,150)	(8,150)	74,356	88,437	(6,650)	(6,650)
32		(291,642)	(144,775)	(229,109)	(296,581)	(256,169)	(211,266)	(156,034)
33								
34	**Net increase (decrease) in cash**	12,113	(3,959)	(934)	(3,025)	4,961	-	-
35								
36	**Cash position, beginning of year**	-	7,918	3,959	3,025	3,025	-	-
37								
38	**Cash position, end of year**	12,113	3,959	3,025	-	7,986	-	-

Newfoundland and Labrador Hydro
Financial Results and Forecasts (Proposed Rates)
Capital Structure ($000s)

		Test Year 2015	Actual 2015	Actual 2016	Forecast 2017	Actual 2017	Test Year 2018	Test Year 2019
1	**Regulated capital structure**							
2	Long-term debt	1,649,544	1,240,339	1,014,314	1,661,582	1,488,977	1,912,197	1,912,850
3	Promissory notes	-	97,000	435,000	234,954	369,000	129,361	148,219
4	Promissory notes - related party	-	-	-	-	-	-	-
5	less: sinking funds	(238,850)	(242,592)	(266,985)	(203,446)	(190,170)	(220,442)	(238,113)
6	add: mark to market of sinking funds	31,071	41,150	44,902	43,329	33,735	43,329	43,329
7		1,441,765	1,135,897	1,227,231	1,736,419	1,701,542	1,864,445	1,866,285
8	Cost of service exclusions	-	-	-	-	-	-	-
9	Non-regulated debt pool	(8,187)	(11,110)	(11,067)	(11,067)	(23,463)	(11,067)	(11,067)
10	Net regulated debt	1,433,578	1,124,787	1,216,164	1,725,352	1,678,079	1,853,378	1,855,218
11	Funded Asset retirement obligation[1]	12,247	13,459	14,815	14,300	14,548	14,082	13,983
12	Funded employee future benefits balance[2]	72,454	64,709	65,509	69,558	69,424	72,778	76,085
13	Contributed capital	100,000	100,000	100,000	100,000	100,000	100,000	100,000
14	Retained earnings cost of service exclusions	2,154	8,125	12,628	16,317	16,943	21,641	27,207
15	Retained earnings	286,920	235,464	263,695	293,077	282,733	324,090	358,081
16	**Total**	1,907,353	1,546,544	1,672,811	2,218,604	2,161,727	2,385,969	2,430,573
17								
18	**Regulated capital structure (%)**							
19	Debt	75.16%	72.73%	72.70%	77.77%	77.63%	77.68%	76.33%
20	Asset retirement obligation	0.64%	0.87%	0.89%	0.64%	0.67%	0.59%	0.58%
21	Employee future benefits	3.80%	4.18%	3.92%	3.14%	3.21%	3.05%	3.13%
22	Equity	20.40%	22.22%	22.50%	18.45%	18.49%	18.68%	19.97%
23	**Total**	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
24								
25	**Regulated average capital structure (%)**							
26	Debt	74.23%	72.77%	72.72%	75.23%	75.16%	77.72%	77.01%
27	Asset retirement obligation	0.62%	0.78%	0.88%	0.77%	0.78%	0.62%	0.58%
28	Employee future benefits	3.92%	4.30%	4.05%	3.53%	3.56%	3.09%	3.09%
29	Equity	21.23%	22.16%	22.36%	20.47%	20.49%	18.57%	19.32%
30	**Total**	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
31								
32	**Weighted average cost of capital (WACC)**							
33	Embedded cost of debt	6.47%	6.79%	6.30%	5.26%	5.20%	5.34%	5.25%
34	Asset retirement obligation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
35	Employee future benefits	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
36	Equity	8.50%	8.80%	8.50%	8.50%	8.50%	8.50%	8.50%
37	**WACC**	6.61%	6.89%	6.48%	5.694%	5.65%	5.73%	5.68%

[1] Please refer to Schedule 4-II, Page 9

[2] Please refer to Schedule 4-II, Page 7.

Newfoundland and Labrador Hydro
Financial Results and Forecasts (Proposed Rates)
Rate of Return ($000s)

		Test Year 2015	Actual 2015	Actual 2016	Forecast 2017	Actual 2017	Test Year 2018	Test Year 2019
1	**Property, plant, and equipment**	1,908,342	1,689,805	1,820,573	2,113,913	2,067,800	2,230,663	2,286,878
2	add: accumulated depreciation	204,001	168,306	233,720	308,582	308,470	389,021	476,625
3	less: work in progress [1]	(240,977)	(29,171)	(89,698)	(71,760)	(33,557)	(51,306)	(30,488)
4	**Capital assets in service**	1,871,366	1,828,940	1,964,595	2,350,735	2,342,713	2,568,379	2,733,014
5	less: asset retirement obligation	(12,169)	(14,381)	465	79	789	(307)	(693)
6	add: contributions in aid of construction [1]	(18,660)	(18,255)	(32,173)	(33,466)	(32,477)	(32,593)	(31,324)
7	less: accumulated depreciation	(204,001)	(168,306)	(233,720)	(308,582)	(308,470)	(389,021)	(476,625)
8	**Capital assets - current year**	1,636,536	1,627,998	1,699,166	2,008,765	2,002,555	2,146,457	2,224,372
9	**Capital assets - previous year**	1,610,437	1,468,388	1,627,998	1,699,166	1,699,166	2,008,765	2,146,457
10	Unadjusted capital assets - average	1,623,486	1,548,193	1,663,582	1,853,966	1,850,861	2,077,611	2,185,414
11	less: Average net assets excluded from rate base	(10,634)	(10,732)	(16,676)	(16,246)	(21,141)	(8,820)	(6,415)
12	**Capital assets - average**	1,612,852	1,537,461	1,646,906	1,837,720	1,829,720	2,068,791	2,178,999
13								
14	Working capital allowance	7,037	6,995	5,304	7,582	6,405	2,772	2,255
15	Fuel	47,398	44,052	35,473	67,287	43,617	76,472	74,369
16	Materials and supplies	27,402	29,279	32,146	33,135	34,719	33,034	32,884
17	Deferred charges [2, 6]	90,665	129,456	166,454	129,780	65,287	82,041	75,958
18								
19	**Average rate base**	1,785,353	1,747,243	1,886,283	2,075,503	1,979,748	2,263,109	2,364,465
20								
21	Net Income [3]	27,364	(656)	28,231	29,382	35,919	31,013	33,991
22	add: Cost of service exclusions:							
23	Depreciation on Assets Excluded from Rate Base	1,177	1,303	1,919	1,315	1,941	1,644	1,439
24	Interest cost of Service Exclusions [4]	-	2,752	2,584	2,374	2,374	3,680	4,127
25	Net Interest [5]	89,453	94,059	95,294	71,107	73,270	93,295	94,863
26	**Return on rate base**	117,994	97,458	128,028	104,178	113,504	129,631	134,420
27								
28	**Rate of return on rate base**	6.61%	5.58%	6.79%	5.02%	5.73%	5.73%	5.68%

[1] Contributions for assets that are still under construction have been included in work in progress and excluded from contributions in aid of construction.

[2] Refer to Schedule 4 - V.

[3] Net Income has been updated for compliance adjustments. Refer to Schedule 4 - II, Page 1.

[4] Interest exclusions are primarily the disallowed portion of the debt guarentee fee.

[5] Refer to Schedule 4 - II, Page 8.

[6] The decrease in the 2017 Deferred charges in comparison to the 2017 forecast is due to the exclusion of the supply and cost deferrals in 2017 Actuals. In P.U. 39(2017) the Board indicated the Supply Cost Deferrals noting the GRA may be the most convenient forum to address issues related to recovery. Annual Returns for years 2014 - 2017 will be refiled when issues related to recovery are addressed in a future Board Order. Upon the refile, the deferred charges balance for 2017 actuals is expected to be $155.3 million.

Newfoundland and Labrador Hydro
Financial Results and Forecasts (Proposed Rates)
Rate Stabilization Plan ($000s)

		Test Year 2015	Actual 2015	Actual 2016	Forecast 2017	Actual 2017	Test Year 2018	Test Year 2019
1	**Rate stabilization plan**							
2	Hydraulic	(47,862)	(56,458)	(37,018)	(595)	(7,558)	(446)	(335)
3	Utility	(60,639)	(70,887)	(68,977)	(18,098)	(52,440)	15,240	(5,141)
4	Industrial	703	474	(2,578)	2,101	(1,608)	922	731.00
5	Segregated Load Variation	(43,938)	(61,197)	(91,277)	-	-	-	-
6	Utility Surplus	(132,285)	(133,351)	(143,391)	(14,009)	(12,638)	64	68
7	Industrial Surplus	(3,054)	(3,130)	(389)	-	-	-	-
8	**Total**	(287,075)	(324,549)	(343,630)	(30,601)	(74,244)	15,780	(4,677)
9								
10	**Average fuel cost per barrel**	$ 64.41	$ 67.21	$ 46.40	$ 73.91	$ 68.60	$ 86.41	$ 87.11

Newfoundland and Labrador Hydro
Financial Results and Forecasts (Proposed Rates)
Employee Future Benefits ($000s)

		Test Year 2015	Actual 2015	Actual 2016	Forecast 2017	Actual 2017	Test Year 2018	Test Year 2019
1	**Employee future benefits**							
2	Balance at beginning of year	66,213	66,969	64,709	65,509	65,509	69,558	72,778
3	Current service	3,177	2,787	3,237	2,926	2,926	3,040	3,159
4	Interest	3,613	3,434	3,430	3,248	3,248	3,368	3,493
5	Amortization of actuarial losses	1,581	449	215	91	91	61	33
6	Amortization of past service costs	-	20	20	20	20	20	20
7	Prior period adjustments	-	(4,494)	-	-		-	-
8	Transfers	-	(2,064)	(3,075)	910	738	-	-
9	Benefits paid	(2,130)	(2,392)	(3,027)	(3,146)	(3,108)	(3,269)	(3,398)
10	**Funded employee future benefits balance**[1]	72,454	64,709	65,509	69,558	69,424	72,778	76,085
11	Opening adjustment - Other comprehensive income (OCI)	1,349	1,349	1,349	1,349	1,349	1,349	1,349
12	Actuarial losses amortized through OCI	5,554	4,692	4,692	4,692	4,692	4,692	4,692
13	Unamortized losses	17,873	29,290	9,357	9,364	11,327	9,283	9,230
14	Unamortized losses prior period OCI adjustment	-	(18,116)	-	-	-	-	-
15	**Employee future benefits**[2]	97,230	81,924	80,907	84,963	86,792	88,102	91,356

[1] Please refer to Schedule 4-II, Page 4.

[2] Please refer to Schedule 4-II, Page 2.

Newfoundland and Labrador Hydro
Financial Results and Forecasts (Proposed Rates)
Interest ($000s)

		Test Year 2015	Actual 2015	Actual 2016	Forecast 2017	Actual 2017	Test Year 2018	Test Year 2019
1	**Interest**							
2	Long-term debt	95,325	84,525	82,431	81,200	78,232	99,330	100,215
3	Accretion of long-term debt	495	547	540	648	622	615	653
4	Amortization of foreign exchange losses	2,157	2,157	2,157	2,157	2,157	2,157	2,157
5	Debt guarantee fee	1,887	4,514	4,524	4,127	4,125	7,359	8,254
6	Interest cost of service exclusions[1]	-	(2,752)	(2,584)	(2,374)	(2,374)	(3,680)	(4,127)
7	Other interest	(1,230)	161	641	3,869	4,385	890	1,584
8	Interest on sinking fund	(13,413)	(13,450)	(13,952)	(12,295)	(11,880)	(11,057)	(11,331)
9	**Finance Charges[2]**	85,221	75,702	73,757	77,332	75,267	95,615	97,405
10	Interest on rate stabilization plan	15,190	21,723	25,505	7,573	8,640	(248)	(390)
11	Interest capitalized during construction	(10,958)	(3,366)	(3,968)	(13,798)	(10,637)	(2,072)	(2,152)
12	**Net Interest**	89,453	94,059	95,294	71,107	73,270	93,295	94,863
13	Amortization of foreign exchange losses[3]	(2,157)	(2,157)	(2,157)	(2,157)	(2,157)	(2,157)	(2,157)
14	Debt Guarantee Fee Exclusion	-	2,752	2,584	2,374	2,374	3,680	4,127
15	**Interest[4]**	87,296	94,654	95,721	71,324	73,487	94,817	96,833

[1] Interest exclusions are primarily the disallowed portion of the debt guarantee fee.
[2] Please refer to schedule 4-IV.
[3] Shown as Foreign Exchange on Schedule 4-II, page 1.
[4] Please refer to schedule 4-II, page 1.

Newfoundland and Labrador Hydro
Financial Results and Forecasts (Proposed Rates)
Funded Asset Retirement Obligation ($000s)

		Test Year 2015	Actual 2015	Actual 2016	Forecast 2017	Actual 2017	Test Year 2018	Test Year 2019
1	**Funded asset retirement obligation:**							
2	Opening	9,798	10,283	13,459	14,815	14,815	14,300	14,082
3	Accretion	748	699	645	189	189	362	364
4	Depreciation	1,846	2,622	1,246	(386)	(380)	(345)	(345)
5	Asset retirement obligation disposed	(145)	(145)	(536)	(318)	(76)	(235)	(118)
6	**Ending**[1]	12,247	13,459	14,815	14,300	14,548	14,082	13,983

[1] Please refer to schedule 4-II, page 4.

Newfoundland and Labrador Hydro
Return on Rate Base (Existing Rates)
($000s)

		Test Year 2015	Actual 2015	Actual 2016	Forecast 2017	Actual 2017	Existing Rates 2018	Existing Rates 2019
1	**Revenue**							
2	Energy sales	564,002	550,403	559,525	556,551	561,071	557,806	558,860
3	Generation Demand Cost Recovery	1,387	1,262	1,288	1,213	1,258	1,210	1,210
4	CIAC Revenue	825	356	773	1,847	1,810	1,945	1,760
5	Other revenue	2,508	1,825	1,863	2,068	2,838	879	900
6	**Total revenue**	568,722	553,846	563,449	561,679	566,977	561,840	562,730
7								
8	**Expenses**							
9	Operating expenses	132,737	150,921	123,912	134,341	130,213	141,825	144,781
10	Other Income and expense	4,074	(12,895)	(16,703)	4,360	1,167	5,647	5,063
11	Amortization on foreign exchange losses	2,157	2,157	2,157	2,157	2,157	2,157	2,157
12	Fuels	187,464	220,359	210,950	179,623	184,772	177,766	177,455
13	Power purchases	62,827	60,667	60,117	64,275	61,717	65,838	67,428
14	Depreciation	64,055	63,222	67,436	76,028	77,356	85,045	90,667
15	Accretion of asset retirement obligation	748	699	645	189	189	362	364
16	Interest	87,296	94,654	95,721	71,324	73,487	93,907	97,824
17	**Total expenses**	541,358	579,784	544,235	532,297	531,058	572,547	585,739
18								
19	**Net income (loss) before compliance adjustments**	27,364	(25,938)	19,214	29,382	35,919	(10,707)	(23,009)
20	Compliance Adjustments[1]	-	25,282	9,017	-	-	-	-
21	**Net Income (loss) after compliance adjustments**	27,364	(656)	28,231	29,382	35,919	(10,707)	(23,009)
22								
23								
24	Unadjusted return on regulated equity	27,364	(656)	28,231	29,382	35,919	(10,707)	(23,009)
25	add: Cost of service exclusions:							
26	Depreciation on Assets Excluded from Rate Base	1,177	1,303	1,919	1,315	1,941	1,361	1,297
27	Interest cost of service exclusions[2]	-	2,752	2,584	2,374	2,374	3,680	4,154
28	Net Interest	89,453	94,059	95,294	71,107	73,270	92,385	95,854
29	**Return on rate base**	117,994	97,458	128,028	104,178	113,504	86,719	78,296
30								
31	**Average rate base**	1,785,353	1,747,243	1,886,283	2,075,503	1,979,748	2,259,681	2,361,995
32								
33	**Rate of return on rate base**	6.61%	5.58%	6.79%	5.02%	5.73%	3.84%	3.31%

[1] In P.U. 39(2017) the Board indicated the Supply Cost Deferrals noting the GRA may be the most convenient forum to address issues related to recovery. Earnings for 2017 included amounts related to the 2014, 2015 and 2016 Cost and Supply Deferrals. Annual Returns for years 2014 - 2017 will be refiled when issues related to recovery are addressed in a future Board Order. Upon refile, Hydro anticipates the rate of return on rate base for 2017 actuals to be 5.07%.

[2] Interest exclusions are primarily the disallowed portion of the debt guarentee fee.

Newfoundland and Labrador Hydro
Embedded Cost of Debt
($000s)

	Series	Interest Rate	Year of Issue	Year of Maturity	Test Year 2015	Actual 2015	Actual 2016	Forecast 2017	Actual 2017	Test year 2018	Test Year 2019
1	Series V	10.50%	1989	2014	-	300	200	200	200	200	200
2	Series X	10.25%	1992	2017	150,000	150,000	150,000				
3	Series Y	8.40%	1996	2026	300,000	300,000	300,000	300,000	300,000	300,000	300,000
4	Series AB	6.65%	2001	2031	300,000	300,000	300,000	300,000	300,000	300,000	300,000
5	Series AD	5.70%	2003	2033	125,000	125,000	125,000	125,000	125,000	125,000	125,000
6	Series AE	4.30%	2006	2016	225,000	225,000					
7	Series AF	3.60%	2014	2045	600,000	200,000	200,000	200,000	200,000	200,000	200,000
8	New Issuance - 2017	3.60%	2017	2045				300,000	300,000	300,000	300,000
9	New Issuance - 2017	3.40%	2017	2027				200,000		200,000	200,000
10	New Issuance - 2017	4.18%	2017	2047				300,000		300,000	300,000
11	New Issuance - 2017	3.70%	2017	2048					300,000		
12	New Issuance - 2018	4.25%	2018	2048						250,000	250,000
13											
14	Total debentures				1,700,000	1,300,300	1,075,200	1,725,200	1,525,200	1,975,200	1,975,200
15											
16	Promissory notes				-	97,000	435,000	234,954	369,000	129,361	148,219
17	Less:										
18	Sinking funds				(257,000)	(257,291)	(279,397)	(202,030)	(201,885)	(219,006)	(236,976)
19	Non-regulated debt pool				(8,187)	(11,110)	(11,067)	(11,067)	(23,463)	(11,067)	(11,067)
20	Unamortized debt discount and financing				(1,235)	(4,112)	(3,573)	(20,462)	9,228	(19,847)	(19,194)
21											
22	**Total debt**				1,433,578	1,124,787	1,216,163	1,726,595	1,678,080	1,854,641	1,856,182
23											
24	**Average debt**				1,316,766	1,115,446	1,170,475	1,471,379	1,447,122	1,790,618	1,855,412
25											
26					**Test year 2015**	**Actual 2015**	**Actual 2016**	**Forecast 2017**	**Actual 2017**	**Test year 2018**	**Test Year 2019**
27	**Embedded cost of debt**										
28	Long-term debt				95,325	84,525	82,431	81,200	78,232	99,330	100,215
29	Accretion of long-term debt				495	547	540	648	622	615	653
30	Amortization of foreign exchange losses				2,157	2,157	2,157	2,157	2,157	2,157	2,157
31	Debt guarantee fee				1,887	4,514	4,524	4,127	4,125	7,359	8,254
32	Other interest				(1,230)	161	641	3,869	4,385	890	1,584
33	Interest on sinking fund				(13,413)	(13,450)	(13,952)	(12,295)	(11,880)	(11,057)	(11,331)
34					85,221	78,453	76,341	79,706	77,641	99,294	101,532
35	Less Cost of Service Exclusion[1]					(2,752)	(2,584)	(2,374)	(2,374)	(3,680)	(4,127)
36	Finance Charges				85,221	75,701	73,757	77,332	75,267	95,615	97,405
37											
38	**Embedded cost of debt**				6.47%	6.79%	6.30%	5.26%	5.20%	5.34%	5.25%

[1] Interest exclusions are primarily the disallowed portion of the debt guarantee fee. - - - - -

Capital Expenditures and Carryover Report
For the Year Ended December 31, 2017

March 1, 2018

Revised: April 2, 2018

A Report to the Board of Commissioners of Public Utilities

newfoundland labrador hydro
a nalcor energy company

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1.0 Capital Expenditure Overview

During 2017, Hydro invested $341M to execute capital projects to contribute to the provision of safe, reliable, and least-cost electricity to the people of the province. A significant portion of the expenditure is in new transmission infrastructure, including $213.7M expended for the construction of a new transmission line between Bay d'Espoir and Western Avalon Terminal Stations (TL 267), which went to service on December 6, 2017, and $11M on the construction of a new line between Soldiers Pond Terminal Station and Hardwoods Terminal Station (TL 266), with expenditure of the remaining 50% of the cost of TL 266 planned for 2018. Both projects remain within their approved budgets. Sustaining capital for Terminal Station infrastructure totaled $21.5M, including $8.9M in the *Upgrade Circuit Breakers Project*. Expenditures to maintain the Hydraulic Generation equipment and infrastructure across the province totaled $13M, and $16.5M was expended to maintain the Thermal Generation equipment and infrastructure at Holyrood. The distribution system also required $13.6M for service extensions and distribution system upgrades. This report includes details about the capital expenditures and reportable variances for 2017, and projects carryovers to 2018.

2.0 Capital Expenditures and Variance Summary

Table 1 provides a summary of Hydro's Capital Expenditures by Year for the period 2012-2017 for all capital projects that were active in 2017, and Table 2 provides a breakdown of the summary by asset type.

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Table 1: 2017 Capital Expenditures by Year ($000)

Summary	A				B	C	D (B+C)	E	F (A+C+E)	Actual Expenditure and Forecast								K-F	H-D
	2013	2014	2015	2016	Carryover 2017	Original 2017	Revised 2017	2018 and Beyond	Total	G 2013	G 2014	G 2015	G 2016	H 2017	I 2018 and Beyond	J Carryovers to 2018	K (G+H+I+J) Total	Project Variance	Annual Variance
2017 Projects						86,449.2	86,449.2	49,339.8	135,789.0					69,782.3	48,756.4	10,529.1	129,067.8	(6,721.2)	(16,666.9)
2016 Projects				40,698.9	9,556.0	64,281.4	73,837.4	56,668.9	161,649.2				29,674.5	54,017.6	63,173.3	12,954.0	159,819.4	(1,829.8)	(19,819.8)
2015 Projects			1,872.4	2,293.3	1,118.2	245.1	1,363.3	-	4,410.8			1,559.9	1,586.6	1,791.4	-	305.1	5,243.0	832.2	428.1
2014 Projects		37,964.6	167,846.5	205,566.0	27,270.5	150,797.3	178,067.8	62,075.0	624,249.4		11,315.3	2,732.2	60,601.1	214,438.5	17,418.3	1,069.8	307,575.2	(316,674.2)	36,370.7
2013 Projects	593.2	552.8	538.4	1,511.7	311.0	471.9	782.9	-	3,668.0	240.3	699.0	755.5	1,190.3	711.0	-	31.9	3,628.0	(40.0)	(71.9)
Grand Total	**593.2**	**38,517.4**	**170,257.3**	**250,069.9**	**38,255.7**	**302,244.9**	**340,500.6**	**168,083.7**	**929,766.4**	**240.3**	**12,014.3**	**5,047.6**	**93,052.5**	**340,740.8**	**129,348.0**	**24,889.9**	**605,333.4**	**(324,433.0)**	**240.2**

2017 Capital Budget Approved by Board Order No. P.U. 4[1]	271,265.6
New Project Approved by Board Order No. 20 (2016)	1,533.0
New Project Approved by Board Order No. 5 (2017)	3,045.0
New Project Approved by Board Order No. 7 (2017)	3,168.9
New Project Approved by Board Order No. 10 (2017)	1,349.2
New Project Approved by Board Order No. 11 (2017)	2,585.2
New Project Approved by Board Order No. 13 (2017)	11,425.2
New Project Approved by Board Order No. 20 (2017)	2,610.0
New Project Approved by Board Order No. 21 (2017)	3,714.8
New Project Approved by Board Order No. 15 (2017)	500.0
New Project Approved by Board Order No. 27 (2017)	540.0
2017 New Projects under $50,000 Approved by Hydro	508.0
Total Approved Capital Budget Before Carryovers	302,244.9
Carryover Projects 2016 to 2017	38,255.7
Total Approved Capital Budget	**340,500.6**

[1] Annual budgets previous to 2017 pertain to projects that have expenditures in 2017.

Table 2: Total Capital Variance Summary ($000) by Asset Type

Asset Type	Board Approved Budget	Total Project Expenditures and Forecast	Variance
Hydraulic	36,468	35,921	(547)
Thermal	14,273	15,687	1,414
Gas Turbines	2,807	1,884	(923)
Terminal Stations	107,460	106,933	(527)
Transmission	327,299	328,048	749
Distribution	16,726	16,287	(439)
Rural Generation	25,824	23,523	(2,301)
Properties	7,666	6,903	(763)
Metering	3,333	3,817	484
Rural Systems Tools and Equipment	1,139	907	(232)
Information Systems	3,264	3,224	(40)
Telecontrol	6,649	6,337	(312)
Transportation	4,933	4,854	(79)
Administrative	1,470	996	(474)
Allowance for Unforeseen	2,040	5,646	3,606
Supplemental Projects	367,815	43,792	(324,023)
Projects Approved for less than $50,000	601	574	(27)
Total Capital Budget	**929,766**	**605,333**	**(324,434)**

3.0 Capital Expenditures by Category

The following tables provide Hydro's Capital Expenditures by category including: Hydraulic Generation, Thermal Generation, Gas Turbine Generation, Terminal Stations, Transmission, Distribution, Rural Generation, Properties, Metering, Tools and Equipment, Information Systems, Telecontrol projects, Transportation, Administration, Allowance for Unforeseen Items, Supplemental Capital projects, and projects less than $50,000.

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Table 3: 2017 Capital Expenditures – Hydraulic Generation ($000)

Hydraulic Generation Projects	Capital Budget							Actual Expenditure and Forecast								
	A		B	C	D (B+C)	E	F (A+C+E)	G		H	I	J	K (G+H+I)	K-F	H-D	
	2015	2016	Carryover 2016	2017	Revised 2017	2018 and Beyond	Total	2015	2016	2017	2018 and Beyond	Carryovers to 2018	Total	Project Variance	Annual Variance	Notes
2017 Projects																
Install Asset Health Monitoring System - Upper Salmon	-	-	-	438.0	438.0	203.4	641.4	-	-	214.9	203.4	223.1	641.4	(0.0)	(223.1)	1
Refurbish Main Generator Breaker - Upper Salmon	-	-	-	271.1	271.1	-	271.1	-	-	123.2	-	147.9	271.1	0.0	(147.9)	2
Water System Replacements - Bay d'Espoir and Cat Arm	-	-	-	265.5	265.5	2,288.3	2,553.8	-	-	176.7	2,288.3	88.8	2,553.8	(0.0)	(88.8)	
Refurbish Powerhouse Station Services - Bay d'Espoir	-	-	-	413.2	413.2	3,933.9	4,347.1	-	-	43.0	3,933.9	370.2	4,347.1	0.0	(370.2)	3
Replace Exciter Controls Units 1 to 6 - Bay d'Espoir	-	-	-	119.2	119.2	3,227.8	3,347.0	-	-	182.7	3,227.8	(63.5)	3,347.0	0.0	63.5	
Upgrade Ventilation in Powerhouse 1 and 2 - Bay d'Espoir	-	-	-	134.1	134.1	863.8	997.9	-	-	111.8	863.8	22.3	997.9	(0.0)	(22.3)	
Upgrade Public Safety Around Dams and Waterways - Bay d'Espoir	-	-	-	489.0	489.0	-	489.0	-	-	355.5	-	-	355.5	(133.5)	(133.5)	4
Purchase Capital Spares - Hydraulic	-	-	-	487.4	487.4	-	487.4	-	-	325.2	-	362.2	687.4	200.0	(162.2)	5
Replace Slip Rings Units 1-6 - Bay d'Espoir	-	-	-	312.6	312.6	159.7	472.3	-	-	102.4	159.7	210.2	472.3	0.0	(210.2)	6
Refubish Sump Level System for Powerhouse 2 - Bay d'Espoir	-	-	-	38.7	38.7	264.5	303.2	-	-	10.6	264.5	28.1	303.2	0.0	(28.1)	
Install Wind Monitoring Station North Salmon Dam SD-2 - Bay d'Espoir	-	-	-	165.5	165.5	-	165.5	-	-	52.3	-	113.2	165.5	0.0	(113.2)	7
Replace Floor Annunciator Panels - Bay d'Espoir	-	-	-	46.8	46.8	-	46.8	-	-	45.5	-	-	45.5	(1.3)	(1.3)	
Control Structure Refurbishments	-	-	-	1,735.3	1,735.3	452.9	2,188.2	-	-	991.4	452.9	743.9	2,188.2	(0.0)	(743.9)	8
Overhaul Turbine/Generators - Cat Arm	-	-	-	305.4	305.4	-	305.4	-	-	334.1	-	-	334.1	28.7	28.7	
Purchase Tools and Equipment Less than $ 50,000	-	-	-	113.4	113.4	-	113.4	-	-	112.0	-	-	112.0	(1.4)	(1.4)	
2016 Projects																
Install Hydrometeorological Equipment - Various Sites	-	314.1	309.8	0.0	309.8	-	314.1	-	4.3	179.0	-	-	183.3	(130.8)	(130.8)	9
Replace Control Room/Communications Room Air Conditioning - Hinds Lake	-	41.3	10.3	53.0	63.3	-	94.3	-	31.0	65.4	-	-	96.4	2.1	2.1	
Refurbish Station Water System - Upper Salmon	-	96.6	58.3	197.6	255.9	-	294.2	-	38.3	161.0	-	94.9	294.2	(0.0)	(94.9)	
Upgrade Work - Cat Arm	-	558.3	317.9	1,353.0	1,670.9	-	1,911.3	-	240.4	760.6	-	910.3	1,911.3	(0.0)	(910.3)	10
Rehabilitate Shoreline Protection - Cat Arm	-	112.2	7.5	1,030.7	1,038.2	-	1,142.9	-	104.7	61.0	-	977.2	1,142.9	(0.0)	(977.2)	11
Replace Site Facilities - Bay d'Espoir	-	928.3	657.9	4,736.3	5,394.2	6,316.7	11,981.3	-	270.4	2,231.6	6,316.7	3,162.6	11,981.3	0.0	(3,162.6)	12
Replace PH1 Station Service Transformer - Bay d'Espoir	-	46.7	1.7	354.5	356.2	-	401.2	-	45.0	488.1	-	-	533.1	131.9	131.9	13
Replace Spherical By-Pass Valves Units 1 and 2 - Bay d'Espoir	-	183.6	28.8	167.9	196.7	-	351.5	-	154.8	51.8	-	144.9	351.5	0.0	(144.9)	14
Overhaul Turbine/Generator Units #6 and #7 - Bay d'Espoir	-	1,345.6	56.2	0.0	56.2	-	1,345.6	-	544.5	65.3	-	-	609.8	(735.8)	9.1	15
2015 Projects																
Replace Station Service Breakers - Cat Arm	644.9	363.4	176.3	0.0	176.3	-	1,008.3	646.1	185.9	204.8	-	-	1,036.8	28.5	28.5	
Replace Pump House and Associated Equipment - Bay d'Espoir	22.7	522.5	279.6	0.0	279.6	-	545.2	137.0	128.6	26.0	-	253.6	545.2	(0.0)	(253.6)	16
Upgrade Equipment Doors - Various Sites	348.5	-	46.7	0.0	46.7	-	348.5	285.4	115.4	11.9	-	-	412.7	64.2	(34.8)	
Total Hydraulic Generation Projects	**1,016.1**	**4,512.6**	**1,951.0**	**13,228.2**	**15,179.2**	**17,711.0**	**36,467.9**	**1,068.5**	**1,863.3**	**7,488.0**	**17,711.0**	**7,789.9**	**35,920.7**	**(547.2)**	**(7,691.2)**	

Table 4: 2017 Capital Expenditures – Thermal Generation ($000)

Thermal Generation Projects	Capital Budget						Actual Expenditure and Forecast							
	A	B	C	D (B+C)	E	F (A+C+E)	G	H	J	J	K (G+H+I+J)	K-F	H-D	
	2016	Carryover 2016	Original 2017	Revised 2017	2018 and Beyond	Total	2016	2017	2018 and Beyond	Carryovers to 2018	Total	Project Variance	Annual Variance	Notes
2017 Projects														
Overhaul Turbine Valves Unit 2 - Holyrood	-	-	2,302.1	2,302.1	-	2,302.1	-	2,496.6	-	-	2,496.6	194.5	194.5	
Purchase Capital Spares Holyrood	-	-	321.5	321.5	-	321.5	-	338.3	-	-	338.3	16.8	16.8	
Condition Assessment and Miscellaneous Upgrades - Holyrood	-	-	2,437.3	2,437.3	-	2,437.3	-	3,058.1	-	-	3,058.1	620.8	620.8	17
Upgrade Holyrood Access Road - Holyrood	-	-	579.3	579.3	583.4	1,162.7	-	825.7	-	-	825.7	(337.0)	246.4	18
Upgrade Underground Plant Drainage System - Holyrood	-	-	923.1	923.1	-	923.1	-	1,825.2	-	(10.7)	1,814.5	891.4	902.1	19
Overhaul Pumps - Holyrood	-	-	633.0	633.0	-	633.0	-	661.3	-	-	661.3	28.3	28.3	
Purchase Tools and Equipment Less than $ 50,000	-	-	16.1	16.1	-	16.1	-	15.0	-	-	15.0	(1.1)	(1.1)	
2016 Projects														
Upgrade Powerhouse Building Envelope - Holyrood	2,723.8	483.9	2,969.9	3,453.8	784.1	6,477.8	2,239.9	2,378.2	784.1	1,075.6	6,477.8	(0.0)	(1,075.6)	20
Total Thermal Generation Projects	**2,723.8**	**483.9**	**10,182.3**	**10,666.2**	**1,367.5**	**14,273.6**	**2,239.9**	**11,598.5**	**784.1**	**1,064.9**	**15,687.4**	**1,413.8**	**932.3**	

Table 5: 2017 Capital Expenditures – Gas Turbine Generation ($000)

Gas Turbine Generation Projects	Capital Budget						Actual Expenditure and Forecast							
	A	B	C	D (B+C)	E	F (A+C+E)	G	H	I	J	K (G+H+I+J)	K-F	H-D	
	2016	Carryover 2016	Original 2017	Revised 2017	2018 and Beyond	Total	2016	2017	2018 and Beyond	Carryover to 2018	Total	Project Variance	Annual Variance	Notes
2017 Projects														
Gas Turbine Life Extension - Stephenville	-	-	847.5	847.5	505.7	1,353.2	-	342.2	505.7	24.1	872.0	(481.2)	(505.3)	21
Gas Turbine Life Extension - Hardwoods	-	-	675.3	675.3	281.4	956.7	-	273.6	281.4	28.3	583.3	(373.4)	(401.7)	22
Purchase Capital Spares - Gas Turbines	-	-	185.0	185.0	-	185.0	-	161.2	-	-	161.2	(23.8)	(23.8)	
2016 Projects														
Replace Fuel Piping - Hardwoods and Stephenville	44.8	33.2	267.0	300.2	-	311.8	11.6	256.3	-	-	267.9	(43.9)	(43.9)	
Total Gas Turbine Generation Projects	**44.8**	**33.2**	**1,974.8**	**2,008.0**	**787.1**	**2,806.7**	**11.6**	**1,033.3**	**787.1**	**52.4**	**1,884.4**	**(922.3)**	**(974.7)**	

Table 6: 2017 Capital Expenditures – Terminal Stations ($000)

Terminal Stations Projects	Capital Budget									Actual Expenditure and Forecast										
	A				B	C	D (B+C)	E	F (A+C+E)	G				H	I	J	K (G+H+I+J)	K-F	H-D	
	2013	2014	2015	2016	Carryover 2016	Original 2017	Revised 2017	2018 and Beyond	Total	2013	2014	2015	2016	2017	2018 and Beyond	Carryovers to 2018	Total	Project Variance	Annual Variance	Notes
2017 Projects																				
Upgrade Corner Brook Frequency Converter - Corner Brook	-	-	-	-	-	194.6	194.6	2,749.2	2,943.8	-	-	-	-	42.2	2,749.2	152.4	2,943.8	0.0	(152.4)	23
Replace 66 kV Station Service Feed - Holyrood	-	-	-	-	-	62.8	62.8	1,198.6	1,261.4	-	-	-	-	80.7	1,198.6	(17.9)	1,261.4	0.0	17.9	
Replace Substation - Holyrood	-	-	-	-	-	439.4	439.4	758.6	1,198.0	-	-	-	-	115.4	758.6	324.0	1,198.0	(0.0)	(324.0)	24
Replace Power Transformers - Oxen Pond	-	-	-	-	-	297.5	297.5	850.1	1,147.6	-	-	-	-	109.1	850.1	188.4	1,147.6	0.0	(188.4)	25
In-Service Failures - Various Sites	-	-	-	-	-	1,000.0	1,000.0	-	1,000.0	-	-	-	-	1,437.2	-	-	1,437.2	437.2	437.2	26
Purchase Capital Spares - Terminal Stations	-	-	-	-	-	495.8	495.8	-	495.8	-	-	-	-	397.8	-	-	397.8	(98.0)	(98.0)	
Upgrade Aluminum Support Structures - Holyrood	-	-	-	-	-	352.9	352.9	-	352.9	-	-	-	-	190.8	-	-	190.8	(162.1)	(162.1)	27
Purchase Backup Diesel For Station Service - Grand Falls and Buchans	-	-	-	-	-	188.9	188.9	-	188.9	-	-	-	-	149.3	-	-	149.3	(39.6)	(39.6)	
Terminal Station Refurbishment and Modernization - Various Sites	-	-	-	-	-	10,831.3	10,831.3	16,550.8	27,382.1	-	-	-	-	5,852.1	16,550.8	3,138.3	25,541.2	(1,840.9)	(4,979.2)	28
2016 Projects																				
Upgrade Circuit Breakers - Various Sites (2016-2020)	-	-	-	6,969.1	1,369.6	10,808.7	12,178.3	43,682.7	61,460.5	-	-	-	5,599.5	8,877.8	43,682.7	3,300.5	61,460.5	(0.0)	(3,300.5)	29
Replace Surge Arrestors - Various Sites	-	-	-	144.4	(30.7)	53.0	22.3	-	197.4	-	-	-	175.1	-	-	-	175.1	(22.3)	(22.3)	
Replace Protective Relays - Various Sites	-	-	-	700.6	(725.2)	1,156.4	431.2	-	1,857.0	-	-	-	1,425.8	1,134.5	-	267.5	2,827.8	970.8	703.3	30
Replace Disconnect Switches - Various Sites (2016-2017)	-	-	-	646.9	515.2	1,320.9	1,836.1	-	1,967.8	-	-	-	131.7	1,064.9	-	771.2	1,967.8	(0.0)	(771.2)	31
Upgrade Digital Fault Recorders - Various Sites	-	-	-	197.9	(23.3)	304.6	281.3	-	502.5	-	-	-	221.2	328.8	-	-	550.0	47.5	47.5	
Upgrade Data Alarm Systems - Various Sites	-	-	-	74.4	24.7	234.1	258.8	-	308.5	-	-	-	49.7	116.0	-	142.8	308.5	0.0	(142.8)	32
Install Breaker Failure Protection - Various Sites	-	-	-	65.7	(16.1)	211.3	195.2	-	277.0	-	-	-	81.8	382.4	-	22.2	486.4	209.4	187.2	33
Install Fire Protection in 230 kV Stations - Bay d'Espoir	-	-	-	200.0	108.6	566.0	674.6	-	766.0	-	-	-	91.4	100.7	-	681.7	873.8	107.8	(573.9)	34
Upgrade Terminal Station for Mobile Substation - Cow Head	-	-	-	40.0	12.5	444.7	457.2	-	484.7	-	-	-	27.5	359.9	-	-	387.4	(97.3)	(97.3)	
2013 Projects																				
Replace Instrument Transformers - Various Sites	593.2	552.8	538.4	1,511.7	311.0	471.9	782.9	-	3,668.0	240.3	699.0	755.5	1,190.3	711.0	-	31.9	3,628.0	(40.0)	(71.9)	
Total Terminal Stations Projects	**593.2**	**552.8**	**538.4**	**10,550.7**	**1,546.3**	**29,434.8**	**30,981.1**	**65,790.0**	**107,459.9**	**240.3**	**699.0**	**755.5**	**8,994.0**	**21,450.7**	**65,790.0**	**9,003.0**	**106,932.5**	**(527.4)**	**(9,530.4)**	

Table 7: 2017 Capital Expenditures – Transmission ($000)

Transmission Projects	Capital Budget								Actual Expenditure and Forecast									
	A			B	C	D	E	F (A+C+E)	G			H	I	J	K(G+H+I+J)	K-F	H-D	
	2014	2015	2016	Carryover 2016	Original 2017	Revised 2017	2018 and Beyond	Total	2014	2015	2016	2017	2018 and Beyond	Carryovers to 2018	Total	Project Variance	Annual Variance	Notes
2017 Projects																		
Transmission Line Upgrades - TL212 and TL218	-	-	-	-	1,378.2	1,378.2	1,133.3	2,511.5	-	-	-	287.1	1,133.3	1,091.1	2,511.5	0.0	(1,091.1)	35
Replace Insulators - TL227	-	-	-	-	145.6	145.6	271.3	416.9	-	-	-	16.7	271.3	128.9	416.9	(0.0)	(128.9)	36
Wood Pole Line Management Program - Various Sites	-	-	-	-	2,404.1	2,404.1	-	2,404.1	-	-	-	3,234.6	-	-	3,234.6	830.5	830.5	37
2016 Projects																		
Construct 230 kV Transmission Line - Soldiers Pond to Hardwoods	-	-	3,699.0	197.4	17,489.8	17,687.2	5,372.1	26,560.9	-	-	3,501.6	11,210.6	11,876.5	(27.8)	26,560.9	(0.0)	(6,476.6)	38
Replace Aircraft Markers at Grand Lake Crossing - TL228	-	-	589.6	527.8	978.3	1,506.1	-	1,567.9	-	-	61.8	1,424.6	-	-	1,486.4	(81.5)	(81.5)	
2014 Projects																		
Refurbish Anchors and Footings TL202 and TL206 - Bay d'Espoir to Sunnyside	211.5	28.4	1,038.4	1,018.7	901.6	1,920.3	-	2,179.9	211.5	28.2	19.9	90.5	-	1,829.8	2,179.9	0.0	(1,829.8)	39
230 kV Transmission Line - Bay d'Espoir to Western Avalon	-	4,403.0	75,284.3	26,108.6	149,895.7	176,004.3	62,075.0	291,658.0	-	2,018.2	59,317.8	213,663.7	17,418.3	(760.0)	291,658.0	(0.0)	37,659.4	40
Total Transmission Projects	**211.5**	**4,431.4**	**80,611.3**	**27,852.5**	**173,193.3**	**201,045.8**	**68,851.7**	**327,299.2**	**211.5**	**2,046.4**	**62,901.1**	**229,927.8**	**30,699.4**	**2,262.0**	**328,048.2**	**749.0**	**28,882.0**	

Table 8: 2017 Capital Expenditures – Distribution ($000)

Distribution Projects	Capital Budget						Actual Expenditure and Forecast							
	A	B	C	D (B+C)	E	F (A+C+E)	G	H	I	J	K (G+H+I+J)	K-F	H-D	
	2016	Carryover 2016	Original 2017	Revised 2017	2018 and Beyond	Total	2016	2017	2018 and Beyond	Carryovers to 2018	Total	Project Variance	Annual Variance	Notes
2017 Projects														
Provide Service Extensions - All Service Areas	-	-	4,530.0	4,530.0	-	4,530.0	-	4,545.6	-	-	4,545.6	15.6	15.6	
Provide Service Extensions - All Service Areas - CIAC	-	-	(200.0)	(200.0)	-	(200.0)	-	(323.6)	-	-	(323.6)	(123.6)	(123.6)	41
Upgrade Distribution Systems - All Service Areas	-	-	3,910.0	3,910.0	-	3,910.0	-	3,745.0	-	-	3,745.0	(165.0)	(165.0)	
Upgrade Distribution Systems - All Service Areas - CIAC	-	-	(100.0)	(100.0)	-	(100.0)	-	(165.8)	-	-	(165.8)	(65.8)	(65.8)	
Distribution Upgrades - Various Sites (2017-2018)	-	-	64.2	64.2	1,130.9	1,195.1	-	78.7	1,130.9	(14.5)	1,195.1	0.0	14.5	
Install Recloser Remote Control - Bottom Waters	-	-	47.1	47.1	418.6	465.7	-	63.9	418.6	(16.8)	465.7	(0.0)	16.8	
Install Demand Metering - Various Sites	-	-	89.7	89.7	-	89.7	-	73.4	-	-	73.4	(16.3)	(16.3)	
Replace Recloser - Wabush	-	-	199.2	199.2	-	199.2	-	116.0	-	-	116.0	(83.2)	(83.2)	
2016 Projects														
Upgrade Distribution Systems - Various Sites (2016/2017)	285.6	(76.2)	6,350.3	6,274.1	-	6,635.9	361.8	5,363.1	-	911.0	6,635.9	0.0	(911.0)	42
Total Distribution Projects	**285.6**	**(76.2)**	**14,890.5**	**14,814.3**	**1,549.5**	**16,725.6**	**361.8**	**13,496.4**	**1,549.5**	**879.7**	**16,287.4**	**(438.2)**	**(1,317.9)**	

Table 9: 2017 Capital Expenditures – Rural Generation ($000)

Rural Generation Projects	Capital Budget								Actual Expenditure and Forecast									
	A			B	C	D	E	F (A+C+E)	G			H	I	J	K (G+H+I+J)	K-F	H-D	
	2014	2015	2016	Carryover 2016	Original 2017	Revised 2017	2018 and Beyond	Total	2014	2015	2016	2017	2018 and Beyond	Carryovers to 2018	Total	Project Variance	Annual Variance	Notes
2017 Projects																		
Overhaul Diesel Engines - Various Sites	-	-	-	-	2,095.9	2,095.9	-	2,095.9	-	-	-	1,619.8	-	-	1,619.8	(476.1)	(476.1)	43
Diesel Plant Engine Auxiliary Upgrades - Various Sites	-	-	-	-	790.6	790.6	416.3	1,206.9	-	-	-	644.7	416.3	145.9	1,206.9	0.0	(145.9)	44
Inspect Fuel Storage Tanks - Various Sites	-	-	-	-	1,058.8	1,058.8	-	1,058.8	-	-	-	717.3	-	-	717.3	(341.5)	(341.5)	45
Replace Automation Equipment - Mary's Harbour	-	-	-	-	120.3	120.3	1,021.7	1,142.0	-	-	-	87.4	1,021.7	32.9	1,142.0	(0.0)	(32.9)	
Replace Fuel Tank 22E - St. Anthony	-	-	-	-	199.8	199.8	-	199.8	-	-	-	139.0	-	-	139.0	(60.8)	(60.8)	
Diesel Genset Replacements - Port Hope Simpson and Charlottetown	-	-	-	-	658.8	658.8	5,148.0	5,806.8	-	-	-	213.6	5,148.0	445.2	5,806.8	0.0	(445.2)	46
2016 Projects																		
Upgrade Human Machine Interface - Various Sites	-	-	114.0	(11.3)	320.0	308.7	-	434.0	-	-	125.3	235.7	-	73.0	434.0	(0.0)	(73.0)	
Install Variable Frequency Drives - Grey River	-	-	46.9	(2.8)	123.0	120.2	-	169.9	-	-	49.7	207.8	-	-	257.5	87.6	87.6	
Install Fire Protection Systems - Cartwright and Nain	-	-	3,030.7	1,557.1	1,376.4	2,933.5	-	4,407.1	-	-	782.8	2,869.3	-	-	3,652.1	(755.0)	(64.2)	47
Upgrade Transformer Systems - Postville and Cartwright	-	-	465.2	169.2	-	169.2	-	465.2	-	-	296.0	169.2	-	-	465.2	(0.0)	(0.0)	
Additions for Load Growth - Various Sites	-	-	883.4	693.0	4,746.0	5,439.0	-	5,629.4	-	-	190.4	4,402.1	-	-	4,592.5	(1,036.9)	(1,036.9)	48
Replace Diesel Units - Charlottetown			1,384.9	-	46.1	46.1	-	1,431.0	-	-	1,442.2	-	-	-	1,442.2	11.2	(46.1)	
2015 Projects																		
Replace Programmable Logic Controllers - Various Sites	-	366.9	346.0	(29.8)	245.1	215.3	-	958.0	-	397.2	345.5	410.5	-	51.5	1,204.7	246.7	195.2	49
2014 Projects																		
Upgrade Diesel Plant Production Data Collection Equipment-Various	268.9	269.8	280.7	143.2	-	143	-	819.4	107.8	57.8	510.6	166.5	-	-	842.7	23.3	23.3	
Total Rural Generation Projects	**268.9**	**636.7**	**6,551.8**	**2,518.6**	**11,780.8**	**14,299.4**	**6,586.0**	**25,824.2**	**107.8**	**455.0**	**3,742.5**	**11,882.8**	**6,586.0**	**748.5**	**23,522.6**	**(2,301.6)**	**(2,416.6)**	

Table 10: 2017 Capital Expenditures – Properties ($000)

Properties Projects	Capital Budget							Actual Expenditure and Forecast								
	A		B	C	D	E	F (A+C+E)	G		H	I	J	K (G+H+I+J)	K-F	H-D	
	2015	2016	Carryover 2016	Original 2017	Revised 2017	2018 and Beyond	Total	2015	2016	2017	2018 and Beyond	Carryovers to 2018	Total	Project Variance	Annual Variance	Notes
2017 Projects																
Upgrade Office Facilities & Control Buildings - Various Sites	-	-	-	2,197.3	2,197.3	-	2,197.3	-	-	1,815.2	-	-	1,815.2	(382.1)	(382.1)	50
Line Depot Condition Assessment and Refurbishment Program - Various Sites	-	-	-	1,458.8	1,458.8	-	1,458.8	-	-	689.4	-	-	689.4	(769.4)	(769.4)	51
Construct New Facilities - Various Sites	-	-	-	422.0	422.0	1,034.1	1,456.1	-	-	237.8	1,034.1	184.2	1,456.1	(0.0)	(184.2)	52
Install Fall Protection Equipment - Various Sites	-	-	-	194.7	194.7	-	194.7	-	-	161.3	-	-	161.3	(33.4)	(33.4)	
2016 Projects																
Upgrade Warehouse Lighting - Bishop's Falls	-	15.2	(12.9)	180.4	167.5	-	195.6	-	28.1	93.6	-	-	121.7	(73.9)	(73.9)	
Replace Roof on Service Building - Bishop's Falls	-	612.8	285.0	-	285.0	-	612.8	-	327.8	288.5	-	-	616.3	3.5	3.5	
2015 Projects																
Replace Accommodations and Septic System - Ebbegunbaeg	489.4	1,061.4	645.4	-	645.4	-	1,550.8	94.2	811.2	1,138.1	-	-	2,043.5	492.7	492.7	53
Total Properties Projects	**489.4**	**1,689.4**	**917.5**	**4,453.2**	**5,370.7**	**1,034.1**	**7,666.1**	**94.2**	**1,167.1**	**4,423.9**	**1,034.1**	**184.2**	**6,903.5**	**(762.6)**	**(946.8)**	

Table 11: 2017 Capital Expenditures – Metering ($000)

Metering Projects	Capital Budget						Actual Expenditure and Forecast							
	A	B	C	D	E	F (A+C+E)	G	H	I	J	K (G+H+I+J)	K-F	H-D	
	2016	Carryover 2016	Original 2017	Revised 2017	2018 and Beyond	Total	2016	2017	2018 and Beyond	Carryovers To 2018	Total	Project Variance	Annual Variance	Notes
2017 Projects														
Install Automated Meter Reading - Happy Valley (2017-2018)	-	-	78.6	78.6	1,891.6	1,970.2	-	183.8	1,891.6	(105.2)	1,970.2	0.0	105.2	54
Purchase Meters and Metering Equipment - Various Sites	-	-	198.8	198.8	-	198.8	-	273.9	-	-	273.9	75.1	75.1	
Purchase New Meter Calibration Test Console - Hydro Place	-	-	196.9	196.9	-	196.9	-	0.1	-	212.7	212.8	15.9	(196.8)	55
2016 Projects														
Install Automated Meter Reading - Labrador West	433.8	303.4	533.4	836.8	-	967.2	130.4	1,232.8	-	(3.2)	1,360.0	392.8	396.0	56
Total Metering Projects	**433.8**	**303.4**	**1,007.7**	**1,311.1**	**1,891.6**	**3,333.1**	**130.4**	**1,690.6**	**1,891.6**	**104.3**	**3,816.9**	**483.8**	**379.5**	

Table 12: 2017 Capital Expenditures – Tools and Equipment ($000)

Tools and Equipment	Capital Budget						Actual Expenditure and Forecast							
	A	B	C	D	E	F (A+C+E)	G	H	I	J	K (G+H+I+J)	K-F	H-D	
	2016	Carryover 2016	Original 2017	Revised 2017	2018 and Beyond	Total	2016	2017	2018 and Beyond	Carryovers to 2018	Total	Project Variance	Annual Variance	Notes
2017 Projects														
Replace Light Duty Mobile Equipment - Various Sites	-	-	270.9	270.9	-	270.9	-	179.8	-	-	179.8	(91)	(91.1)	
Purchase Front End Loader with Backhoe - Wabush	-	-	133.2	133.2	-	133.2	-	132.8	-	-	132.8	(0)	(0.4)	
Tools and Equipment Less than $ 50,000	-	-	423.0	423.0	-	423.0	-	371.0	-	-	371.0	(52)	(52.0)	
2016 Projects														
Purchase Excavator - Bay d'Espoir	312.0	35.0	-	35.0	-	312.0	187.0	36.5	-	-	223.5	(88.5)	1.5	
Total Tools and Equipment	**312.0**	**35.0**	**827.1**	**862.1**	**-**	**1,139.1**	**187.0**	**720.1**	**-**	**-**	**907.1**	**(232.0)**	**(142.0)**	

Table 13: 2017 Capital Expenditures – Information Systems ($000)

Information Systems Projects	Capital Budget						Actual Expenditure and Forecast							
	A	B	C	D	E	F (A+C+E)	G	H	I	J	K (G+H+I+J)	K-F	H-D	
	2016	Carryover 2016	Original 2017	Revised 2017	2018 and Beyond	Total	2016	2017	2018 and Beyond	Carryovers to 2018	Total	Project Variance	Annual Variance	Notes
2017 Projects														
Upgrade Energy Management System - Hydro Place	-	-	427.0	427.0	-	427.0	-	433.4	-	-	433.4	6.4	6.4	
Replace Personal Computers - Hydro Place	-	-	401.4	401.4	-	401.4	-	394.4	-	-	394.4	(7.0)	(7.0)	
2016 Projects														
Implement Industrial Billing Software - Hydro Place	443.1	273.6	-	273.6	-	443.1	169.5	245.6	-	-	415.1	(28.0)	(28.0)	
Upgrade Microsoft Project - Hydro Place	683.7	26.8	953.4	980.2	957.3	2,594.4	656.9	960.0	957.3	20.2	2,594.4	(0.0)	(20.2)	
Cost Recoveries	(317.1)	(12.3)	(442.2)	(454.5)	(444.0)	(1,203.3)	(304.8)	(445.5)	(444.0)	(9.0)	(1,203.3)	0.0	9.0	
Upgrade Enterprise Storage Capacity - Hydro Place	628.8	164.3	-	164.3	-	628.8	464.5	97.8	-	-	562.3	(66.5)	(66.5)	
Cost Recoveries	(291.6)	(76.1)	-	(76.1)	-	(291.6)	(215.5)	(45.4)	-	-	(260.9)	30.7	30.7	
Upgrade Server Technology Program - Hydro Place	492.5	41.4	-	41.4	-	492.5	451.1	86.3	-	-	537.4	44.9	44.9	
Cost Recoveries	(228.5)	(19.2)	-	(19.2)	-	(228.5)	(209.3)	(39.1)	-	-	(248.4)	(19.9)	(19.9)	
Total Information Systems Projects	**1,410.9**	**398.5**	**1,339.6**	**1,738.1**	**513.3**	**3,263.8**	**1,012.4**	**1,687.4**	**513.3**	**11.2**	**3,224.3**	**(39.5)**	**(50.7)**	

Table 14: 2017 Capital Expenditures – Telecontrol ($000)

Telecontrol Projects	Capital Budget						Actual Expenditure and Forecast							
	A	B	C	D	E	F (A+C+E)	G	H	I	J	K (G+H+I+J)	K-F	H-D	
	2016	Carryover 2016	Original 2017	Revised 2017	2018 and Beyond	Total	2016	2017	2018 and Beyond	Carryovers to 2018	Total	Project Variance	Annual Variance	Notes
2017 Projects														
Purchase Tools and Equipment less than $50,000	-	-	45.2	45.2	-	45.2	-	48.7	-	-	48.7	3.5	3.5	
Replace Battery Banks and Chargers - Various Sites (2017-2018)	-	-	379.3	379.3	566.2	945.5	-	217.6	566.2	(4.3)	779.5	(166.0)	(161.7)	57
Replace Network Communications Equipment - Various Sites	-	-	199.3	199.3	-	199.3	-	228.6	-	-	228.6	29.3	29.3	
Upgrade Site Facilities	-	-	49.0	49.0	-	49.0	-	49.9	-	-	49.9	0.9	0.9	
Upgrade Access Roads to Microwave Sites - Various Sites	-	-	118.4	118.4	-	118.4	-	121.1	-	-	121.1	2.7	2.7	
Upgrade Telecontrol Facilities - Mary March Hill and Blue Grass Hill	-	-	91.2	91.2	665.9	757.1	-	123.3	665.9	(32.1)	757.1	(0.0)	32.1	
2016 Projects														
Replace Battery Banks and Chargers - Various Sites	425.0	59.3	456.6	515.9	-	881.6	365.7	279.6	-	-	645.3	(236.3)	(236.3)	58
Replace MDR 4000 Microwave Radio East - Various Sites	77.4	(36.0)	1,093.1	1,057.1	-	1,170.5	113.4	1,041.0	-	-	1,154.4	(16.1)	(16.1)	
Replace UPS Systems - Hydro Place	889.8	(38.8)	-	-38.8	-	889.8	928.6	49.9	-	-	978.5	88.7	88.7	
Replace Air Conditioners - Various Sites	39.9	(11.3)	152.0	140.7	-	191.9	51.2	145.1	-	-	196.3	4.4	4.4	
Replace Powerline Carrier - Various Sites	73.4	(4.0)	763.4	759.4	-	836.8	77.4	684.7	-	-	762.1	(74.7)	(74.7)	
Upgrade Telecontrol Facilities - Sandy Brook Hill	101.6	19.9	462.4	482.3	-	564.0	81.7	533.5	-	-	615.2	51.2	51.2	
Total Telecontrol Projects	**1,607.1**	**(10.9)**	**3,809.9**	**3,799.0**	**1,232.1**	**6,649.1**	**1,618.0**	**3,523.2**	**1,232.1**	**(36.4)**	**6,336.9**	**(312.2)**	**(275.8)**	

Table 15: 2017 Capital Expenditures – Transportation and Administration

Transportation	Capital Budget						Actual Expenditure and Forecast							
	A	B	C	D	E	F (A+C+E)	G	H	J	J	K (G+H+I+J)	K-F	H-D	
	2016	Carryover 2016	Original 2017	Revised 2017	2018 and Beyond	Total	2016	2017	Beyond	Carryovers to 2018	Total	Project Variance	Annual Variance	Notes
2017 Projects														
Replace Vehicles and Aerial Devices - Various Sites (2017-2018)	-	-	2,001.4	2,001.4	398.8	2,400.2	-	1,275.8	398.8	725.6	2,400.2	0.0	(725.6)	59
2016 Projects														
Replace Vehicles and Aerial Devices - Various Sites (2016-2017)	1,443.3	410.6	534.2	944.8	-	1,977.5	1,032.7	815.5	-	-	1,848.2	(129.3)	(129.3)	60
Purchase Vehicles and Aerial Devices - Various Sites	382.5	(87.9)	172.7	84.8	-	555.2	470.4	135.3	-	-	605.7	50.5	50.5	
Total Transportation	**1,825.8**	**322.7**	**2,708.3**	**3,031.0**	**398.8**	**4,932.9**	**1,503.1**	**2,226.6**	**398.8**	**725.6**	**4,854.1**	**(78.8)**	**(804.4)**	

Administrative	Capital Budget						Actual Expenditure and Forecast							
	2016	Carryover 2016	Original 2017	Revised 2017	2018 and Beyond	Total	2016	2017	Beyond	Carryovers to 2018	Total	Project Variance	Annual Variance	Notes
2017 Projects														
Remove Safety Hazards - Various Sites	-	-	198.6	198.6	-	198.6	-	185.9	-	-	185.9	(12.7)	(12.7)	
Replace Roof - Hydro Place	-	-	923.4	923.4	-	923.4	-	503.5	-	-	503.5	(419.9)	(419.9)	61
Purchase Tools and Equipment less than $50,000	-	-	83.6	83.6	-	83.6	-	42.0	-	-	42.0	(41.6)	(41.6)	
2016 Projects														
Replace Air Conditioning Units 8 and 14 - Hydro Place	34.6	3.6	229.5	233.1	-	264.1	31.0	213.6	-	19.5	264.1	(0.0)	(19.5)	
Total Administrative	**34.6**	**3.6**	**1,435.1**	**1,438.7**	**-**	**1,469.7**	**31.0**	**945.0**	**-**	**19.5**	**995.5**	**(474.2)**	**(493.7)**	

Table 16: 2017 Capital Expenditures – Allowance for Unforeseen Items, Supplemental Capital Projects, and Projects less than $50,000

Allowance For Unforeseen	Capital Budget								Actual Expenditure and Forecast									
	A			B	C	D	E	F (A+C+E)	G			H	I	J	K (G+H+I+J)	K-F	H-D	
	2014	2015	2016	Carryover 2016	Original 2017	Revised 2017	2018 and Beyond	Total	2014	2015	2016	2017	2018 and Beyond	Carryover to 2018	Total	Project Variance	Annual Variance	Notes
2017 Projects																		
Contingency Fund	-	-	-	-	1,000.0	1,000.0	-	1,000.0	-	-	-	-	-	-	-	(1,000.0)	(1,000.0)	
Transmission Line Emergency Refurbishments	-	-	-	-	-	-	-	-	-	-	-	506.2	-	-	506.2	506.2	506.2	
Holyrood Unit 2 Fire Damage Rehabilitation	-	-	-	-	-	-	-	-	-	-	-	540.8	-	-	540.8	540.8	540.8	
Allowance for Unforeseen Top Up P.U. No. 15 (2017)	-	-	-	-	500.0	500.0	-	500.0				-	-	-	-	(500.0)	(500.0)	
Contingency Top Up	-	-	-	-	540.0	540.0	-	540.0				-	-	-	-	(540.0)	(540.0)	
Emergency Repairs Penstock #1 - Bay d'Espoir	-	-	-	-	-	-	-	-				4,598.8	-	-	4,598.8	4,598.8	4,598.8	
Total Allowance For Unforeseen	**-**	**-**	**-**	**-**	**2,040.0**	**2,040.0**	**-**	**2,040**	**-**	**-**	**-**	**5,645.8**	**-**	**-**	**5,645.8**	**3,605.8**	**3,605.8**	**62**

Supplemental Projects	Capital Budget								Actual Expenditure and Forecast									
	2014	2015	2016	Carryover 2016	Original 2017	Revised 2017	2018 and Beyond	Total	2014	2015	2016	2017	2018 and Beyond	Carryover to 2018	Total	Project Variance	Annual Variance	Notes
2017 Projects																		
Additions for Load Growth - Bottom Waters	-	-	-	-	3,045.0	3,045.0	-	3,045.0	-	-	-	3,024.8	-	-	3,024.8	(20.2)	(20.2)	
Acquisition of two 230 kV Transmission Lines - Labrador West	-	-	-	-	3,168.9	3,168.9	-	3,168.9	-	-	-	2,913.1	-	-	2,913.1	(255.8)	(255.8)	
Unit 3 Turbine Rehabilitation - Bay d'Espoir	-	-	-	-	2,361.5	2,361.5	-	2,361.5	-	-	-	1,905.4	-	-	1,905.4	(456.1)	(456.1)	63
Exciter Controls Replacement - Holyrood	-	-	-	-	1,349.2	1,349.2	-	1,349.2	-	-	-	1,339.9	-	-	1,339.9	(9.3)	(9.3)	
Terminal Station Upgrades - Wabush	-	-	-	-	2,585.2	2,585.2	327.3	2,912.5	-	-	-	940.7	327.3	1,644.5	2,912.5	(0.0)	(1,644.5)	64
Penstock #2 Refurbishment - Bay d'Espoir	-	-	-	-	9,063.7	9,063.7	-	9,063.7	-	-	-	3,586.3	-	-	3,586.3	(5,477.4)	(5,477.4)	65
Reliability Improvements - Holyrood	-	-	-	-	2,610.0	2,610.0	-	2,610.0	-	-	-	3,586.6	-	16.7	3,603.3	993.3	976.6	66
Repair and Advanced Overhaul of the Happy Valley Gas Turbine	-	-	-	-	3,714.8	3,714.8	-	3,714.8	-	-	-	2,049.3	-	-	2,049.3	(1,665.5)	(1,665.5)	67
2016 Projects																		
Purchase of 12 MW Diesel Generation - Holyrood	-	-	4,700.0	916.0	-	916.0	-	4,700.0	-	-	3,784.0	497.1	-	418.9	4,700.0	(0.0)	(418.9)	68
TL 227 Distribution Line Sally's Cove L1	-	-	717.0	530.7	1,533.0	2,063.7	-	2,250.0	-	-	186.3	1,708.2	-	-	1,894.5	(355.5)	(355.5)	69
Refurbish Gas Generator Engines - Hardwoods and Stephenville	-	-	3,047.1	508.4	-	508.4	-	3,047.1	-	-	2,538.7	429.6	-	-	2,968.3	(78.8)	(78.8)	
2014 Projects																		
Labrador West Transmission Project - Construction Phase[1]	37,484.2	163,145.3	128,962.6	-	-	-	-	329,592.1	10,996.0	628.0	752.8	517.8	-	-	12,894.6	(316,697.5)	517.8	70
Total Supplemental Projects Approved by PUB	**37,484.2**	**163,145.3**	**137,426.7**	**1,955.1**	**29,431**	**31,386.4**	**327.3**	**367,814.8**	**10,996.0**	**628.0**	**7,261.8**	**22,498.8**	**327.3**	**2,080.1**	**43,792.0**	**(324,022.8)**	**(8,887.6)**	

Projects Less than $50,000	Capital Budget								Actual Expenditure and Forecast									
	2014	2015	2016	Carryover 2016	Original 2017	Revised 2017	2018 and Beyond	Total	2014	2015	2016	2017	2018 and Beyond	Carryover to 2018	Total	Project Variance	Annual Variance	Notes
2017 Projects																		
Three Phase Construction - Bishop's Falls	-	-	-	-	49.6	49.6	-	49.6	-	-	-	43.2	-	-	43.2	(6.4)	(6.4)	
Tools Procurement - Hardwoods and Stephenville Gas Turbine	-	-	-	-	47.2	47.2	-	47.2	-	-	-	35.5	-	-	35.5	(11.7)	(11.7)	
Replace Powerhouse #2 Lighting - Bay d'Espoir	-	-	-	-	48.0	48.0	-	48.0	-	-	-	46.1	-	-	46.1	(1.9)	(1.9)	
Replace Powerhouse Lighting - Paradise River	-	-	-	-	43.9	43.9	-	43.9	-	-	-	36.2	-	-	36.2	(7.7)	(7.7)	
Domestic Waterline Replacement - Holyrood	-	-	-	-	49.6	49.6	-	49.6	-	-	-	56.9	-	-	56.9	7.3	7.3	
Stage 1 Pumphouse Siding Replacement - Holyrood	-	-	-	-	49.9	49.9	-	49.9	-	-	-	51.9	-	-	51.9	2.0	2.0	
Line Replacement and New Valve - Holyrood	-	-	-	-	49.9	49.9	-	49.9	-	-	-	50.3	-	-	50.3	0.4	0.4	
Construct Smoking Shelter and Security Fence - Hydro Place	-	-	-	-	20.4	20.4	-	20.4	-	-	-	13.8	-	-	13.8	(6.6)	(6.6)	
Replace Generator Bearing Coolers - Upper Salmon	-	-	-	-	48.7	48.7	-	48.7	-	-	-	46.2	-	-	46.2	(2.5)	(2.5)	
Purchase 10 Aclara KV2C and Meters	-	-	-	-	49.9	49.9	-	49.9	-	-	-	40.1	-	-	40.1	(9.8)	(9.8)	
Replace Tracks for V7601 Groomer - Bay d'Espoir	-	-	-	-	1.0	1.0	43.7	44.7	-	-	-	-	43.7	1.0	44.7	-	(1.0)	
PA System Repairs - Holyrood	-	-	-	-	49.9	49.9	-	49.9				54.1	-	-	54.1	4.2	4.2	
2016 Projects																		
Replace Radiator Unit 2029 Makkovik	-	-	49.0	21.5	-	21.5	-	49.0	-	-	27.5	27.6	-	-	55.1	6.1	6.1	
Total Projects Less than $50,000	**-**	**-**	**49.0**	**21.5**	**508.0**	**529.5**	**43.7**	**600.7**	**-**	**-**	**27.5**	**501.8**	**43.7**	**1.0**	**574.0**	**(26.7)**	**(27.7)**	

[1] The construction of the Labrador West Transmission was approved by OC2014-033, February 2, 2014. The capital expenditures associated with this project are included in Work In Progress and as a result are currently excluded from average rate base. The costs to be included in rate base will be subject to review by the Board of Commissioners of Public Utilities.

4.0 Variance Explanations (Greater than $100,000 and 10% Variance from Budget)

The projects discussed in the following section have 2017 variances (project total or annual as indicated) of more than 10% and $100,000 when comparing the approved budget to the 2017 expenditures, whether it is a single year project or a multiyear project. The projects are ordered and numbered based upon the order and number they appear in the preceding set of tables.

4.1 Hydraulic Generation Projects

1. ***Install Asset Health Monitoring System – Upper Salmon***

Annual Variance ($000)

Budget: 438.0 Expenditures: 214.9 Variance: (223.1)

This is a two-year project (2017-2018) that commenced in 2017. The 2017 construction activities were estimated based on construction executed by a contractor. Hydro was able to leverage an opportunity to execute the activities using internal operations and maintenance resources, resulting in a first year expenditure less than budgeted. The planned scope of work for 2017 is complete. The project remains on schedule with no change to the overall budget, scope or completion date.

2. ***Refurbish Main Generator Breaker – Upper Salmon***

Annual Variance ($000)

Budget: 271.1 Expenditures: 123.2 Variance: (147.9)

This is a one-year project that commenced in 2017 and carried over to 2018. The variance in 2017 expenditure is attributed to rescheduling the construction activity from 2017 to 2018. The rescheduling of the work was necessary when the generation unit outage was advanced from the planned outage in October 2017 to a new outage window in August 2017 due to a change in the overall generation outage schedule. The work on the unit breaker can only be completed during a generating unit outage

and the parts required for the work were not available for the advanced outage date. There is no change to the overall project scope or budget.

3. ***<u>Refurbish Powerhouse Station Services – Bay d'Espoir</u>***

Annual Variance ($000)

Budget: 413.2 Expenditures: 43.0 Variance (370.2)

This is a three-year project (2017-2019) that commenced in 2017. Engineering commenced in late 2017 and the project schedule is expected to recover in 2018. There is no change to the overall project scope, budget or completion date.

4. ***<u>Upgrade Public Safety around Dams and Waterways – Bay d'Espoir</u>***

Project Variance ($000)

Budget: 489.0 Expenditures: 355.5 Variance: (133.5)

This was a one-year project (2017) that is part of an ongoing program to U*pgrade Public Safety around Dams and Waterways*. The construction activity for this project was planned for construction by internal operations and maintenance resources. A portion of the 2017 construction was incomplete due to operations and maintenance resources being re-deployed to address higher priority work including emergency work associated with leakage on Bay d'Espoir Penstock 1. As this is an ongoing program, the 2017 project was closed and the incomplete scope will be completed in 2018 as part of the next *Upgrade Public Safety around Dams and Waterways Project*.

5. ***<u>Purchase Capital Spares – Hydraulic</u>***

Annual Variance ($000)

Budget: 487.4 Expenditures: 325.2 Variance: (162.2)

Project Variance ($000)

Budget: 487.4 Expenditures & Forecast: 687.4 Variance: 200.0

This is a one-year project that commenced in 2017 and carried over to 2018. Some of the capital spares components that were ordered in 2017 did not arrive by year end. Spare excitation transformers for Hinds Lake and Bay d'Espoir Unit 7 arrived in January 2018 following weather delays during transportation. Spare exciter slip rings for Hinds Lake are being procured from the original equipment manufacturer with a longer lead time than originally anticipated. The slip rings have been ordered with an expected delivery in May 2018.

In 2017, Hydro experienced failures of generator bearing coolers in Hinds Lake, and determined that spare coolers were required in the event of additional failures in the 2017-2018 winter season. A spare set of coolers were ordered under this project and received in 2017.

The annual variance in 2017 expenditure is attributed to the delay in delivery from 2017 to 2018 of the transformers and slip rings, partially off-set by the procurement of coolers for Hinds Lake. The forecasted variance in total project expenditure is attributed to the addition of the Hinds Lake coolers to the project scope.

6. ***Replace Slip Rings Units 1-6 – Bay d'Espoir***

Annual Variance ($000)

Budget: 312.6 Expenditures: 102.4 Variance: (210.2)

This is a two-year project (2017-2018) that commenced in 2017. The original project cash flow assumed that the procurement cost to acquire the slip rings would be incurred in 2017. As the slip rings are in inventory, the new slip rings will be sourced from inventory when required in 2018, at which time the cost will be assigned to the capital project. There is no change to the overall project scope, budget or schedule.

7. ***Install Wind Monitoring Station North Salmon Dam SD-2 – Bay d'Espoir***

Annual Variance ($000)

Budget: 165.5 Expenditures: 52.3 Variance: (113.2)

This is a one-year project that commenced in 2017 and carried over to 2018. This work was planned for construction by internal operations and maintenance resources late in 2017, following the resource intense outage maintenance season. The work was then delayed due to operations and maintenance resources being re-deployed to address higher priority work including emergency work associated with leakage on Bay d'Espoir Penstock 1. The work has been rescheduled for completion in early 2018 when internal resources are expected to be available. All materials have been procured and are located at North Salmon. There is no change to overall project scope or budget.

8. ***Control Structure Refurbishments***

Annual Variance ($000)

Budget: 1,735.3 Expenditures: 991.4 Variance: (743.9)

This is a two-year project that commenced in 2017. The assignment of critical supplemental capital projects to the project team resulted in adjustments being

required in engineering design and material procurement originally planned for 2017. The project schedule is expected to recover in 2018. There is no change to the overall project scope, budget or completion date.

9. ***<u>Install Hydrometeorological Equipment – Various Sites</u>***

Project Variance ($000)

Budget: 314.1 Expenditures: 183.3 Variance: (130.8)

This is a one-year project that commenced in 2016, and was carried over and completed in 2017. The variance in overall project expenditures is attributed to lower than estimated construction costs.

10. ***<u>Upgrade Work – Cat Arm</u>***

Annual Variance ($000)

Budget: 1,670.9 Expenditures: 760.6 Variance: (910.3)

This is a two-year project (2016-2017) that commenced in 2016 and carried over to 2018. The carryover is attributed to a delay in procurement of deflector servomotors and a delay in the construction for the spherical controls upgrades. The deflector servomotors were planned to be ordered from the original equipment manufacturer. Prior to placing the order, Hydro tested the original equipment manufacturer's design and deemed it to be unsatisfactory; a new design is required. A new servomotor has been designed and manufactured and is ready for installation in 2018. The spherical valve controls upgrade was scheduled for construction in the fall of 2017. Due to contractor material delivery issues for the valve controls upgrade, the risk of starting installation of the spherical valve controls without the necessary materials on site was assessed and determined to be too high. The work has been rescheduled to 2018. There is no change to overall project scope or budget.

11. ***<u>Rehabilitate Shoreline Protection – Cat Arm</u>***

Annual Variance ($000)

Budget: 1,038.2 Expenditures: 61.0 Variance: (977.2)

This is a two-year project (2016-2017) that commenced in 2016 and carried over to 2018. Failures in the mountain slope in the area sent large boulders directly into the proposed shoreline construction site. A consultant was engaged to develop a plan to mitigate the safety risk of further rock fall during construction. Hydro is evaluating the safety risk and the impact that it may have on the project, and has therefore carried the project over to 2018 to allow for time to complete this evaluation. The project cost and schedule is also being assessed in light of the requirement for safety risk mitigation.

12. ***<u>Replace Site Facilities – Bay d'Espoir</u>***

Annual Variance ($000)

Budget: 5,394.2 Expenditures: 2,231.6 Variance: (3,162.6)

This is a three-year project (2016-2018) that commenced in 2016. The variance in 2017 expenditure can be attributed to the late delivery of structural steel, which delayed portions of the schedule by over a month, delaying some steel installation and subsequent construction tasks into 2018. The contractor has committed extra resources in the first quarter of 2018 to recover the schedule. There is no change to the overall project budget, scope or completion date.

13. ***Replace PH1 Station Service Transformer – Bay d'Espoir***

Project Variance ($000)

Budget: 401.2 Expenditures: 533.1 Variance: 131.9

This was a two-year project (2016-2017) that commenced in 2016 and was completed in 2017. The variance in overall project expenditures is attributed to the publically tendered construction cost being higher than originally estimated.

14. ***Replace Spherical By-Pass Valves Units 1 and 2 – Bay d'Espoir***

Annual Variance ($000)

Budget: 196.7 Expenditures: 51.8 Variance: (144.9)

This is a two-year project (2016-2017) that commenced in 2016 and carried over to 2018. Project construction requires an outage of Bay d'Espoir Penstock 1, and, when this project was proposed in the *2016 Capital Budget Application*, was planned to coincide with the project to refurbish Surge Tank 1, which, at the time, was also planned for 2017, and which also requires an outage to Penstock 1. Given that the execution plan for Surge Tank 1 was changed to 2018, construction for the spherical valve by-pass valves has therefore been rescheduled to 2018 for execution in conjunction with the *2018 Surge Tank 1 Project*. There is no change to the overall project budget or scope.

15. ***Overhaul Turbine/Generator Units #6 and #7 – Bay d'Espoir***

Project Variance ($000)

Budget: 1,345.6 Expenditures: 609.8 Variance: (735.8)

This was a one-year project (2016) and due to unresolved contract terms with the original equipment manufacturer, and schedule conflicts with other on-going work, it was decided to limit part of the rotor scope for Unit 7 that was included in the whole project. The Unit 7 rotor scope was to address unacceptable vibration levels and was

limited to design only, with construction deferred until 2017. The generator bearing was replaced during the outage and resulted in a significant improvement to the operating vibration levels. Based on this improved performance, it was decided to cancel the remaining rotor scope instead of deferring it to 2017 in order to provide a timeframe to assess the long term performance of the generator with the new bearing. Throughout 2017 Unit 7 has had acceptable vibration levels. Approximately $60,000 of the project funds was carried from 2016 to 2017 to allow time for the old generator bearing to be refurbished and returned as a capital critical spare. This work was completed in 2017, and this project is now closed.

16. ***<u>Replace Pump House and Associated Equipment – Bay d'Espoir</u>***

Annual Variance ($000)

Budget: 279.6 Expenditures: 26.0 Variance: (253.6)

This is a two-year project (2015-2016) that commenced in 2015 and is a carryover to 2017/2018. The total carryover budget was assigned to 2017 resulting in the variance in 2017.

The overall project cost for this project remains a concern. Engineering work commenced in 2016, and the construction was tendered but not awarded in 2016, since tendered prices were significantly higher than the budget. The project was carried over to reassess the execution and determine if any savings could be realized in pairing this project with the construction of the *Replace Site Facilities Project* in Bay d'Espoir. It was determined in 2017 that significant savings could not be realized. Furthermore, following Hurricane Matthew in October 2016, Hydro completed a flood study of this area in 2017, and those results may further increase the project scope and cost. Hydro is evaluating next steps for this project prior to proceeding.

4.2 Thermal Generation Projects

17. ***<u>Condition Assessment and Miscellaneous Upgrades – Holyrood</u>***

Project Variance ($000)

Budget: 2,437.3 Expenditures: 3,058.1 Variance: 620.8

This was a one-year project completed in 2017. The variance in expenditure is attributed to the requirement for additional work identified during the discovery phase of the project. The extent of testing required to accurately track degradation of the high energy piping due to flow accelerated corrosion was more than originally anticipated. In addition, the number of expansion joints requiring replacement increased for Units 1 and 2, due to the identification of additional leaks.

During the condition assessment of the boiler feedwater piping, it was determined that some piping components required immediate replacement prior to returning to service. This scope was completed as part of this project. In 2018, this type of replacement due to failure will be covered in the Thermal In-service Failures project.

18. ***<u>Upgrade Holyrood Access Road – Holyrood</u>***

Project Variance ($000)

Budget: 1,162.7 Expenditures: 825.7 Variance: (337.0)

This was a two-year project (2017-2018) that commenced in 2017 and was completed in 2017. Hydro tendered the construction work with optional pricing to complete all of the construction in the first year. The optional pricing was favorable and Hydro proceeded to complete the project in 2017. The variance in project expenditures is attributed to lower than estimated contract pricing as well as savings associated with completing the project in a single year.

19. ***Upgrade Underground Plant Drainage System – Holyrood***

Annual Variance ($000)

Budget: 923.1 Expenditures: 1,825.2 Variance: 902.1

Project Variance ($000)

Budget: 923.1 Expenditures and Forecast: 1,814.5 Variance: 891.4

This is a one-year project that commenced in 2017 and carried over to 2018. The project is substantially complete and in service. It was determined during construction that one section of piping planned to be replaced during a generating unit outage in 2017 could only be completed during a total plant outage. This portion of the project construction has been rescheduled to the next available total plant outage in 2018.

The variance in annual expenditures, and forecasted variance in total project expenditures, is attributed to the requirement to replace more piping that originally estimated (due to further deterioration of the piping from the time of the budget proposal), higher than expected contract tender prices, and the requirement for asbestos removal, which was not included in the original estimate.

20. ***Upgrade Powerhouse Building Envelope – Holyrood***

Annual Variance ($000)

Budget: 3,453.8 Expenditures: 2,378.2 Variance: (1,075.6)

This is a three-year project (2016-2018) that commenced in 2016. As part of a construction safety risk review, it was determined that the roof and siding work in the vicinity of the unit transformers could only be safely completed during a total plant outage, and not concurrently. Priority was placed on completing the roofing in 2017 and the siding installation was rescheduled to the total plant outage in 2018. There is no change to the overall project scope, budget or completion date.

4.3 Gas Turbine Generation Projects

21. ***<u>Gas Turbine Life Extension – Stephenville</u>***

Annual Variance ($000)

Budget: 847.5 Expenditures: 342.2 Variance: (505.3)

Project Variance ($000)

Budget: 1,353.2 Expenditures & Forecast: 872.0 Variance: (481.2)

This is a two-year project (2017-2018) that commenced in 2017. The variance in 2017 expenditures, and forecast variance in total project expenditures, is attributed to the removal of a portion of the project scope. As a result of the uncertainty around the longer term requirements of the Hardwoods and Stephenville gas turbines, Hydro continues to assess any proposed capital expenditures for these units. As a result of a comprehensive review of the project scope prior to project execution, Hydro removed from the scope the installation of closed circuit television cameras, and planned instrumentation upgrades were revised to include only those requiring immediate replacement, based on function testing and evaluation results. Project scope pertaining to the replacement of lube oil and fuel filters will be reviewed in 2018. There is no change to the overall project schedule.

22. ***<u>Gas Turbine Life Extension – Hardwoods</u>***

Annual Variance ($000)

Budget: 675.3 Expenditures: 273.6 Variance: (401.7)

Project Variance ($000)

Budget: 956.7 Expenditures & Forecast: 583.3 Variance: (373.4)

This is a two-year project (2017-2018) that commenced in 2017. The variance in 2017 expenditures, and forecast variance in total project expenditures, is attributed to the removal of a portion of the project scope. As a result of the uncertainty around the

longer term requirements of the Hardwoods and Stephenville gas turbines, Hydro continues to assess any proposed capital expenditures for these units. As a result of a comprehensive review of the project scope prior to project execution, Hydro removed from the scope the installation of closed circuit television cameras, and planned instrumentation upgrades were revised to include only those requiring immediate replacement, based on function testing and evaluation results. Project scope pertaining to the replacement of lube oil and fuel filters will be reviewed in 2018. There is no change to the overall project schedule.

4.4 Terminal Stations Projects

23. ***<u>Upgrade Corner Brook Frequency Converter – Corner Brook</u>***

Annual Variance ($000)

Budget: 194.6 Expenditures: 42.2 Variance: (152.4)

This is a two-year project (2017-2018) that commenced in 2017 and was placed on hold to confirm alignment with the customer. Activity in 2017 was limited to the level of engineering required for successful execution in 2018, should the project proceed. There is no change to the overall project scope, budget, or schedule.

24. ***<u>Replace Substation – Holyrood</u>***

Annual Variance ($000)

Budget: 439.4 Expenditures: 115.4 Variance: (324.0)

This is a two-year project (2017-2018) that commenced in 2017. The variance in 2017 expenditure is attributed to the rescheduling of civil construction to 2018. It was identified during planning that it would be more effective to execute the civil work in conjunction with the electrical work. There is no change to the overall project scope, budget or completion date.

25. ***Replace Power Transformers – Oxen Pond***

Annual Variance ($000)

Budget: 297.5 Expenditures: 109.1 Variance: (188.4)

This is a two-year project (2017-2018) that commenced in 2017. The variance in 2017 expenditures is attributed to a rescheduling of some of the engineering and procurement activity from 2017 to early 2018. This delay is not expected to impact the project construction schedule. There is no change to the overall project scope, budget or completion date.

26. ***Terminal Station In-Service Failures – Various Sites***

Project Variance ($000)

Budget: 1,000.0 Expenditures: 1,437.2 Variance: 437.2

This was a one-year project completed in 2017. The 2017 project variance is attributed to the actual number of failures incurred. A detailed list of work executed under this project is found in Section 8.0 of this report.

27. ***Upgrade Aluminum Support Structures – Holyrood***

Project Variance ($000)

Budget: 352.9 Expenditures: 190.8 Variance: (162.1)

This was a one-year project completed in 2017. The variance in project expenditures is attributed to cost savings measures determined during project planning and engineering. Existing temporary support structures were able to be used during construction of the permanent support structures, eliminating the need to fabricate additional temporary support structures. The project was executed in parallel with the *Terminal Station Refurbishment and Modernization Project*, allowing Hydro to realize efficiencies for engineering, procurement and construction effort.

28. ***<u>Terminal Station Refurbishment and Modernization – Various Sites</u>***

Annual Variance ($000)

Budget: 10,831.3 Expenditures: 5,852.1 Variance: (4,979.2)

This is a two-year project (2017-2018) that commenced in 2017 and includes a number of consolidated program-type terminal station projects. The variance in 2017 expenditure is primarily associated with the capital programs for power transformers, instrument transformers, disconnect switches and grounding systems, and is primarily attributed to the cancellation or rescheduling of various project scope items due to new condition information, changing priorities for system reliability, and balancing of the overall work plan. Items removed from the project scope due to newly acquired condition assessment information indicating that the work was not immediately required include: St. Anthony Airport transformer T1 bushing replacement, and Buchans transformer T1 leak repair. Items rescheduled to 2018 due to reassessment and modification of priority level include: procurement of Holyrood transformer T3 coolers, replacement of Bay d'Espoir transformer T1 radiators, Stony Brook transformer T2 tap changer overhaul, Holyrood transformer T6 oil refurbishment, procurement of various disconnect switches and instrument transformers, and engineering for grounding upgrades.

29. ***<u>Upgrade Circuit Breakers – Various Sites (2016-2020)</u>***

Annual Variance ($000)

Budget: 12,178.3 Expenditures: 8,877.8 Variance: (3,300.5)

This is a five-year project (2016-2020) that commenced in 2016. The variance in 2017 expenditures is attributed to changes in the timing of several breaker upgrades reflecting changes in priorities since the plan was established and requirements to balance the overall work plan. A significant year of activity in terminal stations for other critical projects, including the terminal station work related to the construction of the new transmission line from Western Avalon to Bay d'Espoir (TL 267),

contributed to the rescheduling of scope for this project to future years. Breakers deferred to future years include two at Bay d'Espoir (B3B4 and B2B3) and one at Massey Drive (B1L28). There are no changes to the overall project scope, budget or completion date.

30. ***<u>Replace Protective Relays – Various Sites</u>***

Annual Variance ($000)

Budget: 431.2 Expenditures: 1,134.5 Variance: 703.3

Project Variance ($000)

Budget: 1,857.0 Expenditures & Forecast: 2,827.8 Variance: 970.8

This is a two-year project (2016-2017) that commenced in 2016 and carried over to 2018 for a portion of the work.

The carryover is attributed to changes in the timing of protective relay replacements at Holyrood and Bay d'Espoir reflecting changes in priorities since the plan was established and requirements to balance the overall work plan. A significant year of activity in terminal stations for other critical projects, including the terminal station aspects of the construction of the new transmission line from Western Avalon to Bay d'Espoir (TL 267), contributed to the rescheduling of scope for this project to future years. Work deferred to 2018 includes protective relay upgrades for Bay d'Espoir Transformer T6 and Generating Unit G6, line protection upgrade for Holyrood 39L, and protection upgrade for Holyrood Transformer T5.

The variance in 2017 expenditures, and forecast variance in total project expenditure, is attributed to higher than estimated engineering, procurement and construction cost. During the design phase of the project, Hydro's design standard for protective relays was revised. The changes to the standard were made to address lessons learned from system events. The updated standard significantly impacted the

overall design for these protection systems. This increased the engineering design effort on this project and resulted in increased procurement and construction costs due to the requirement for additional components to adhere to the new standard.

31. ***<u>Replace Disconnect Switches – Various Sites (2016-2017)</u>***

Annual Variance ($000)

Budget: 1,836.1 Expenditures: 1,064.9 Variance: (771.2)

This is a two-year project (2016-2017) that commenced in 2016 and carried over to 2018. The installation and commissioning for four of sixteen disconnect switches was carried over for completion in 2018. Due to a review of workload for internal construction resources and the demands on internal resources, the construction work for two disconnect switches in Bay d'Espoir (B1B2-1 and B3B4-1) and one disconnect switch in Sunnyside (B1L02-2/L02G) was scheduled to 2018. A significant year of activity in terminal stations for other critical projects, including the construction of the new transmission line from Western Avalon to Bay d'Espoir (TL 267), contributed to the rescheduling of this scope. A fourth disconnect switch in Churchill Falls (L13G) could not be completed in 2017 due to operational issues with the Happy Valley Gas Turbine, and this work has also been rescheduled to 2018. The variance in 2017 expenditure is attributed to rescheduling of the construction activity for those four disconnect switches. There is no change to the overall project scope or budget.

32. ***<u>Upgrade Data Alarm Systems – Various Sites</u>***

Annual Variance ($000)

Budget: 258.8 Expenditures: 116.0 Variance: (142.8)

This is a two-year project (2016-2017) that commenced in 2016 and carried over to 2018. The variance in 2017 expenditure is attributed to rescheduling some of the construction activity from 2017 to 2018. Due to a review of workload for internal

construction resources and the demands on protection and control resources, the construction work for most of the data alarm system upgrade activity was rescheduled to 2018. A significant year of activity in terminal stations for other critical projects, including the construction of the new transmission line from Western Avalon to Bay d'Espoir (TL 267), contributed to the rescheduling of scope for this project. There is no change to the overall project scope or budget.

33. ***<u>Install Breaker Failure Protection – Various Sites</u>***

Annual Variance ($000)

Budget: 195.2 Expenditures: 382.4 Variance: 187.2

Project Variance ($000)

Budget: 277.0 Expenditures & Forecast: 486.4 Variance: 209.4

This is a two-year project (2016-2017) that commenced in 2016 and carried over to 2018. Due to a review of workload for internal construction resources and the demands on protection and control resources, some of the construction work for the breaker failure protection installations has been rescheduled to 2018. A significant year of activity in terminal stations for other critical projects, including the construction of the new transmission line from Western Avalon to Bay d'Espoir (TL 267), contributed to the rescheduling of scope for this project to 2018.

The variance in 2017 expenditures, and forecast variance in total project expenditure, is attributed to higher than estimated engineering, procurement and construction cost. During the design phase of the project, Hydro's design standard for breaker failure protection was revised. The changes to the standard were made to address lessons learned from system events. The updated standard significantly impacted the overall design for breaker failure protection. This increased the engineering design effort on this project and resulted in increased procurement and construction costs due to the requirement for additional components to adhere to the new standard.

34. ***Install Fire Protection in 230 kV Stations – Bay d'Espoir***

Annual Variance ($000)

Budget: 674.6 Expenditures: 100.7 Variance: (573.9)

Project Variance ($000)

Budget: 766.0 Expenditures & Forecast: 873.8 Variance: 107.8

This is a two-year project (2016-2017) that commenced in 2016 and carried over to 2018. The carryover and the variance in 2017 expenditures are attributed to a rescheduling of the construction into 2018. This project is to construct a new fire protection system to protect the Bay d'Espoir Terminal Station 2 Control Building. That building was modified in 2017 as part of the separate project to construct a transmission line from Bay d'Espoir to Western Avalon (TL 267). Modifications included a building extension and new ventilation equipment, which impact the design of the fire protection system. It was therefore logical to delay the fire protection engineering and construction until the building modifications were complete. The building modifications were completed in 2017 and the fire protection project is on track for construction in 2018. The forecasted variance in overall project expenditures is attributed to the fire protection system design changes to incorporate protection of the extension to the building.

4.5 Transmission Projects

35. ***Transmission Line Upgrades – TL 212 and TL 218***

Annual Variance ($000)

Budget: 1,378.2 Expenditures: 287.1 Variance: (1,091.1)

This is a two-year project (2017-2018) that commenced in 2017. The variance in 2017 expenditures is attributed to the rescheduling of procurement and construction activities from 2017 to 2018. For TL 212, the work included working within a water body. Once the design was completed and work plans were developed the necessary

environmental permits to backfill the water body around the structure were unable to be obtained in 2017. The permits have been obtained to complete work in 2018. An unanticipated lead time on the delivery of insulator for TL 218 has necessitated rescheduling construction to 2018. There is no change to the overall project scope or budget.

36. ***<u>Replace Insulators – TL 227</u>***

Annual Variance ($000)

Budget: 145.6 Expenditures: 16.7 Variance: (128.9)

This is a two-year project (2017-2018) that commenced in 2017. The variance in 2017 expenditures is attributed to longer than estimated lead time for the insulators, resulting in procurement costs to be incurred in 2018 versus 2017. The longer delivery time does not impact project construction schedules. There is no change to the overall project scope, schedule or budget.

37. ***<u>Wood Pole Line Management Program – Various Sites</u>***

Project Variance ($000)

Budget: 2,404.1 Expenditures: 3,234.6 Variance: 830.5

This was a one-year project completed in 2017. The variance in expenditures is partially attributed to an unforeseen quantity of refurbishment work required on L1301 (TL 240) and TL 232. Critically damaged cross arms and a critical pole were identified during helicopter patrols on L1301, and these items were refurbished when the line was de-energized in November. On TL 232, an unforeseen number of critically deteriorated cross braces were identified and replaced.

38. ***Construct 230 kV Transmission Line – Soldiers Pond to Hardwoods***

Annual Variance ($000)

Budget: 17,687.2 Expenditures: 11,210.6 Variance: (6,476.6)

This is a three-year project (2016-2018) to that commenced in 2016. The variance in 2017 expenditures is attributed to the deferral of some of the work on TL 266 from Soldiers Pond to Hardwoods, to 2018. A portion of the project construction was executed in 2017, including the two kilometer link to Soldiers Pond Terminal Station. The remainder of the work was rescheduled to 2018 in order to allow the contractor to be re-deployed in 2017 to the TL 267 construction effort to reduce risk of schedule slippage on TL 267. The in-service date of TL 266 changed from October 2017 to August 2018. There is no change to the overall project scope or budget.

39. ***Refurbish Anchors and Footings TL 202 and TL 206 - Bay d'Espoir to Sunnyside***

Annual Variance ($000)

Budget: 1,920.3 Expenditures: 90.5 Variance: (1,829.8)

This is a two-year project (2014-2015) that commenced in 2014 and has been carried over again to 2018. Initially carried over to be executed during the construction of TL 267, taking advantage of the access required for TL 267, the project was carried over again to take place after TL 267 was constructed and in service, which now improves the ability to obtain outages while maintaining system reliability, to enable safer anchor replacement during planned outages to TL 202 and TL 206 versus replacing them while the lines are energized. There is no change to the overall project scope or budget.

40. ***<u>230 kV Transmission Line – Bay d'Espoir to Western Avalon (TL 267)</u>***

Annual Variance ($000)

Budget: 176,004.3 Expenditures: 213,663.7 Variance: 37,659.4

This is a five-year project (2014-2018) that commenced in 2014. The variance in 2017 expenditure is attributed to the redistribution of funds from 2018 back to 2017 in the fall of 2017 to take into account the accelerated in-service date and to better reflect when they would be expended, as most work was to be completed in 2017. The contingency funds were utilized in 2017. There is no change to the overall project budget, and the project was energized ahead of schedule. Project close-out will occur in 2018, as planned.

4.6 Distribution Projects

41. ***<u>Provide Service Extensions – All Service Areas – CIAC</u>***

Project Variance ($000)

Budget: (200.0) Expenditures: (323.6) Variance: (123.6)

This is an annual project that tracks the Contributions in Aid of Construction received against the project executed under "*Provide Service Extensions – All Service Areas*". Contributions in Aid of Construction are based on a calculated formula, are highly variable, and depend on the customer requests for electrical service. In 2017 the CIAC amount included $50,000 received for Smokey Mountain Lodge, a project that is planned and approved for 2018, which contributed to a higher than anticipated recovery of CIAC funds in 2017.

42. ***Upgrade Distribution Systems – Various Sites (2016-2017)***

Annual Variance ($000)

Budget: 6,274.1 Expenditures: 5,363.1 Variance: (911.0)

This is a two-year project (2016-2017) that commenced in 2016 and carried over to 2018. Most of the project scope for this project was completed in 2017. This carryover was necessary as the final decision to proceed with work on the existing underground distribution system in Bay d'Espoir was delayed until August 2017, resulting in the materials delivery dates of underground materials moving into 2018. There is no change to the overall project scope or budget.

4.7 Rural Generation Projects

43. ***Overhaul Diesel Engines – Various Sites***

Project Variance ($000)

Budget: 2,095.9 Expenditures: 1,619.8 Variance: (476.1)

This was a one-year project completed in 2017. The project is part of an ongoing program to overhaul diesel engines to sustain reliability of diesel generating plants. Project estimates are based on the projected number of engines that will reach the criteria for overhaul (20,000 hours of operation), and typical extent of refurbishment. The project variance is attributable to less refurbishment than typically required for some of the engines, which was unknown until the engines were disassembled for the overhauls.

44. ***Diesel Plant Engine Auxiliary Upgrades – Various Sites***

Annual Variance ($000)

Budget: 790.6 Expenditures: 644.7 Variance: (145.9)

This is a two-year project (2017-2018) that commenced in 2017. The variance in 2017 expenditures is attributed to a portion of the construction planned for 2017 being

rescheduled to 2018. Construction for McCallum is complete. Significant progress was made in 2017 on construction for Ramea and Francois, but was put on hold to allow construction resources to respond to operational issues at other diesel plants. Recovery of the construction schedule is expected in 2018. There is no change to the overall project scope, budget or completion date.

45. ***Inspect Fuel Storage Tanks – Various Sites***

Project Variance ($000)

Budget: 1,058.8 Expenditures: 717.3 Variance: (341.5)

This was a one-year project completed in 2017. The variance in project expenditures is attributed to requiring less than estimated costs for the engineering and construction contract, as well as unutilized project contingency.

46. ***Diesel Genset Replacements – Port Hope Simpson and Charlottetown***

Annual Variance ($000)

Budget: 658.8 Expenditures: 213.6 Variance: (445.2)

This is a two-year project (2017-2018) that commenced in 2017. The variance in 2017 expenditures is attributed to the electrical, protection and control engineering being delayed from late 2017 to early 2018. The replacement gensets have been ordered and the delay in engineering is not expected to impact the construction schedule. There is no change to the overall project scope, budget or completion date.

47. ***Install Fire Protection Systems – Cartwright and Nain***

Project Variance ($000)

Budget: 4,407.1 Expenditures: 3,652.1 Variance: (755.0)

This was a two-year project (2016-2017) that commenced in 2016 and was completed in 2017. The variance in total project expenditures is attributed to lower than estimated material and installation costs and unutilized project contingency.

48. ***<u>Additions for Load Growth – L'Anse au Loup and Postville</u>***

Project Variance ($000)

Budget: 5,629.4 Expenditures: 4,592.5 Variance: (1,036.9)

This was a two-year project (2016-2017) that commenced in 2016 and was completed in 2017. The variance in total project expenditures is attributed to lower than estimated engineering, procurement and construction costs and unutilized project contingency.

49. ***<u>Replace Programmable Logic Controllers – Various Sites</u>***

Annual Variance ($000)

Budget: 215.3 Expenditures: 410.5 Variance: 195.2

Project Variance ($000)

Budget: 958.0 Expenditures & Forecast: 1,204.7 Variance: 246.7

This is a three-year project (2015-2017) that commenced in 2015 and carried over to 2018. The carryover to 2018 expenditure is attributed to rescheduling the construction activity for Ramea. Replacement of the programmable logic controller at Ramea requires an extended outage to the wind turbines owned by Frontier Energy. Following a review of the construction schedule with Frontier Energy, it was decided to reschedule the work to a non-peak production period in 2018.

Following a review of the existing control systems at St. Anthony Diesel Plant, the replacement of the programmable logic controller for this location was removed from the project scope. It was determined that the existing control systems are significantly different than the other diesel sites and would require substantially more effort to convert. Upgrade of the controls for St. Anthony are included in the scope of a separate 2018-2019 project "*Replace Automation Equipment (2018-2019) – St. Anthony Diesel Plant*", as part of Hydro's *2018 Capital Budget Application.*

The variance in 2017 project expenditures, and the forecasted variance in total project expenditures, is attributed to more engineering and construction effort required compared to the original estimates.

4.8 Properties Projects

50. ***<u>Upgrade Office Facilities and Control Buildings – Various Sites</u>***

Project Variance ($000)

Budget: 2,197.3 Expenditures: 1,815.2 Variance: (382.1)

This was a one-year project completed in 2017. The variance in project expenditures is attributed to unutilized project contingency.

51. ***<u>Line Depot Condition Assessment and Refurbishment Program – Various Sites</u>***

Project Variance ($000)

Budget: 1,458.8 Expenditures: 689.4 Variance: (769.4)

This was a one-year project completed in 2017. The variance in project expenditures is attributed to lower than estimated publicly tendered contract prices for construction.

52. ***<u>Construct New Facilities – Various Sites</u>***

Annual Variance ($000)

Budget: 422.0 Expenditures: 237.8 Variance: (184.2)

This is a two-year project that commenced in 2017. The variance in 2017 expenditures is attributed to a cost savings through the utilization of internal operations and maintenance resources rather than contractors for construction of the Charlottetown storage building. There is no change to the overall project scope, budget or completion date.

53. ***<u>Replace Accommodations and Septic System – Ebbegunbaeg</u>***

Project Variance ($000)

Budget: 1,550.8 Expenditures: 2,043.5 Variance: 492.7

This was a two-year project (2015-2016) that commenced in 2015, carried over to 2017 and was completed in 2017. The variance in project expenditures is attributed to higher than estimated costs for the procurement and installation of the accommodations building, the bridge at Noel Paul's Brook, and access road upgrades, as well as unanticipated upgrades required for the provision of electrical service to the new accommodations. In addition, some of the road upgrades required re-work following road washouts associated with Hurricane Matthew.

4.9 Metering Projects

54. ***<u>Install Automated Meter Reading – Happy Valley (2017-2018)</u>***

Annual Variance ($000)

Budget: 78.6 Expenditures: 183.8 Variance: 105.2

This is a two-year project (2017-2018) that commenced in 2017. The variance in 2017 expenditure is attributed to the advancement of a portion of the construction activity from 2018 into 2017. As a work efficiency opportunity, the installation of automatic meter reading equipment at the Happy Valley Terminal Station was advanced and completed in conjunction with similar work that was being executed for a separate project in the same terminal station. There is no change to the overall project scope, budget or completion date.

55. ***<u>Purchase New Meter Calibration Test Console – Hydro Place</u>***

Annual Variance ($000)

Budget: 196.9 Expenditures: 0.1 Variance: (196.8)

This is a one-year project that commenced in 2017 and carried over to 2018. This carryover is attributed to the calibration test console having a lead time of thirteen

months. The test console has been ordered and is expected to arrive in April 2018. There is no change to the project scope or budget.

56. ***Install Automated Meter Reading – Labrador West***

Annual Variance ($000)

Budget: 836.8 Expenditures: 1,232.8 Variance: 396.0

Project Variance ($000)

Budget: 967.2 Expenditures & Forecast: 1,360.0 Variance: 392.8

This is a two-year project (2016-2017) that commenced in 2016 and carried over into 2018. The new meters have been procured and installed and a portion of the terminal station equipment has been installed. During construction planning, it was determined that additional components were required for the terminal station. These components were ordered and received in 2017, and are scheduled to be installed in early 2018.

The variance in 2017 expenditures, and the forecast variance in total project expenditure, is attributed to the requirement for additional terminal station equipment as well as higher than estimated unit pricing for the new automatic meter readers. An updated project cost estimate and updated assumptions for project benefits were used to reevaluate the project. The updated cost-benefit analysis confirmed that the project remains the least cost alternative versus the status quo.

4.10 Information Systems Projects

There are no reportable variances under Information Systems Projects.

4.11 Tools and Equipment Projects

There are no reportable variances under Tools and Equipment Projects.

4.12 Telecontrol Projects

57. ***Replace Battery Banks and Chargers – Various Sites (2017-2018)***

Annual Variance ($000)

Budget: 379.3 Expenditures: 217.6 Variance: (161.7)

Project Variance ($000)

Budget: 945.5 Expenditures & Forecast: 779.5 Variance: (166.0)

This is a two-year project (2017-2018) that commenced in 2017. The variance in 2017 expenditures, and the forecasted variance in total project expenditures, are attributed to lower than estimated construction and procurement costs. There is no change to the overall project scope or completion date.

58. ***Replace Battery Banks and Chargers – Various Sites***

Project Variance ($000)

Budget: 881.6 Expenditures: 645.3 Variance: (236.3)

This was a two-year project (2016-2017) that commenced in 2016 and was completed in 2017. The variance in total project expenditures is attributed to lower than estimated construction and procurement costs and unutilized project contingency.

4.12 Transportation Projects

59. ***Replace Vehicles and Aerial Devices – Various Sites (2017-2018)***

Annual Variance ($000)

Budget: 2,001.4 Expenditures: 1,275.8 Variance: (725.6)

This is a two-year project (2017-2018) that commenced in 2017. The annual variance in expenditure is attributed to a delivery delay of seven chassis' and booms for crew cab boom trucks ordered for the coast of Labrador Diesel Plants. The original delivery

was scheduled for December 2017 with a new forecasted delivery of late March 2018.

60. ***<u>Replace Vehicles and Aerial Devices – Various Sites (2016-2017)</u>***

Annual Variance ($000)

Budget: 944.8 Expenditures: 815.5 Variance: (129.3)

This is a two year project (2016-2017) that commenced in 2016. The variance in expenditure is attributed to the procurement of an off the lot material handling boom truck, suitable for the purpose for which it was purchased, resulting in a savings of $60,000. Hydro also implemented a specification change by utilizing slide in caps and 3/4 ton double cab pickups versus purchasing 4X4 vans for Protection and Control and Terminal Station Electricians. This change in specification reduced the cost by a total of $70,000 for the purchase of 4 vehicles and caps versus vans.

4.13 Administrative

61. ***<u>Replace Roof – Hydro Place</u>***

Project Variance ($000)

Budget: 923.4 Expenditures: 503.5 Variance: (419.9)

This was a one-year project completed in 2017. The variance in project expenditures is attributed to publicly tendered contractor pricing being less than estimated, and the project contingency not being required. There was no change to the overall project scope.

4.14 Allowance for Unforeseen Items

62. ***<u>Allowance for Unforeseen Items</u>***

Project Variance ($000)

Budget: 2,040 Expenditures: 5,645.8 Variance: 3,605.8

The Allowance for Unforeseen is an annual allotment that permits Hydro to act expeditiously to deal with events affecting the electrical system that cannot wait for specific approval of the Board. Unforeseen expenditures for 2017 under this account include costs associated with emergency structure replacement for Transmission Lines TL 212 and TL 201, Holyrood Unit 2 fire damage refurbishment, and Bay d'Espoir Penstock 1 reinforcement. Two top-up applications were approved by the Board, adding an additional $500,000 and $540,000 respectively. Reports on these items have been filed with the Board.

4.15 Supplemental Projects

63. ***<u>Unit 3 Turbine Rehabilitation – Bay d'Espoir</u>***

Project Variance ($000)

Budget : 2,361.5 Expenditures : 1,905.4 Variance : (456.1)

This was a one-year supplemental project approved and completed in 2017. The variance in project expenditure is attributed to lower than estimated construction contract costs.

64. ***<u>Terminal Station Upgrades – Wabush</u>***

Annual Variance ($000)

Budget : 2,585.2 Expenditures: 940.7 Variance: (1,644.5)

This is a two-year supplemental project (2017-2018) approved in 2017. The 2017 variance is attributed to the rescheduling of a portion of the work to 2018. The scope of this project includes major inspections and replacement of resistive rings on

Synchronous Condensers SC-1 and SC-2. The work was completed on SC-1 but the resistive rings for SC-2 failed the manufacturer's quality control tests and a new set of resistive rings had to be manufactured. The new rings arrived in October 2017, too late in the year to secure the required three-week outage for installation. This work was therefore rescheduled to 2018. The project scope also included the replacement of one 46 kV circuit breaker. The engineering activity was delayed and installation of the breaker has been rescheduled to 2018. There is no change to the overall project scope, budget or completion date.

65. ***<u>Penstock #2 Refurbishment – Bay d'Espoir</u>***

Project Variance ($000)

Budget: 9,063.7 Expenditures: 3,586.3 Variance: (5,477.4)

This was a one-year supplemental project approved and completed in 2017. The variance in project expenditure is attributed to lower than estimated quantity of weld refurbishment. The budget estimate allowed for 920 meters of weld repair, a similar magnitude as was required for refurbishment of Penstock #1 on a previous project. The actual extent of weld refurbishment required could only be determined during the detailed inspection work that was part of this project. Detailed inspection determined that 440 meters of welds required refurbishment.

66. ***<u>Reliability Improvements – Holyrood</u>***

Annual Variance ($000)

Budget: 2,610.0 Expenditures: 3,586.6 Variance: 976.6

Project Variance ($000)

Budget: 2,610.0 Expenditures & Forecast: 3,603.3 Variance: 993.3

This is a one-year supplemental project approved in 2017 and carried over to 2018. The project work is complete with the exception of the replacement of a section of

condenser cooling water piping for Unit 1. This is a large, specially designed section of piping with long delivery time. It was necessary to reschedule this work due to a change in the generation outage schedule, advancing the planned outage for Unit 1 to earlier in 2017, and prior to delivery of the replacement piping. The material is now on site and will be installed during the Unit 1 outage in 2018.

The variance in project expenditure is attributed to five new capital scope items identified during the discovery and execution phases of the project, as summarized in Section 9, Table 21, Items 2 to 6.

67. ***<u>Repair and Advanced Overhaul of the Happy Valley Gas Turbine</u>***

Project Variance ($000)

Budget: 3,714.8 Expenditures: 2,049.3 Variance: (1,665.5)

This was a one-year supplemental project approved and completed in 2017. The variance in project expenditure is attributed to lower than estimated refurbishment costs to overhaul the gas turbine engine. The extent of engine refurbishment could not have been known at the project proposal stage and the initial project budget was based upon a worst case estimate provided by the original equipment manufacturer. Refurbishment scope was fully defined following disassembly and inspection at the repair facility and was less than expected.

68. ***<u>Purchase of 12 MW Diesel Generation – Holyrood</u>***

Annual Variance ($000)

Budget: 916.0 Expenditures: 497.1 Variance: (418.9)

This is a two-year supplemental project 2016-2017) approved in 2016 and carried over to 2018. The carryover and variance in 2017 expenditures is attributed to the change in delivery times of stacks and silencers that are necessary to meet environmental requirements to early 2018. There is no change to the overall project scope or budget.

69. ***<u>Reroute TL 227 and Distribution Line Sally's Cove L1</u>***

Project Variance ($000)

Budget: 2,250.0 Expenditures: 1,894.5 Variance: (355.5)

This is a two-year supplemental project (2016-2017) approved in 2016 and completed in 2017. The variance is attributable to favourable contract construction costs.

70. ***<u>Labrador West Transmission Project – Construction Phase</u>***[1]

Annual Variance ($000)

Budget: - Expenditures: 517.8 Variance: 517.8

Project Variance ($000)

Budget: 329,592.1 Expenditures & Forecast: 12,894.6 Variance: (316,697.5)

In 2014, the provincial Government approved the construction of the third transmission line in Labrador to help supply power for planned new development in Labrador West, such as the *Kami Iron Ore Project*, and improve reliability for all customers in the region. In September 2014, work on the line was temporarily suspended until completion of Alderon's financing plan, which resulted in overall expenditures on the project being lower than budgeted.

In September 2017, Hydro executed a settlement agreement with The Kami Mine Limited Partnership in relation to the outstanding balance. Project costs up to September 2017 were included in the work in progress account, but excluded from average rate base, were $12.4M. Settlement proceeds of $9.5M were received, and the remaining $3.4M was expensed as a loss.

[1] The construction of the Labrador West Transmission was approved by OC2014-033, February 2, 2014. The capital expenditures associated with this project are included in Work In Progress and as a result are currently excluded from average rate base. The costs to be included in rate base will be subject to review by the Board of Commissioners of Public Utilities.

5.0 Capital Budget versus Actual Expenditures 2007 – 2017

Table 17 provides a summary of Hydro's Capital Budget Variances for the years 2007-2017.

Table 17 Capital Budgets/Expenditures 2007-2017

Year	Budget ($000)	Actual Expenditures ($000)	Variance ($000)	Variance (%)
2008	53,579	46,246	7,333	13.7
2009	61,544	54,152	7,392	12.0
2010	63,297	55,553	7,744	12.2
2011	67,454	63,116	4,338	6.4
2012	93,840	77,252	16,588	17.7
2013	116,373	84,755	31,618	27.2
2014	280,601	204,728	75,873	27.0
2015	311,177	125,119	186,058	59.8
2016	350,601	203,941	146,660	41.8
2017	340,501	340,741	240	0.1

The variance in actual expenditures compared to budget in Hydro's overall capital program for 2017 was only 0.1%. It should be noted, however, that TL 267 necessitated moving $38M back from the planned 2018 expenditure, causing an annual overspend for this project alone due to the acceleration of the project from a proposed in-service date of May 2018 to December 2017. The TL 267 project caused some other projects to be carried over to 2018.

The largest contributors of the total annual underspend in 2017 for the other projects were:

- Variance 12 – *Replace Site Facilities – Bay d'Espoir* (-$3.2M)
- Variance 28 – *Terminal Station Refurbishment and Modernization* (-$5.0M)
- Variance 29 – *Upgrade Circuit Breakers* (-$3.3M)
- Variance 38 – *Construction of 230 kV Transmission Line Soldiers Pond to Hardwoods* (-$6.5M)
- Variance 65 – *Penstock 2 Refurbishment – Bay d'Espoir* (-$5.5M)

These 5 projects contributed to $23.5M underspend in 2017, with details regarding each project provided above.

6.0 Carryover Report

Table 18 provides a summary listing of the carryovers from 2010-2017.

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Table 18: 2017 Carryover Report for the Year Ending December 31, 2017 ($000)

Project Name	PUB Approved Budget 2017	Revised Budget 2017	Total Actual Expenditures 2017	Carryover Amount	Original Completion Year
Install Automated Meter Reading - Labrador West	533.4	1,229.6	1,232.8	(3.2)	2017
Refurbish Station Water System - Upper Salmon	197.6	255.9	161.0	94.9	2017
Refurbish Main Generator Breaker - Upper Salmon	271.1	271.1	123.2	147.9	2017
Upgrade Work - Cat Arm	1,353.0	1,670.9	760.6	910.3	2017
Rehabilitate Shoreline Protection - Cat Arm	1,030.7	1,038.2	61.0	977.2	2017
Replace Pump House and Associated Equipment - Bay d'Espoir	-	279.6	26.0	253.6	2017
Replace Spherical By-Pass Valves Units 1 and 2 - Bay d'Espoir	167.9	196.7	51.8	144.9	2017
Purchase Capital Spares - Hydraulic	487.4	687.4	325.2	362.2	2017
Install Wind Monitoring Station North Salmon Dam SD-2 - Bay d'Espoir	165.5	165.5	52.3	113.2	2017
Purchase of 12MW Diesel Generation - Holyrood	-	916.0	497.1	418.9	2017
Refurbish and Replace Critical Systems and Equipment - Holyrood	2,610.0	3,603.3	3,586.6	16.7	2017
Upgrade Underground Plant Drainage System - Holyrood	923.1	1,814.5	1,825.2	(10.7)	2017
Purchase New Meter Calibration Test Console	196.9	212.8	0.1	212.7	2017
Replace Instrument Transformers - Various Sites	471.9	742.9	711.0	31.9	2017
Replace Protective Relays - Various Sites	1,156.4	1,402.0	1,134.5	267.5	2017
Replace Disconnect Switches - Various Sites (2016-2017)	1,320.9	1,836.1	1,064.9	771.2	2017
Upgrade Data Alarm Systems - Stony Brook	234.1	258.8	116.0	142.8	2017
Install Breaker Failure Protection - Various Sites	211.3	404.6	382.4	22.2	2017
Install Fire Protection in 230 kV Stations - Bay d'Espoir	566.0	782.4	100.7	681.7	2017
Upgrade Human Machine Interface - Various Sites	320.0	308.7	235.7	73.0	2017
Refurbish Anchors and Footings TL202 and TL206 - Bay d'Espoir to Sunnyside	901.6	1,920.3	90.5	1,829.8	2017
Upgrade Distribution Systems - Various Sites (2016/2017)	6,350.3	6,274.1	5,363.1	911.0	2017
Replace Programmable Logic Controllers - Various Sites	245.1	462.0	410.5	51.5	2017
Replace Air Conditioning Units 8 and 14 - Hydro Place	229.5	233.1	213.6	19.5	2017
Install Automated Meter Reading - Happy Valley (2017-2018)	78.6	78.6	183.8	(105.2)	2018
Replace Battery Banks and Chargers - Various Sites (2017-2018)	379.3	213.3	217.6	(4.3)	2018
Upgrade Telecontrol Facilities - Mary March Hill and Blue Gras Hill	91.2	91.2	123.3	(32.1)	2018
Replace Tracks for V7601 Groomer - Bay d'Espoir	1.0	1.0	-	1.0	2018
Install Asset Health Monitoring System - Upper Salmon	438.0	438.0	214.9	223.1	2018
Water System Replacements - Bay d'Espoir and Cat Arm	265.5	265.5	176.7	88.8	2018
Replace Site Facilities - Bay d'Espoir	4,736.3	5,394.2	2,231.6	3,162.6	2018
Upgrade Ventilation in Powerhouse 1 and 2 - Bay d'Espoir	134.1	134.1	111.8	22.3	2018
Replace Slip Rings Units 1-6 - Bay d'Espoir	312.6	312.6	102.4	210.2	2018
Refurbish Sump Level System for Powerhouse 2 - Bay d'Espoir	38.7	38.7	10.6	28.1	2018
Control Structure Refurbishments	1,735.3	1,735.3	991.4	743.9	2018
Upgrade Powerhouse Building Envelop - Holyrood	2,969.9	3,453.8	2,378.2	1,075.6	2018
Upgrade Corner Brook Frequency Converter - Corner Brook	194.6	194.6	42.2	152.4	2018
Replace 66 kV Station Service Feed - Holyrood	62.8	62.8	80.7	(17.9)	2018
Replace Substation - Holyrood	439.4	439.4	115.4	324.0	2018
Replace Power Transformers - Oxen Pond	297.5	297.5	109.1	188.4	2018
Gas Turbine Life Extension - Stephenville	847.5	366.3	342.2	24.1	2018
Gas Turbine Life Extension - Hardwoods	675.3	301.9	273.6	28.3	2018
Diesel Plant Engine Auxiliary Upgrades - Various Sites	790.6	790.6	644.7	145.9	2018
Replace Vehicles and Aerial Devices - Various Sites (2017-2018)	2,001.4	2,001.4	1,275.8	725.6	2018
Construct 230kV Transmission Line - Bay D'Espoir to Western Avalon	149,895.7	212,903.7	213,663.7	(760.0)	2018
Construct 230 kV Transmission Line - Soldiers Pond to Hardwoods	17,489.8	11,182.8	11,210.6	(27.8)	2018
Transmission Line Upgrades - TL212 and TL218	1,378.2	1,378.2	287.1	1,091.1	2018
Replace Insulators - TL227	145.6	145.6	16.7	128.9	2018
Distribution Upgrades - Various Sites (2017-2018)	64.2	64.2	78.7	(14.5)	2018
Install Recloser Remote Control - Bottom Waters	47.1	47.1	63.9	(16.8)	2018
Terminal Station Upgrades - Wabush	2,585.2	2,585.2	940.7	1,644.5	2018
Replace Automation Equipment - Mary's Harbour	120.3	120.3	87.4	32.9	2018
Upgrade Microsoft Project - Hydro Place	953.4	980.2	960.1	20.1	2018
Cost Recoveries	(442.2)	(454.5)	(445.5)	(9.0)	2018
Refurbish Powerhouse Station Services - Bay d'Espoir	413.2	413.2	43.0	370.2	2019
Replace Exciter Controls Units 1 to 6 - Bay d'Espoir	119.2	119.2	182.7	(63.5)	2020
Upgrade Circuit Breakers - Various Sites (2016-2020)	10,808.7	12,178.3	8,877.8	3,300.5	2020
Terminal Station Modernization and Upgrade Program	10,831.3	8,508.5	5,852.1	3,138.3	2018
Construct New Facilities	422.0	422.0	237.8	184.2	2018
Diesel Genset Replacements - Charlottetown and Port Hope Simpson	658.8	658.8	213.6	445.2	2018
	231,923.8	**294,830.1**	**270,422.2**	**24,889.8**	

7.0 Safety Hazards

In Board Order No. P.U. 38(2010) of the *2011 Capital Budget Application*, the Board directed Hydro to include an explanation in Hydro's annual report on capital expenditures as to each project that was undertaken for the *Remove Safety Hazards Project*, setting out the safety hazard that was identified, the location, the steps taken to address the issue and the amount of the expenditure. Please see Table 19 for projects undertaken in 2017.

Total Approved Budget: **$198,600**

Total Expenditure: **$185,910**

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Table 19: Safety Hazards

Project Title and Location	Expenditure ($000)	Safety Hazard Identified	Project Scope
Construct Vestibule and Stairwell Approach Walkways *Holyrood Thermal Generating Station*	$119.6	Two hazards were identified at the Holyrood Thermal Generating Station. The first was related to a vacuum effect created by the plant on the laboratory entranceway creating a hazard to personnel either opening or closing the doors. This vacuum effect is also a hazard during emergency evacuation issues when trying to open the doors or a pinch point if a door shut abruptly on a worker. The second hazard is related to the two stairwells that lead to the plant administration level. Access to these areas is not snow cleared or easily identified as there is no defined path to these entrances. The lack of a defined and easily snow cleared walkway could have led to worker injuries due to slips and trips.	To address the hazards, a new vestibule was designed and constructed at the laboratory entrance of the plant to eliminate the vacuum effect on the doors and a new easily identified walkway was installed from the main plant walkway to the south stairwell entrance to reduce plant access hazards. This work scope is complete.
Purchase Hydraulic Pole Key Removal Tool *Bay d'Espoir Hydraulic Generating Station*	$46.0	To remove pole keys from the generators, the powerhouse overhead crane was used along with a clamping device attached to the key. Poles are removed from a unit after a failure and occasionally to allow access to the stator for critical maintenance tasks. During a recent crane inspection after a pole removal had been completed it was discovered that the crane hoist cable had come out of the sheave, resulting in the cable riding on the pin that goes through the sheave and block. It is suspected that this issue occurred during a recent clamping tool failure. Such crane deficiencies must be avoided to ensure it is available for critical lifts and to keep personnel that may be in the area safe during a lift.	To address the hazard, a vendor was engaged to design and supply a hydraulic pole key removal tool which provides a safe means to remove pole keys without the use of the critical powerhouse overhead crane. The new tool will remove the possibility of damage to the crane during pole removal, ensuring it is available when required. More importantly, it will eliminate hazards to personnel that would be working in the area during a pole removal. This work scope is complete.
Install Roadway Guard Rails	$16.7	Existing roadway guard rails were swept away along Bear Brook near the Bay d'Espoir Maintenance Garage during Hurricane	To address the hazard, guard rails were purchased and installed. By reinstating

Project Title and Location	Expenditure ($000)	Safety Hazard Identified	Project Scope
Bay d'Espoir Hydraulic Generating Station		Matthew in October 2016 creating a potential for vehicles to travel over the embankment into the waterway.	the guard rails, the safety hazard associated with the potential for vehicles to travel over the embankment into the waterway was eliminated. This work scope is complete.

8.0 Terminal Station In-Service Failures

In the *2017 Capital Budget Application*, Hydro committed to providing a summary of activities completed under the *Terminal Station In-Service Failures Project*. Please see Table 20 for 2017 expenditures undertaken by this project.

Total Approved Budget: **$1,000,000**

Total Expenditure: **$1,440,945**

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Table 20 - Terminal Station In-Service Failures

Project Title and Location	Expenditure ($000)	Failure Identified	Project Scope
Replace Breaker B3L19 Sunnyside Terminal Station	$852.5	Breaker B3L19 (138 kV-SF6) at the Sunnyside Terminal Station failed when it flashed over internally on A and C phases due to lightning on November 21, 2016. An original equipment manufacturer representative (ABB) visited the site to carry out a non-intrusive inspection of the breaker. While the contact resistance on A and C phases and the gas purity on A phase were not ideal, ABB recommended that the breaker could be put back in service, and should be overhauled in the spring/summer of 2017. The overhaul was scheduled and commenced during the week of July 31, 2017. Teardown of the breaker revealed that both A and C phase interrupters suffered significant damage during the November 21, 2016 event and that extensive component replacement would be required in order to put the breaker back in service. Considering the age (27 years) and condition of the breaker, the long lead time for parts to repair the breaker, and the need to restore the breaker for system reliability, it was necessary to immediately replace the breaker.	The failed breaker B3L19 was replaced with an available spare breaker.
Transformer Protective Devices Various Terminal Stations	$232.2	A number of transformer protective devices failed due to moisture ingress into the relays. These devices protect power transformers that are critical to the Island Interconnected System. The protection devices include winding temperature, oil temperature and gas relays. These failures were investigated after an outage on Holyrood T3 when the transformer tripped due to ingress of moisture in the oil temp relay. From a broader review of the others that have been changed out in recent years, it was discovered that recently purchased and installed winding/oil temperature relays were seeing significant moisture build up inside the relay, resulting in the possibility that the relay may cause an inadvertent outage. It was also determined from	Failed transformer protective devices were replaced with a newer, more robust design for the following transformers: • Sunnyside Terminal Station Transformer T4 • Voisey's Bay Nickel Terminal Station Transformer T2 • Western Avalon Terminal Station Transformer T2 • Hardwoods Terminal Station Transformers T2, T4, T5 and GT1 • Holyrood Terminal Station

Project Title and Location	Expenditure ($000)	Failure Identified	Project Scope
		the review that the manufacturer had made a design change in the later part of 2016 to improve their design in order to minimize moisture ingress and condensation and any relays purchased after that will receive an updated improved design.	Transformers UST-1, UST-3, T1, T2, T3, T5, T7, SST-12 and SST-34 • Bottom Brook Terminal Station Transformers T1 and T3 • Massey Drive Terminal Station Transformer T2 • Stephenville Terminal Station Transformer T3
Mobile Transformer Refurbishment Bishops Falls	$151.0	Upon discovery of a leak from one of the oil pumps in the mobile transformer in October 2017, the pump was dismantled for inspection. The inspection revealed that the pump impellor was damaged from internal impact by an object. This was likely caused by a pump seal and part of the seal being sucked into the pump. This work required removal, processing, and reinstallation of the transformer oil.	The mobile transformer was refurbished. Refurbishment included the replacement of gaskets and seals and the processing of the oil.
Replace Station Service Transformer St. Anthony Airport Terminal Station	$116.8	A station service transformer failure occurred in Sally's Cove. As there was no redundant station feed in Sally's Cove, immediate replacement was required. The station service transformer at St. Anthony Airport Terminal Station was identical to the failed unit at Sally's Cove and St. Anthony Airport Terminal Station has a backup station service supply from the distribution system. To ensure continued reliable service to customers, the station service transformer was removed from St. Anthony and installed in Sally's Cove. As this meant St. Anthony Airport Terminal Station was operating on a backup feed from the diesel generators, St. Anthony was vulnerable without immediate replacement.	A replacement station service transformer was procured and installed at the St. Anthony Airport Terminal Station.
Interrupter Replacement	$45.8	Interrupter B1T1 failed in February, 2017. The interrupter switch isolates equipment in the event of overload conditions and, in	The failed interrupter B1T1 was replaced with an available spare.

Project Title and Location	Expenditure ($000)	Failure Identified	Project Scope
Western Avalon Terminal Station		case of faults, interrupts the fault current to avoid damage to protected equipment. A failed interrupter leaves protected equipment vulnerable to overload conditions and can result in equipment failure and extended unplanned customer outages. Immediate replacement of Western Avalon B1T1 interrupter was required to maintain system reliability.	
Upgrade Breaker Failure Protection Hardwoods Terminal Station	$24.4	On March 11, 2017, the breaker failure circuit associated with breaker B1L01 at the Hardwoods Terminal Station failed following a trip due to high winds on 230 kV transmission line TL 201 (Western Avalon to Hardwoods). As a result, 230 kV bus B1 locked out, isolating critical equipment from the bus. This failure contributed to a widespread outage later in the day when 230 kV transmission line TL 218 (Holyrood to Oxen Pond) tripped as well due to high winds. Subsequently, Breaker Failure Protection associated with bus B1 at Hardwoods needed to be upgraded in 2017. Upgrading the Breaker Failure Protection associated with bus B1 was executed without delay in 2017, in order to ensure safe, reliable, and secure operation of bus B1 and associated equipment.	An upgrade of the breaker failure protection associated with bus B1 was completed.
Replace Surge Arrestors Holyrood Terminal Station	$15.1	Three 69 kV surge arrestors failed in Holyrood Terminal Station due to a weather event in March 2017. Surge arresters are used on critical terminal station equipment to protect that equipment from overvoltage due to lightning, extreme system operating voltages and switching transients. In these situations, voltage at the equipment can rise to levels which could damage the equipment's insulation. The surge arrestors act to maintain the voltages within acceptable levels. Without surge arrestors, equipment insulation could be damaged and faults could result during overvoltage events. When a surge arrester fails, it is not repairable and must be replaced immediately; otherwise the	Three failed 69 kV surge arrestors were replaced with available spares.

Project Title and Location	Expenditure ($000)	Failure Identified	Project Scope
		major equipment may be exposed to damaging overvoltage events.	
Replace Surge Arrester Stony Brook Terminal Station	$3.3	The low voltage surge arrester replacement at Stony Brook Terminal Station was based on October 2017 test results (obtained via Stony Brook T2 Doble Preventive Maintenance check). Doble test results indicated that the surge arrester condition was deteriorated and hence at increased risk of failure. Failure of the surge arrester would result in a loss of surge protection of the B phase winding from the 138 kV transmission network and also a forced transformer outage if the failure mode resulted in a fault.	Surge Arrestor was replaced with an available spare.

9.0 Reliability Improvements – Holyrood Thermal Generating Station

This is a one year supplemental project approved and substantially completed in 2017, with some scope carried over into 2018. In *Section 3.2 Equipment Replacement* of the supplementary application for this project, it was stated that:

> *While Hydro has currently identified equipment for immediate replacement, it is possible that additional components may require replacement during the annual outages. Hydro proposes that any item, material in dollar value, that meets capitalization criteria, that is required to be replaced to mitigate an unplanned outage in the coming winter season, and that can be replaced within this project's contingency, would be replaced and communicated to the Board via the year end Capital Expenditures Variance report.*

Hydro identified and completed five additional capital scope items under these criteria during the discovery and execution phases of the project in 2017, as summarized in Table 21, Items 2 to 6. The actual cost of the original approved scope items in this project is forecast to exceed the budget estimate and this is included in Table 21, Item 1.

Total Approved Budget: **$2,610,000**

Total Expenditure: **$3,586,600**

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Table 21 - Reliability Improvements – Holyrood Thermal Generation Station

Item	Description	Cost ($000)	Scope of Work and Justification
1	Additional cost for original planned project scope items	313.6	During the discovery and execution phases of the original scope of work, additional cost were incurred as a result of the as-found condition being worse than expected for some components, with an over-run of the original scope estimate of $313,600.
2	Replacement of steam piping components	442.5	Steam piping components including large flanges with pipe spools, flange studs and bolts, and auxiliary valves. Replacement was necessary to address identified steam leaks.
3	Replacement of Unit 2 condenser cooling water outlet piping	300.0	Inspection of the Unit 2 condenser cooling water piping during the planned unit outage revealed that it was in similar deteriorated condition as Unit 1 condenser cooling water outlet piping. Replacement of Unit 1 condenser cooling water outlet piping was an approved scope item for this project. Replacement of Unit 2 condenser cooling water outlet piping was completed.
4	Replacement of flow elements	160.0	The original project scope including refurbishment of flow elements. Inspection during planned unit outages revealed that elements were at the end of useful life and required full replacement. The flow elements were replaced.
5	Replacement of safety valves for Unit 2 cold reheat, atomizing steam and low pressure / high pressure headers	146.0	The valves for Unit 2 cold reheat, atomizing steam and low pressure / high pressure headers were opening prematurely when in service. The valve service provider inspected the valves and determined that replacement was required. Safety valves for Unit 2 cold reheat, atomizing steam and low pressure / high pressure headers were replaced.
6	Replacement of Unit 1 and Unit 2 air heater water wash piping	60.0	Extensive corrosion of Unit 1 and Unit 2 air heater water wash piping was identified by boiler service provider during planned unit outages, and replacement was necessary. Unit 1 and Unit 2 air heater water wash piping was replaced.
Total		**1,422.1**	