

WHENEVER. WHEREVER.  
We'll be there.



HAND DELIVERED

March 1, 2019

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

Attention: G. Cheryl Blundon  
Director of Corporate Services  
and Board Secretary

Ladies & Gentlemen:

**Re: 2018 Capital Expenditure Report**

Enclosed are the original and nine copies of Newfoundland Power Inc.'s 2018 Capital Expenditure Report (the "Report"). The Report is presented in compliance with the directive of the Board of Commissioners of Public Utilities contained in paragraph 5 of Order No. P.U. 37 (2017).

The Report provides information on capital expenditures approved by Order No. P.U. 37 (2017) (the "Capital Budget"); the actual expenditures to December 31<sup>st</sup>, 2018; and the variance between actual expenditures and the Capital Budget by individual project. The Report also provides information on some projects that were completed in 2018 and approved previously under Order No. P.U. 39 (2016).

Variances of more than 10% of approved expenditure and \$100,000 or greater are explained in the Notes contained in Appendix A to the Report.

If you have any questions on the enclosed, please contact the undersigned at your convenience.

Yours very truly,

A handwritten signature in blue ink, appearing to read "Gerard M. Hayes".

Gerard M. Hayes  
Senior Counsel

Enclosures

c: Shirley Walsh  
Newfoundland and Labrador Hydro

**Newfoundland Power Inc.**

55 Kenmount Road • P.O. Box 8910 • St. John's, NL A1B 3P6

PHONE (709) 737-5609 • FAX (709) 737-2974 • [ghayes@newfoundlandpower.com](mailto:ghayes@newfoundlandpower.com)

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## **2018 Capital Expenditure Report**

**March 1, 2019**

*(filed in compliance with Order No. P.U. 37 (2017))*

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**WHENEVER. WHEREVER.**  
**We'll be there.**

**NEWFOUNDLAND**   
**POWER**  
A FORTIS COMPANY

## **Newfoundland Power Inc.**

### **2018 Capital Expenditure Report**

#### **Explanatory Note**

This report is presented in compliance with the directive of the Board of Commissioners of Public Utilities (the “Board”) contained in paragraph 5 of Order No. P.U. 37 (2017).

Page 1 of the 2018 Capital Expenditure Report outlines the variances from budget of the capital expenditures approved by the Board in Order No. P.U. 37 (2017). The detailed tables on pages 2 through 14 provide additional detail on capital expenditures in 2018, and also include information on those capital projects approved for 2017 that were not completed prior to 2018. Page 14 provides additional detail on multi-year projects underway in 2018.

Variances of more than 10% of approved expenditure and \$100,000 or greater are explained in the Notes contained in Appendix A, which immediately follows at the conclusion of the 2018 Capital Expenditure Report. The variance criteria are as outlined in the *Capital Budget Application Guidelines*.

**Newfoundland Power Inc.**  
**2018 Capital Budget Variances**  
**(000s)**

	<b>Approved<sup>1</sup></b>	<b>Actual</b>	<b>Variance</b>
Generation - Hydro	\$2,119	\$2,478 <sup>2</sup>	\$359
Generation - Thermal	6,301	6,456 <sup>3</sup>	155
Substations	12,788	12,662	(126)
Transmission	7,168	7,806	638
Distribution	38,857	42,333	3,476
General Property	2,663	2,722 <sup>4</sup>	267
Transportation	3,362	3,594	232
Telecommunications	198	325	127
Information Systems	6,570	6,620 <sup>5</sup>	50
Unforeseen Allowance	750	260	(490)
General Expenses Capitalized	4,000	3,854	(146)
<b>Total</b>	<b>\$84,776</b>	<b>\$89,110</b>	<b>\$4,334</b>
Projects carried forward from 2017		\$5,813 <sup>6</sup>	

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<sup>1</sup> Approved by Order Nos. P.U. 37 (2017), P.U. 28(2018).

<sup>2</sup> Includes forecast expenditure of \$130,000 for *Facility Rehabilitation* carried into 2019.

<sup>3</sup> Includes forecast expenditure of \$1,595,000 for the *Purchase of Mobile Generation* carried forward into 2019.

<sup>4</sup> Includes forecast expenditure of \$498,000 for the *Duffy Place Roof Replacement* carried forward into 2019.

<sup>5</sup> Includes forecast expenditure of \$602,000 for the *Outage Management System* carried forward into 2019.

<sup>6</sup> Actual 2018 expenditures associated with projects carried forward from 2017.

**2018 Capital Expenditure Report  
(000s)**

	Capital Budget			Actual Expenditure		Carryover	Total	Variance
	2017	2018	Total	2017	2018			
	A	B	C	D	E			
2018 Projects	\$ -	\$ 84,776	\$ 84,776	\$ -	\$ 86,285	\$ 2,825	\$ 89,110	\$ 4,334
2017 Projects	\$ 38,711	\$ -	\$ 38,711	\$ 31,477	\$ 5,813	\$ -	\$ 37,290	\$ (1,421)
<b>Grand Total</b>	<b>\$ 38,711</b>	<b>\$ 84,776</b>	<b>\$ 123,487</b>	<b>\$ 31,477</b>	<b>\$ 92,098</b>	<b>\$ 2,825</b>	<b>\$ 126,400</b>	<b>\$ 2,913</b>

Column A Approved Capital Budget for 2017  
Column B Approved Capital Budget for 2018  
Column C Total of Columns A and B  
Column D Actual Capital Expenditures for 2017  
Column E Actual Capital Expenditures for 2018  
Column F Capital Projects Carried Forward to 2019  
Column G Total of Columns D, E and F  
Column H Column G less Column C

**2018 Capital Expenditure Report  
(000s)**

**Category: Generation - Hydro**

	Capital Budget			Actual Expenditure		Carryover F	Total G	Variance H	Notes*
	2017 A	2018 B	Total C	2017 D	2018 E				
<b>2018 Projects</b>									
Facility Rehabilitation	\$ -	\$ 2,119	\$ 2,119	\$ -	\$ 2,348	\$ 130	\$ 2,478	\$ 359	1
	<u>\$ -</u>	<u>\$ 2,119</u>	<u>\$ 2,119</u>	<u>\$ -</u>	<u>\$ 2,348</u>	<u>\$ 130</u>	<u>\$ 2,478</u>	<u>\$ 359</u>	
<b>2017 Projects</b>									
Facility Rehabilitation	\$ 1,607	\$ -	\$ 1,607	\$ 1,250	\$ 192	\$ -	\$ 1,442	\$ (165)	2
Rose Blanche Plant Refurbishment	3,281	-	3,281	2,453	210	-	2,663	(618)	3
Tors Cove Plant Refurbishment	1,476	-	1,476	301	881	-	1,182	(294)	4
	<u>\$ 6,364</u>	<u>\$ -</u>	<u>\$ 6,364</u>	<u>\$ 4,004</u>	<u>\$ 1,283</u>	<u>\$ -</u>	<u>\$ 5,287</u>	<u>\$ (1,077)</u>	

\* See Appendix A for notes containing variance explanations.

- Column A Approved Capital Budget for 2017
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**2018 Capital Expenditure Report  
(000s)**

**Category: Generation - Thermal**

	<u>Capital Budget</u>		<u>Actual</u>	<u>Carryover</u>	<u>Total</u>	<u>Variance</u>	<u>Notes*</u>
	<u>2018</u>	<u>Total</u>	<u>Expenditure</u>				
	A	B	C	D	E	F	
<b><u>2018 Projects</u></b>							
Facility Rehabilitation Thermal	\$ 301	\$ 301	\$ 408	\$ -	\$ 408	\$ 107	5
	<b>\$ 301</b>	<b>\$ 301</b>	<b>\$ 408</b>	<b>\$ -</b>	<b>\$ 408</b>	<b>\$ 107</b>	

\* See Appendix A for notes containing variance explanations.

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**2018 Capital Expenditure Report**  
(000s)

**Category: Substations**

	Capital Budget			Actual Expenditure		Carryover	Total	Variance	Notes*
	2017	2018	Total	2017	2018				
	A	B	C	D	E	F	G	H	
<b><u>2018 Projects</u></b>									
Substations Refurbishment and Modernization	\$ -	\$ 8,001	\$ 8,001	\$ -	\$ 7,917	\$ -	\$ 7,917	\$ (84)	
Replacements Due to In-Service Failures	-	3,814	3,814	-	3,861	-	3,861	47	
PCB Bushing Phase-out	-	973	973	-	884	-	884	(89)	
	<u>\$ -</u>	<u>\$ 12,788</u>	<u>\$ 11,815</u>	<u>\$ -</u>	<u>\$ 12,662</u>	<u>\$ -</u>	<u>\$ 12,662</u>	<u>\$ (126)</u>	
<b><u>2017 Projects</u></b>									
Substations Refurbishment and Modernization	\$ 10,350	\$ -	\$ 10,350	\$ 10,027	\$ 749	\$ -	\$ 10,776	\$ 426	
	<u>\$ 10,350</u>	<u>\$ -</u>	<u>\$ 10,350</u>	<u>\$ 10,027</u>	<u>\$ 749</u>	<u>\$ -</u>	<u>\$ 10,776</u>	<u>\$ 426</u>	

\* See Appendix A for notes containing variance explanations.

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**2018 Capital Expenditure Report  
(000s)**

**Category: Transmission**

	<b>Capital Budget</b>			<b>Actual Expenditure</b>		<b>Carryover</b>	<b>Total</b>	<b>Variance</b>	<b>Notes*</b>
	<b>2017</b>	<b>2018</b>	<b>Total</b>	<b>2017</b>	<b>2018</b>				
	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	
<u>2018 Projects</u>									
Transmission Line Rebuild	\$ -	\$ 2,100	\$ 2,100	\$ -	\$ 2,779	\$ -	\$ 2,779	\$ 679	6
	<u>\$ -</u>	<u>\$ 2,100</u>	<u>\$ 2,100</u>	<u>\$ -</u>	<u>\$ 2,779</u>	<u>\$ -</u>	<u>\$ 2,779</u>	<u>\$ 679</u>	
<u>2017 Projects</u>									
Transmission Line Rebuild	\$ 6,711	\$ -	\$ 6,711	\$ 6,224	\$ 529	\$ -	\$ 6,753	\$ 42	
	<u>\$ 6,711</u>	<u>\$ -</u>	<u>\$ 6,711</u>	<u>\$ 6,224</u>	<u>\$ 529</u>	<u>\$ -</u>	<u>\$ 6,753</u>	<u>\$ 42</u>	

\* See Appendix A for notes containing variance explanations.

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**2018 Capital Expenditure Report  
(000s)**

**Category: Distribution**

	Capital Budget			Actual Expenditure		Carryover	Total	Variance	Notes*
	2017	2018	Total	2017	2018				
	A	B	C	D	E	F	G	H	
<b><u>2018 Projects</u></b>									
Extensions	\$ -	\$ 11,738	\$ 11,738	\$ -	\$ 11,274	\$ -	\$ 11,274	\$ (464)	
Meters	-	546	546	-	884	-	884	338	7
Services	-	3,200	3,200	-	3,811	-	3,811	611	8
Street Lighting	-	1,814	1,814	-	3,062	-	3,062	1,248	9
Transformers	-	6,084	6,084	-	5,782	-	5,782	(302)	
Reconstruction	-	5,366	5,366	-	5,903	-	5,903	537	10
Rebuild Distribution Lines	-	3,844	3,844	-	4,429	-	4,429	585	11
Relocate/Replace Distribution Lines For 3rd Parties	-	2,317	2,317	-	3,177	-	3,177	860	12
Trunk Feeders	-	798	798	-	737	-	737	(61)	
Distribution Reliability Initiative	-	358	358	-	326	-	326	(32)	
Feeder Additions for Load Growth	-	220	220	-	161	-	161	(59)	
Distribution Feeder Automation	-	612	612	-	626	-	626	14	
AFUDC	-	210	210	-	177	-	177	(33)	
	<u>\$ -</u>	<u>\$ 37,107</u>	<u>\$ 37,107</u>	<u>\$ -</u>	<u>\$ 40,349</u>	<u>\$ -</u>	<u>\$ 40,349</u>	<u>\$ 3,242</u>	
<b><u>2017 Projects</u></b>									
Trunk Feeders	1,834	-	1,834	861	434	-	1,295	(539)	13
Meters	4,391	-	4,391	3,625	300	-	3,925	(466)	14
	<u>\$ 6,225</u>	<u>\$ -</u>	<u>\$ 6,225</u>	<u>\$ 4,486</u>	<u>\$ 734</u>	<u>\$ -</u>	<u>\$ 5,220</u>	<u>\$ (1,005)</u>	

\* See Appendix A for notes containing variance explanations.

Column A	Approved Capital Budget for 2017
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**2018 Capital Expenditure Report  
(000s)**

**Category: General Property**

	<u>Capital Budget</u>		<u>Actual</u>	<u>Carryover</u>	<u>Total</u>	<u>Variance</u>	<u>Notes*</u>
	<u>2018</u>	<u>Total</u>	<u>2018</u>				
	A	B	C				
<b><u>2018 Projects</u></b>							
Tools and Equipment	\$ 479	\$ 479	\$ 485	\$ -	\$ 485	\$ 6	
Duffy Place Roof Replacement	\$ 900	900	402	498	900	-	
Additions to Real Property	671	671	759	-	759	88	
Security Fencing Refurbishment	315	315	197	-	197	(118)	15
Company Building Renovations	298	298	381	-	381	83	
	<u>\$ 2,663</u>	<u>\$ 2,663</u>	<u>\$ 2,224</u>	<u>\$ 498</u>	<u>\$ 2,722</u>	<u>\$ 59</u>	

\* See Appendix A for notes containing variance explanations.

Column A	Approved Capital Budget for 2018
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Column F	Column E less Column B

**2018 Capital Expenditure Report  
(000s)**

**Category: Transportation**

	<b>Capital Budget</b>			<b>Actual Expenditure</b>		<b>Carryover</b>	<b>Total</b>	<b>Variance</b>	<b>Notes*</b>
	<b>2017</b>	<b>2018</b>	<b>Total</b>	<b>2017</b>	<b>2018</b>				
	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>				
<b><u>2018 Projects</u></b>									
Purchase Vehicles and Aerial Devices	\$ -	\$ 3,362	\$ 3,362	\$ -	\$ 3,594	\$ -	\$ 3,594	\$ 232	
	<u>\$ -</u>	<u>\$ 3,362</u>	<u>\$ 3,362</u>	<u>\$ -</u>	<u>\$ 3,594</u>	<u>\$ -</u>	<u>\$ 3,594</u>	<u>\$ 232</u>	
<b><u>2017 Projects</u></b>									
Purchase Vehicles and Aerial Devices	\$ 3,456	\$ -	\$ 3,456	\$ 3,553	\$ 271	\$ -	\$ 3,824	\$ 368	16
	<u>\$ 3,456</u>	<u>\$ -</u>	<u>\$ 3,456</u>	<u>\$ 3,553</u>	<u>\$ 271</u>	<u>\$ -</u>	<u>\$ 3,824</u>	<u>\$ 368</u>	

\* See Appendix A for notes containing variance explanations.

- Column A Approved Capital Budget for 2017
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**2018 Capital Expenditure Report  
(000s)**

**Category: Telecommunications**

	<u>Capital Budget</u>		<u>Actual</u>	<u>Carryover</u>	<u>Total</u>	<u>Variance</u>	<u>Notes*</u>
	<u>2018</u>	<u>Total</u>	<u>2018</u>				
	A	B	C				
<b><u>2018 Projects</u></b>							
Replace/Upgrade Communications Equipment	\$ 99	\$ 99	\$ 98	\$ -	\$ 98	\$ (1)	
Fibre Optic Network	99	99	227	-	227	128	17
	<u>\$ 198</u>	<u>\$ 198</u>	<u>\$ 325</u>	<u>\$ -</u>	<u>\$ 325</u>	<u>\$ 127</u>	

\* See Appendix A for notes containing variance explanations.

- Column A Approved Capital Budget for 2018
- Column B Total of Column A
- Column C Actual Capital Expenditures for 2018
- Column D Capital Projects Carried Forward to 2019
- Column E Total of Columns C and D
- Column F Column E less Column B

**2018 Capital Expenditure Report  
(000s)**

**Category: Information Systems**

	<u>Capital Budget</u>		<u>Actual</u>	<u>Carryover</u>	<u>Total</u>	<u>Variance</u>	<u>Notes*</u>
	<u>2018</u>	<u>Total</u>	<u>2018</u>				
	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	
<b><u>2018 Projects</u></b>							
Network Infrastructure	\$ 467	\$ 467	\$ 439	\$ -	\$ 439	\$ (28)	
Personal Computer Infrastructure	472	472	480	-	480	8	
Shared Server Infrastructure	648	648	635	-	635	(13)	
System Upgrades	1,098	1,098	1,133	-	1,133	35	
Application Enhancements	858	858	891	-	891	33	
	<u>\$ 3,543</u>	<u>\$ 3,543</u>	<u>\$ 3,578</u>	<u>\$ -</u>	<u>\$ 3,578</u>	<u>\$ 35</u>	

\* See Appendix A for notes containing variance explanations.

Column A	Approved Capital Budget for 2018
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Column F	Column E less Column B

**2018 Capital Expenditure Report  
(000s)**

**Category: Unforeseen Allowance**

	<u>Capital Budget</u>		<u>Actual</u>	<u>Carryover</u>	<u>Total</u>	<u>Variance</u>	<u>Notes*</u>
	<u>2018</u>	<u>Total</u>	<u>2018</u>				
	A	B	C	D	E	F	
<b><u>2018 Projects</u></b>							
Allowance for Unforeseen Items	\$ 750	\$ 750	\$ 260	\$ -	\$ 260	\$ (490)	18
	<b><u>\$ 750</u></b>	<b><u>\$ 750</u></b>	<b><u>\$ 260</u></b>	<b><u>\$ -</u></b>	<b><u>\$ 260</u></b>	<b><u>\$ (490)</u></b>	

\* See Appendix A for notes containing variance explanations.

- Column A Approved Capital Budget for 2018
- Column B Total of Column A
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- Column F Column E less Column B

**2018 Capital Expenditure Report**  
(000s)

**Category: General Expenses Capitalized**

	<u>Capital Budget</u>		<u>Actual</u>	<u>Carryover</u>	<u>Total</u>	<u>Variance</u>	<u>Notes*</u>
	<u>2018</u>	<u>Total</u>	<u>2018</u>				
	A	B	C	D	E	F	
<b><u>2018 Projects</u></b>							
General Expenses Capitalized	\$ 4,000	\$ 4,000	\$ 3,854	\$ -	\$ 3,854	\$ (146)	
	<u>\$ 4,000</u>	<u>\$ 4,000</u>	<u>\$ 3,854</u>	<u>\$ -</u>	<u>\$ 3,854</u>	<u>\$ (146)</u>	

\* See Appendix A for notes containing variance explanations.

Column A    Approved Capital Budget for 2018  
Column B    Total of Column A  
Column C    Actual Capital Expenditures for 2018  
Column D    Capital Projects Carried Forward to 2019  
Column E    Total of Columns C and D  
Column F    Column E less Column B



**2018 Capital Expenditure Report**  
**Multi-Year Projects**  
**(000s)**

**Category: Multi-Year Projects**

	<u>Capital Budget</u>			<u>Actual Expenditure</u>		<u>Carryover</u>	<u>Total</u>	<u>Variance</u>	<u>Notes*</u>
	<u>2016-2017</u>	<u>2018</u>	<u>Total</u>	<u>2016-2017</u>	<u>2018</u>				
	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>				
<b><u>Generation - Thermal</u></b>									
Purchase Mobile Generation	\$ -	\$ 6,000	\$ 6,000	\$ -	\$ 4,453	\$ 1,595	\$ 6,048	\$ 48	
<b><u>Transmission</u></b>									
Transmission Line Rebuild	-	5,068	5,068	-	5,027	-	5,027	(41)	
<b><u>Distribution</u></b>									
Feeder Additions For Growth <sup>1</sup>	-	319	319	-	297	-	297	(22)	
Distribution Reliability Initiative <sup>2</sup>	1,215	1,431	2,646	218	2,387	-	2,605	(41)	
St. John's Main Underground Refurbishment <sup>3</sup>	4,390	-	4,390	2,965	1,547	-	4,512	122	
<b><u>Information Systems</u></b>									
System Upgrades	-	245	245	-	201	-	201	(44)	
Ooutage Management System	-	2,360	2,360	-	1,758	602	2,360	-	
Human Resource Management System Replacement	-	422	422	-	481	-	481	59	
	<u>\$ 5,605</u>	<u>\$ 15,845</u>	<u>\$ 21,450</u>	<u>\$ 3,183</u>	<u>\$ 16,151</u>	<u>\$ 2,197</u>	<u>\$ 21,531</u>	<u>\$ 81</u>	

\* See Appendix A for notes containing variance explanations.

Column A Approved Capital Budget for 2016 and 2017  
Column B Approved Capital Budget for 2018  
Column C Total of Columns A and B  
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Column E Actual Capital Expenditures for 2018  
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<sup>1</sup> The "Feeder Additions for Growth" project is a 2018/2019 project. The \$297K spent in 2018 is associated with the 2018 component of the project.

<sup>2</sup> The "Distribution Reliability" project is a 2017/2018 project. \$700K of the expenditure in 2018 was on the 2017 component of the project.

<sup>3</sup> The "St. John's Main Underground Refurbishment" project is a 2016/2017 project. The expenditure in 2018 was on the 2017 project carried forward to 2018.

**Generation - Hydro**1. *Facility Rehabilitation:*

Budget: \$2,119,000                      Actual: \$2,478,000                      Variance: \$359,000

Total expenditure on the *Facility Rehabilitation* project was \$359,000 higher than budget. The actual cost associated with *Second Storage Pond Dam* refurbishment (\$197,000) and *Tors Cove Access Road Bridge Replacement* (\$146,000) projects were higher than budget due to poor foundation material found during excavation, requiring additional fill material and larger concrete abutments. Additional costs were also incurred on the *Rocky Pond Turbine Bearing Replacement* project due to alignment issues encountered when the generator was reassembled.

2. *Facility Rehabilitation (2017 Project):*

Budget: \$1,607,000                      Actual: \$1,442,000                      Variance: (\$165,000)

The expenditure on the *Facilities Rehabilitation (2017 Project)* project was \$165,000 less than budget. Detailed engineering on the *West Brook Forebay Dam and Spillway Refurbishment* project revealed less concrete deterioration than initially anticipated. This resulted in a reduced project scope and lower costs.

3. *Rose Blanche Plant Refurbishment (2017 Project):*

Budget: \$3,281,000                      Actual: \$2,663,000                      Variance: (\$618,000)

The expenditure on the *Rose Blanche Plant Refurbishment* project was \$618,000 less than budget. The project included contingency for additional slope stabilization that ultimately was not required. In addition, the turbine rehabilitation expenditure was less than budgeted because an anticipated need for contractor assistance with the turbine reassembly was not required.

4. *Tors Cove Plant Refurbishment (2017 Project):*

Budget: \$1,476,000                      Actual: \$1,182,000                      Variance: (\$294,000)

The expenditure on the *Tors Cove Plant Refurbishment* project was \$294,000 less than budget. Tors Cove Hydro Plant has 3 generating units, 2 of which are fully automated and under remote control through SCADA. Unit G1 is not automated and must be controlled on site by a plant operator. The Company has deferred consideration of the automation of Unit G1 due to higher priority projects. As a consequence, the Company decided to remove the valve replacement aspect of the 2017 project from the project scope, resulting in a lower 2017 expenditure.

**Generation Thermal**

5. *Facilities Rehabilitation Thermal:*

Budget: \$301,000

Actual: \$408,000

Variance: \$107,000

The expenditure on the *Facilities Rehabilitation Thermal* project was \$107,000 more than budget due to the required replacement of a failed engine fuel pump on the Wesleyville Gas Turbine and a starting motor on the Mobile Gas Turbine. These failures both occurred late in 2018.

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**Transmission**

6. *Transmission Line Rebuild:*

Budget: \$2,100,000

Actual: \$2,779,000

Variance: \$679,000

The expenditure on the *Transmission Line Rebuild* project was \$679,000 more than budget. The *Transmission Line Rebuild* project budget included a \$2,100,000 estimate for addressing deficiencies identified during inspections.<sup>1</sup> The estimate was based on average historical expenditures. The actual work required in 2018 as determined by the annual inspections was greater than the average historical amount.

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<sup>1</sup> Item 6 refers to the 2018 project for the replacement of transmission line components arising from annual inspections or as a result of in-service failures (\$2,100,000). It does not include the 2018 expenditures associated with the multi-year projects to rebuild transmission lines 302L (\$2,068,000) and 363L (\$3,000,000).

### Distribution

7. *Meters:*  
 Budget: \$546,000                      Actual: \$884,000                      Variance: \$338,000

The expenditure on the *Meters* project was \$338,000 more than budget. In 2017, the Company achieved 100% penetration of AMR meters, concluding an accelerated program of AMR meter installation. With the conclusion of the accelerated program, the annual capital budget for meters dropped by almost \$4,000,000. The historical average unit cost upon which the 2018 capital budget estimate was based reflects economies of scale associated with the larger number of meters replaced during the accelerated program.<sup>2</sup> In addition to the effect of reduced economies of scale, the cost associated with higher cost metering components such as current and potential transformers had a larger impact on the overall unit cost of the much smaller program. These changes in the cost composition of the *Meters* budget were the principal contributors to the variance.

8. *Services:*  
 Budget: \$3,200,000                      Actual: \$3,811,000                      Variance: \$611,000

The expenditure on the *Services* project was \$611,000 more than budget. The 2018 variance is attributed to three principal factors. First, distribution systems in some new residential subdivisions were constructed using the new front-lot hybrid construction configuration. In this configuration, the secondary wires, the costs of which are included in *Extensions*, are replaced by underground wiring in conduit, the cost of which is included in the *Services* project.<sup>3</sup> Second, in recent years, more customers are choosing to install underground services, which are more costly to construct than aerial services.<sup>4</sup> Finally, while overall gross customer connections have declined, the number of higher cost general service connections has remained relatively constant. As a result, the average cost of new services has increased.<sup>5</sup>

<sup>2</sup> Over the 5-year period from 2013 to 2017, an average of 38,500 meters were replaced each year.

<sup>3</sup> Secondary wires are included in the *Extensions* project for aerial construction. In 2018, the *Extensions* costs were \$464,000 less than budget.

<sup>4</sup> The cost difference between aerial and underground services is charged to the customer making the request.

<sup>5</sup> Typically, it costs more to install a service for a general service customer than for a domestic customer.

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**Distribution**


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9. *Street Lighting:*  
 Budget: \$1,814,000                      Actual: \$3,062,000                      Variance: \$1,248,000

The expenditure on the *Street Lighting* project was \$1,248,000 more than budget. The *Street Lighting* budget estimate is based on the projected number of new customer connections multiplied by the average annual cost per customer over the last 5 years. Over the last 5 years, the average number of street lights installed was 2,465. Despite declining new customer connections, the number of street lights installed in 2018 was 3,221, or 31% higher than the 5-year average.<sup>6</sup> Table 1 provides a breakdown of street lighting installation data for St. John's and the remainder of the Company's service territory.

**Distribution**
**Table 1 – Street Light Installations**

	<b>St. John's</b>	<b>Remainder</b>	<b>Total</b>
<b>5-year Avg.</b>	1,052	1,413	2,465
<b>2018</b>	1,866	1,355	3,221

In 2018, the installation of street lights in rural areas declined, while installations in St. John's increased. The average cost to install a street light in and around St. John's is typically higher than in other parts of the Company's service territory. Back-lot construction in most of St. John's and surrounding area requires the installation of roadside steel poles and underground wiring. In other areas, existing roadside poles with aerial wiring are typically utilized. This is a lower cost configuration, as compared to using dedicated poles and underground wiring.

10. *Reconstruction*  
 Budget: \$5,366,000                      Actual: \$5,903,000                      Variance: \$537,000

The expenditure on the *Reconstruction* project was \$537,000 more than budget, primarily as a result of an above-average amount of work being completed under this project. The budgeted expenditure is based on the average historical expenditure over the previous 5 years. In 2018, the total cost of high priority work identified by the Company's inspection program, and required follow-up from operational problems, exceeded the historical 5-year average.

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<sup>6</sup> As the installation of street lighting is typically the last phase of construction in subdivisions, the cost associated with street lighting often lags the other costs associated with new customer connections.

**Distribution**11. *Rebuild Distribution Lines:*

Budget: \$3,844,000      Actual: \$4,429,000      Variance: \$585,000

The expenditure on the *Rebuild Distribution Lines* project was \$585,000 more than budget. This Distribution project involves the replacement of deteriorated distribution structures identified through the Company's ongoing preventative maintenance program. The expenditure is budgeted based on average historical expenditures over the previous 5 years. Actual 2018 *Rebuild Distribution Lines* expenditures were higher than budget due to the identification of work requirements that exceeded the historical average.

12. *Relocate/Replace Distribution Lines for Third Parties:*

Budget: \$2,317,000      Actual: \$3,177,000      Variance: \$860,000

The expenditure on the *Relocate/Replace Distribution Lines for Third Parties* project was \$860,000 more than budget. The budget is based on the 5-year historical average expenditure. The actual expenditure is largely driven by the capital programs of the Company's joint use partners. In 2018, these joint use partners significantly increased their capital programs. As a result, the amount of distribution plant requiring upgrade to accommodate joint use requirements exceeded the historical average.

13. *Trunk Feeders (2017 Project):*

Budget: \$1,834,000      Actual: \$1,295,000      Variance: (\$539,000)

The expenditure on the 2017 *Trunk Feeders* project was \$539,000 less than budget. The cost of back lot work for the King's Bridge Substation conversion project was reduced when the Company was able to source and utilize specialized equipment designed for work in customers' yards. Also, the final design of the King's Bridge Substation conversion project included less underground infrastructure than originally planned. Finally, the vault replacement at the Terra Nova Tel building was not completed. The building owner advised of plans to renovate the building in 2018, eliminating the need for an upgrade at this time.

14. *Meters (2017 Project):*

Budget: \$4,391,000      Actual: \$3,925,000      Variance: (\$466,000)

The expenditure on the 2017 *Meters* project was \$466,000 less than budget. The *Meters* budget estimate is based on the projected number of new customer connections multiplied by the average annual cost per customer over the past 5 years. A large portion of the AMR meters installed in 2017 were located in urban areas. The higher urban population density resulted in a lower average installation cost than prior years. Also, a higher availability of Company employees to complete the installations resulted in lower costs than anticipated.

**General Property**

15. *Security Fencing Refurbishment:*

Budget: \$315,000

Actual: \$197,000

Variance: (\$118,000)

The expenditure on the *Security Fencing Refurbishment* project was \$118,000 less than budget. When detailed inspections were completed, the requirement to replace fencing material was less than anticipated.



**Transportation**

16. *Purchase Vehicles and Aerial Devices (2017 Project):*  
Budget: \$3,456,000                      Actual: \$3,824,000                      Variance: \$368,000

The variance of \$368,000 is largely attributed to a heavy fleet vehicle originally budgeted for purchase in 2017, but delivered in 2018. During acceptance testing, it was determined that the vehicle as constructed did not meet the cab and chassis specification required for the weight of the aerial device. The necessary modifications delayed delivery, and increased the overall cost of the vehicle. The remainder of the variance is related to inflation and cost changes associated with the mix of passenger and off road vehicles purchased.

**Telecommunications**17. *Fibre Optic Network:*

Budget: \$99,000

Actual: \$227,000

Variance: \$128,000

The expenditure on the *Fibre Optic Network* project was \$128,000 more than budget. In 2018, the Company added another cable to its fibre optic network connecting substations in Corner Brook. The original budget estimate was based on installing the cable along the shortest route between substations. To avoid expensive distribution line upgrades due to clearance issues, an alternate longer route was chosen as the final design. While the alternate route increased the fibre cable installation cost, it resulted in a lower distribution line upgrade cost and was the least cost option overall.<sup>7</sup>

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<sup>7</sup> The distribution work associated with the installation and relocation of communications cables used by the Company's various protection and control systems is included in the *Relocate/Replace Distribution Lines for Third Parties* Distribution project. The Company will typically seek quotes for rented/leased fibre optic capacity from its joint use partners. These quotes will not include the Company's cost to upgrade distribution plant to accommodate fibre optic cable to be rented/leased by these joint use partners to the Company. To ensure a fair comparison between owned or rented/leased fibre optic cable alternatives, the Company treats the cost to upgrade distribution plant similarly across both alternatives.

**Unforeseen Allowance**

18. *Allowance for Unforeseen Items:*

Budget: \$750,000                      Actual: \$260,000                      Variance: (\$490,000)

The *Allowance for Unforeseen Items* is used as required. The \$260,000 expenditure was related to the refurbishment of the Company's mobile diesel generator to address water damage sustained during the summer of 2018. The remaining allowance of \$490,000 was not required to be used in 2018.