newfoundland labrador hydro
a nalcor energy company

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August 3, 2018

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

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

Dear Ms. Blundon:

Re: **An Application by Newfoundland and Labrador Hydro for Approval of Capital Expenditures to Upgrade the Happy Valley-Goose Bay Distribution System**

Please find enclosed the original and ten (10) copies of the above-noted Application, plus supporting affidavit, project proposal, and draft order.

As a part of Hydro's Labrador East Reliability Plan, filed with the Board on April 24, 2018, Hydro has studied alternatives to minimize customer impact should there be a loss of generation or transmission supply to the Happy Valley-Goose Bay Distribution System.

Hydro is recommending the design, procurement, and installation of additional infrastructure on the Happy Valley-Goose Bay Distribution System to minimize the impact of potential supply deficits that may occur if demand exceeds available generation and/or transmission capacity.

Hydro trusts that you will find the enclosed to be in order and satisfactory. Should you have any questions or comments about any of the enclosed, please contact the undersigned.

Yours truly,

Newfoundland & Labrador Hydro

Michael S. Ladha
Legal Counsel & Assistant Corporate Secretary
MSL/kd

cc: Gerard Hayes – Newfoundland Power
Paul Coxworthy – Stewart McKelvey
Dennis Browne, Q.C. – Browne, Fitzgerald, Morgan & Avis

ecc : Larry Bartlett – Teck Resources Ltd.
Denis J. Fleming – Cox & Palmer
Van Alexopoulos – Iron Ore Company
Senwung Luk – Labrador Interconnected Group
Sheryl Nisenbaum – Praxair Canada
Dean Porter – Poole Althouse
Benoît Pepin – Rio Tinto

IN THE MATTER OF the *Electrical Power Control Act,* RSNL 1994, Chapter E-5.1 (the *EPCA*) and the *Public Utilities Act*, RSNL 1990, Chapter P-47 (the *Act*), and regulations thereunder;

AND IN THE MATTER OF an Application by Newfoundland and Labrador Hydro pursuant to Subsection 41(3) of the *Act*, for approval of capital expenditures to upgrade the Happy Valley-Goose Bay Distribution System.

TO: The Board of Commissioners of Public Utilities (the Board)

THE APPLICATION OF NEWFOUNDLAND AND LABRADOR HYDRO (HYDRO) STATES THAT:

A. Background

1. Hydro is a corporation continued and existing under the Hydro Corporation Act, 2007, is a public utility within the meaning of the Act, and is subject to the provisions of the Electrical Power Control Act, 1994.

2. Hydro's 2018 Capital Budget Application, filed with the Board on July 28, 2017, included the Muskrat Falls to Happy Valley Interconnection Project (the Project). The proposed Project would address both forecast capacity shortfalls and reliability issues for the Labrador East system.

3. In Order No. P.U. 43(2017), issued on December 22, 2017, the Board deferred a decision on the Project pending Hydro providing additional information justifying the Project.

4. During the period January to March 2018, Hydro filed the revised information requested by the Board pursuant to Order No. P.U. 43(2017) and provided responses to information requests to all parties concerning the Project.

5. In Order No. P.U. 9(2018) the Board again deferred the Project and directed Hydro to file: (i) a proposed plan in relation to the provision of reliable service in Labrador East in 2018-2019, on or before April 16, 2018; and (ii) a proposal in relation to the process and timelines for further consideration of the Muskrat Falls to Happy Valley-Goose Bay Interconnection on or before April 30, 2018.

6. Hydro filed its plan regarding the provision of reliable service in Labrador East in 2018-2019 through its correspondence provided to the Board on April 16, 2018 and April 24, 2018. One of the items presented to the Board was Hydro's plan to review the Happy Valley-Goose Bay distribution system to identify options to minimize customer impacts in case of loss of supply.

B. Application

7. Hydro owns and operates the Happy Valley-Goose Bay Distribution System which supplies power to Newfoundland and Labrador Hydro's customers in the towns of Happy Valley-Goose Bay, North West River, Sheshatshui, and Mud Lake. The system consists of seven 25 kV main feeders, that leave from the Happy Valley Terminal Station,

and seven sub-feeders. Power is supplied to the distribution system from L1301/L1302 from Churchill Falls but can also be supplied, when required, by the Happy Valley Gas Turbine.

8. As part of Hydro's Labrador East Reliability Plan, filed with the Board on April 24, 2018, Hydro has studied alternatives to minimize customer impact should there be a loss of generation or transmission supply to the Happy Valley-Goose Bay Distribution System. The findings of this study have resulted in Hydro establishing priority areas that will continue to receive power when other feeders are either rotated or switched off due to lack of supply. The study focused on priority areas such as those with a large amount of community infrastructure (i.e. grocery stores, schools, pharmacies, retirement homes, gas stations and restaurants).

9. Hydro is recommending the design, procurement, and installation of additional infrastructure on the Happy Valley-Goose Bay Distribution System to minimize the impact of potential supply deficits that may occur if demand exceeds available generation and/or transmission capacity. The new infrastructure consists of a total of five gang operated switches and a line extension/upgrade.

10. The estimated capital cost of the project is $195,400. The scope of work for this project is set out in the project description and justification document attached hereto as Schedule 1.

11. Hydro submits that the installation of additional switches and a line extension/upgrade is necessary to ensure that Hydro can continue to provide service which is safe and adequate and just and reasonable as required by Section 37 of the Act. A system planning study supporting this supplemental capital application is included as Appendix A to Schedule 1.

12. Hydro therefore makes Application for an Order pursuant to section 41(3) of the Act approving upgrades on the Happy Valley-Goose Bay Distribution System, at an estimated capital cost of $195,400, all as set out in this Application and in the attached project description and justification document attached hereto as Schedule 1.

DATED at St. John's in the Province of Newfoundland and Labrador this 3rd day of August 2018.

Michael S. Ladha
Counsel for the Applicant
Newfoundland and Labrador Hydro
500 Columbus Drive P.O. Box 12400
St. John's, NL A1B 4K7
Telephone: (709) 737-1268
Facsimile: (709) 737-1782

IN THE MATTER OF the *Electrical Power Control Act,* RSNL 1994, Chapter E-5.1 (the *EPCA*) and the *Public Utilities Act*, RSNL 1990, Chapter P-47 (the *Act*), and regulations thereunder;

AND IN THE MATTER OF an Application by Newfoundland and Labrador Hydro pursuant to Subsection 41(3) of the Act, for approval of capital expenditures to upgrade the Happy Valley-Goose Bay Distribution System.

AFFIDAVIT

I, Terry Gardiner, Professional Engineer, of St. John's in the Province of Newfoundland and Labrador, make oath and say as follows:

1. I am the Vice President, Engineering Services of Newfoundland and Labrador Hydro, the Applicant named in the attached Application.

2. I have read and understand the foregoing Application.

3. I have personal knowledge of the facts contained therein, except where otherwise indicated, and they are true to the best of my knowledge, information and belief.

SWORN at St. John's in the Province of Newfoundland and Labrador this 3rd day of August, 2018, before me:)

Barrister – Newfoundland and Labrador

Terry Gardiner, P. Eng.

Project Title: Distribution System Upgrades

Location: Happy Valley-Goose Bay Distribution System

Category: Transmission and Rural Operations – Distribution Stations

Definition: Other

Classification: Normal

Project Description

This project involves design, procurement, and installation of additional infrastructure on the Happy Valley-Goose Bay distribution system to minimize the impact of potential supply deficits that may occur if demand exceeds available generation and/or transmission capacity. The new infrastructure consists of a total of five (5) gang operated switches and the required poles and conductor for a line extension. Based on the recommendations from the *"Minimizing Customer Impact upon Loss of Supply – Rural Planning Study"* (Rural Planning Study), found in Appendix A, the upgrades include:

1. Constructing a tie point between feeder HV10 and the end of feeder HV5. This will involve upgrading a section of distribution line from single phase to three phase, replacing poles along this section, as necessary, and installing two gang-operated switches; and,
2. Installing a gang-operated switch on each of the feeders HV7, HV15, and HV16 ;

Figure 1 outlines the location of the proposed infrastructure and priority areas.

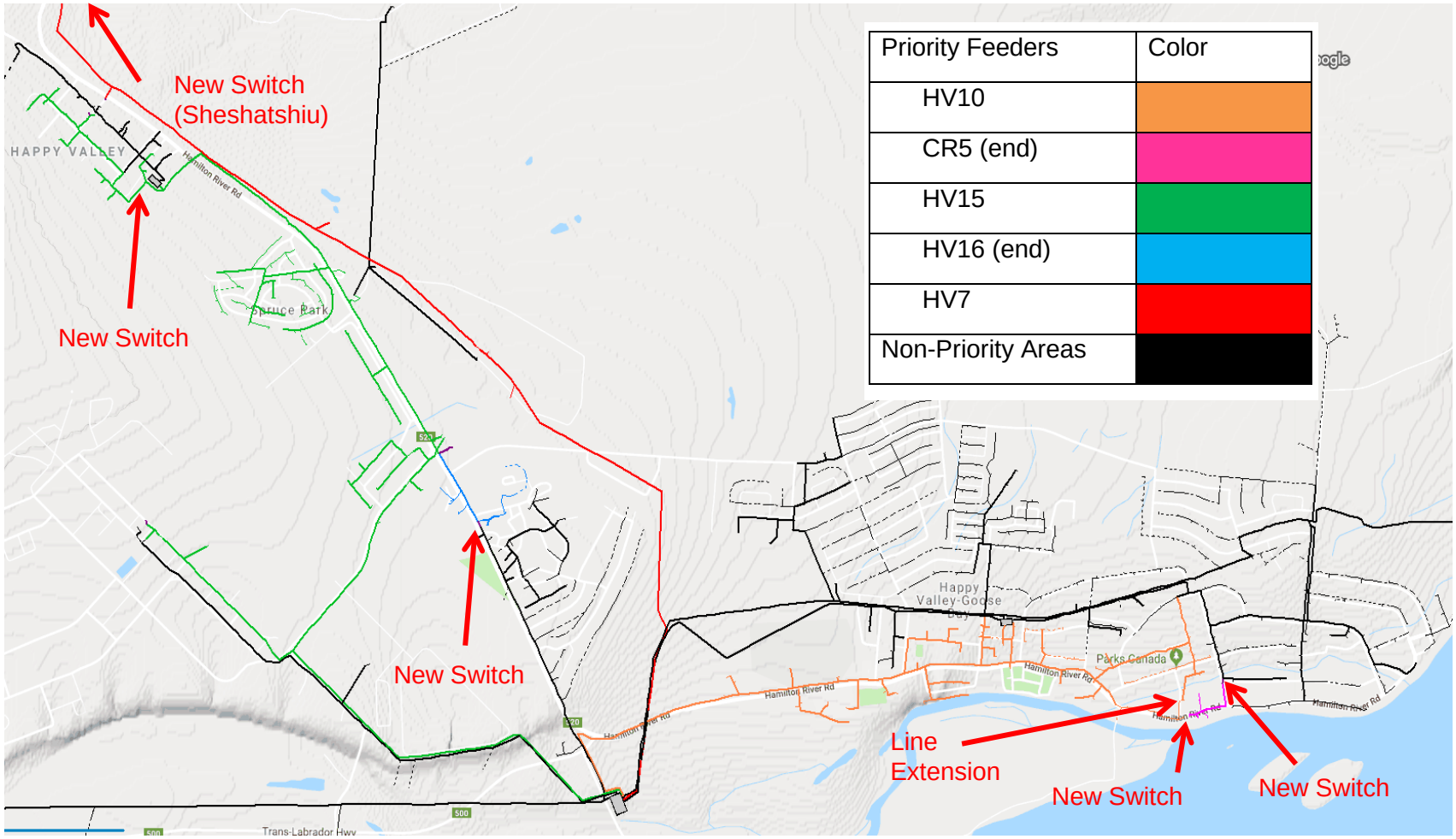


Figure 1: Happy Valley-Goose Bay Feeder Layout

The project estimate for this project is shown in Table 1.

Table 1: Project Estimate ($000s)

Project Cost	2018	2019	Beyond	Total
Material Supply	70.0	0.0	0.0	70.0
Labour	50.0	0.0	0.0	50.0
Consultant	0.0	0.0	0.0	0.0
Contract Work	70.0	0.0	0.0	70.0
Other Direct Costs	0.0	0.0	0.0	0.0
Interest and Escalation	5.4	0.0	0.0	5.4
Contingency	0.0	0.0	0.0	0.0
Total	**195.4**	**0.0**	**0.0**	**195.4**

Operating Experience

The Happy Valley-Goose Bay distribution system supplies power to Newfoundland and Labrador Hydro's (Hydro) customers in the towns of Happy Valley-Goose Bay, North West River, Sheshatshui, and Mud Lake. The system consists of seven 25 kV main feeders, which leave from the Happy Valley (HVY) Terminal Station, and seven sub-feeders. Power is supplied to the distribution system from L1301/L1302 from Churchill Falls, but can also be supplied, when required, by the Happy Valley-Goose Bay Gas Turbine (GT).

Project Justification

As a part of Hydro's Labrador East Reliability Plan, filed with the Board on April 24, 2018, Hydro has studied alternatives to minimize customer impact should there be a loss of generation or transmission supply to the Happy Valley-Goose Bay distribution system.[1] The findings of this study have resulted in Hydro establishing priority areas that will continue to receive power when other feeders are either rotated, or switched off due to lack of supply. The study focused on priority areas such as those with a large amount of community infrastructure (i.e. grocery stores, schools, pharmacies, retirement homes, gas stations and restaurants). Table 2 lists priority areas and their associated load. The locations of the feeders are identified in Figure 1.

[1] See Appendix A - Minimizing Customer Impact upon Loss of Supply – Rural Planning Study.

Table 2: Happy Valley-Goose Bay Priority Areas - 2018 Peak Load

Area	Feeder	Load (MW)
Hamilton River Road South commercial/service area	HV10	9.9
Hamilton River Road South commercial/service area	CR5	1.6
Hamilton River Road North and Loring Drive commercial/service area	HV15	7.3
Hamilton River Road North and Loring Drive commercial/service area	HV16	1.1
Core of Sheshatshui and North West River	HV7	5.2
Total		**25.1**

To enable the concurrent energization of multiple priority areas during a loss of supply, the system must be configured to allow areas to be grouped together on the same feeders. Additionally, non-priority areas must be grouped together and separated from the priority areas to ensure the minimal amount of switching.

The majority of priority areas in Happy Valley-Goose Bay are located around Hamilton River Road and Loring Drive, and these areas are supplied by feeders HV10, HV15, CR5 and HV16. Feeders HV15, CR5, and HV16 also service significant non-priority areas. In North West River and Sheshatshiu all priority and non-priority areas are supplied by HV7. To enable the separation of the priority and non-priority areas, additional switches and a tie point must be installed.

To ensure the priority areas of these feeders are able to remain energized during rotations and that the non-priority areas can be rotated with a limited amount of switching the following is required:

- The priority area on HV16 must be capable of being tied to HV15 requiring one additional gang-operated switch on Feeder HV16;
- The priority area on CR5 must be capable of being tied to HV10 requiring two additional gang-operated switches and small line extension/upgrade;

- Most non-priority areas on HV15 must be capable of being removed from the priority area on HV15 requiring one additional gang-operated switch on Feeder HV15; and,
- Most non-priority areas on HV7 must be capable of being removed from the priority area on HV7 requiring one additional gang-operated switch on Feeder HV7.

Recommendations

Based upon the Rural Planning Study findings, it is recommended to install five gang-operated switches and construct a line extension and upgrade to minimize the impact of potential supply deficits that may occur if demand exceeds available generation and/or transmission capacity on the Happy Valley-Goose Bay distribution system.

Project Schedule

The anticipated schedule is shown in Table 3.

Table 3: Project Schedule (2018)

Activity		Start Date	End Date
Planning	Resource Planning	Sept 2018	Sept 2018
Design	Assessment Completed	Sept 2018	Sept 2018
Procurement	Materials Ordered	Sept 2018	Sept 2018
Construction	Monitor Construction Activities	Oct 2018	Oct 2018
Commissioning	Inspection by Local Operations Crews	Nov 2018	Nov 2018
Closeout	Project Closeout	Nov 2018	Nov 2018

Appendix A

Minimizing Customer Impact upon Loss of Supply
Happy Valley-Goose Bay — Rural Planning Study

Electrical
Mechanical
Civil
Protection & Control
Transmission & Distribution
Telecontrol
System Planning

Minimizing Customer Impact upon Loss of Supply
Happy Valley-Goose Bay

Rural Planning Study

August 3, 2018

A Report to the Board of Commissioners of Public Utilities

newfoundland labrador hydro
a nalcor energy company

Table of Contents

1. Introduction

The following study evaluates the Happy Valley-Goose Bay distribution system, determines the actions Hydro can take to reduce the customer impact in the event of supply losses, and provides information to develop detailed operating instructions and switching orders.

This study will be of particular interest for the 2018-2019 peak season as the forecasted load exceeds the capacity of L1301/L1302. If the proposal to connect Happy Valley (HVY) Terminal Station to Muskrat Falls, which is currently before the Board, is approved and the project completed, the risk and impact of losing sources of supply decreases.

The supply losses under consideration include:

- loss of HVY Gas Turbine generate mode;
- loss of HVY Gas Turbine both generate and synchronous condense mode;
- loss of T31 in Churchill Falls Terminal Station; and/or
- loss of L1301/L1302.

2. Model Set up

This study uses the load flow software CYME to model the existing distribution system. The model was set using a source voltage at the 25 kV bus in the HVY Terminal Station of 25.5 kV (1.02 p.u.) as per the Muskrat Falls to Happy Valley Interconnect – Revision 2 report (2018-01-25) prepared by Transmission Planning.

The peak load at the HVY Terminal Station is modeled as 80.7 MW as per the Spring 2018 load forecast for the area. The loading on the individual feeders assumes a coincidence factor of 92%.[2] Table A1 below shows the existing feeder load breakout.

[2] Typically, each feeder on a distribution peaks at a different time creating a difference between the sum of individual feeder peaks and the total system peak. A coincidence factor is the ratio between these two numbers. The factor noted is a specific calculated coincidence factor for Happy Valley-Goose Bay.

Table A1: Winter 2018/2019 Peak Load

Line	Portion of Line	Peak Load (MW)
HV1	HV1	1.0
	HS3	2.1
	HS4	4.3
HV7	HV7 (core)	9.0
	HV7 (industrial)	5.5
HV8	HV8	13.7
	CR5 (beginning)	3.1
	CR5 (end)	1.6
	CR6	2.9
HV10	HV10	9.9
HV15	HV15	4.8
	Spruce park	2.5
	NS11	0.8
	HV15 (industrial)	3.6
HV16	HV16	9.8
	HV16 (end)	1.1
HV17	HV17	12.3
Total		**88.0**
Peak with 92% coincidence Factor		**80.7**

There are currently two sources that supply power to the Happy Valley-Goose Bay distribution system. They are the transmission line L1301/L1302 and the HVY Gas Turbine. The capacities of these are in Table A2.

Table A2: Sources of Electrical Supply - HVY

Supply Source	Capacity delivered to HVY (MW)
Transmission Line L1301/L1302 with sync condenser	77
Transmission Line L1301/L1302 without synchronous condenser	66
Transmission Line L1301/L1302 without CFL-T31	37
HVY Gas Turbine	25

A third-party service provider for the North Plant Diesel Plant carried out an on-site assessment in April 2018 indicating that the units were not in a condition to guarantee reliable service for the 2018-2019 winter season; therefore, the plant is not included in this study.

2.1 Assumptions

For this study the following assumptions are used:

- Load on feeders rotated will be their non-coincident peak;
- Load on feeders not rotated (left on) will be their coincident peak; and
- Cold load pick-up (CLPU) is not expected to have a major impact during feeder rotations as long as all customers are on for 30 minutes of each hour. However, a buffer of at least 30% additional load is available in the situations below.

2.2 Feeder Prioritization

During events where certain supply sources are not available and when the system is operating near peak load, there will not be enough supply to meet the full town load. During such events it is important to establish feeder prioritization to ensure that power is being distributed in a way that will reduce the impact of the outage to the towns in the area. The feeders with the highest priority will be those with a large amount of community infrastructure such as grocery stores, schools, pharmacies, retirement homes, restaurants, and gas stations. The bulk of this infrastructure is located on the following feeders:

Table A3: Feeder Prioritization

Feeder	Load (MW)	Customers
HV10	9.9	Two schools, two health centers, one hotel, RCMP, fire hall, one gas station.
HV15 (without HV11 and HV15 industrial area)	7.3	Three hotels, one gas station, various restaurants.
HV16 (end)	1.1	One grocery story, one pharmacy, one gas station.
End of HV5	1.6	One grocery store, one pharmacy, various restaurants.
HV7 (core)	5.2	Two schools, health clinics, stores (North West River and Sheshatshiu).
Total	**25.1**	

3. Analysis

The supply losses under consideration include:

1. loss of Happy Valley-Goose Bay Gas Turbine generate mode;
2. loss of Happy Valley-Goose Bay Gas Turbine both generate and synchronous condense mode;
3. loss of T31 in Churchill Falls Terminal Station; and/or
4. loss of L1301/L1302.

3.1 Situation 1 – Loss of Happy Valley-Goose Bay Gas Turbine generate mode (HVY GT)

If the Happy Valley-Goose Bay Gas Turbine is unable to supply power during peak load then the only source of supply will be L1301/L1302 with a capacity of 77 MW. This means there will be approximately 4 MW of load that cannot be served at peak.

During this situation, it is recommended to tie the end of CR5 to HV10[3], and the end of HV16 to HV15 using two new gang-operated switches[4] and rotate HS4, HV7(industrial), CR5, CR6, HV15(industrial)[5], and HV16 off for 30 minutes of each 90 minutes (each feeder will be on two-thirds of the time). The amount of Cold Load Pick Up (CLPU) that can be tolerated under this situation is 35%.

Table A4 shows the load breakout during this situation.

[3] See Recommendation #2 for more information.
[4] See Recommendation #1 for more information.
[5] See Recommendation #3 for more information.

Table A4: Situation 1

Feeder		Load (MW)
Leave on		
HV1, HS3, HV7, HV8, CR5(end), HV10, HV15, NS11, HV16 (end), HV17		54.0
Rotate on		
HS4, HV7(industrial), HV16	(30 mins)	19.6
CR5, CR6, HV16, HV15(industrial)	(30 mins)	19.3
HS4, HV7(industrial),CR5, CR6, HV15(industrial)	(30 mins)	19.4
Total		**73.6, 73.4, or 73.4**

3.2 Situation 2 – Loss of Happy Valley-Goose Bay Gas Turbine both generate and synchronous condense

If the Happy Valley-Goose Bay Gas Turbine is unable to generate power or provide synchronous condenser support during peak load the only source of supply is L1301/L1302 at 65 MW. This means there will be 16 MW unable to be served at peak.

During this situation, it is recommended to tie the end of CR5 to HV10, and the end of HV16 to HV15 using two new gang switches and rotate CR4, HV7(industrial), HV8, CR5, CR6, HV15(industrial), HV16 and HV17 off for 30 mins of each 60 min period (each feeder will be on one-half of the time). The amount of CLPU that can be tolerated under this situation will be 42%.

Table A5 shows the load breakout during this situation.

Table A5: Situation 2 Load Breakout

Feeder		Load (MW)
Leave on		
HV7, CR5(end), HS10, HV15, NS11, HV16(end)		30.2
Rotate		
HS4, HV7(industrial), CR6, HV15(industrial), HV16	(15 mins)	26.1
HV7(industrial), HV16, HV17	(15 mins)	27.5
HV8, CR5, HV17	(15 mins)	29.0
HS4, HV8, CR5, HV6, HV15(industrial)	(15 mins)	27.6
Total		**56.3, 57.7, 59.2, or 57.8**

3.3 Situation 3 – Loss of T31 in Churchill Falls

If T31 fails and is removed from service the capacity of L1301/L1302 becomes 37 MW. This, along with the Happy Valley-Goose Bay Gas Turbine will allow a total supply of 62 MW indicating a 19 MW deficit that cannot be served at peak.

During this situation, it is recommended to tie the end of CR5 to L10, and the end of HV16 to HV15 using two new gang switches. Then rotate HS4, HV7(industrial), HV8, CR5, CR6, HV15(industrial), HV16 and HV17 off for 30 mins of each 60 min period (each feeder will be on one-half of the time). The amount of CLPU that can be tolerated under this situation will be 35%

Table A6 shows the load breakout during this situation.

Table A6: Situation 3 Load Breakout

Feeder		Load (MW)
Leave on		
HV7, CR5(end), HV10, HV15, HV16(end)		29.5
Rotate		
HS4, HV7(industrial), CR5, CR6, HV15(industrial), HV16	(15 mins)	29.1
HV7(industrial), NS11, HV16, HV17	(15 mins)	28.3
HV8, NS11, HV17	(15 mins)	26.8
HS4, HV8, CR5, CR6, HV15(industrial)	(15 mins)	27.6
Total		**58.6, 57.7, 56.2, or 57.1**

3.4 Situation 4 – Loss of L1301/L1302

If L1301/L1302 fails then the only supply for Happy Valley-Goose Bay will be the Happy Valley-Goose Bay Gas Turbine. It will have a capacity of 25 MW leaving a deficit of 56 MW that cannot be served at peak.

During this situation, it is recommended to tie the north end of HV16 to HV15[6]; tie the end of CR5 to HV10, and to energize feeders HV10 (with end of CR5), HV15 (with part of HV16) and HV1 with HS3. If loading allows it may also be possible to energize the core of North West River and Sheshatshiu on HV7[7].

Table A7 shows the load breakout during this situation.

Table A7: Situation 4 Load Breakout

Feeder	Load (MW)
Leave on	
HV10, CR5(end), HV15, HV16(end)	19.8
If load allows	
LHV7(core) modified	5.2
Total	**19.8 or 25.0**

4. Recommendations

The following recommendations are necessary to allow the switching routines specified in section 3.

4.1 Recommendation #1

To tie CR5 to HV10 to allow the priority portion of HV5 to remain energized during loss of certain supply sources, two new gang-operated switches must installed and a small line extension must be complete. This is shown in Figure A1.

[6] See Recommendation #2.
[7] See Recommendation #4.

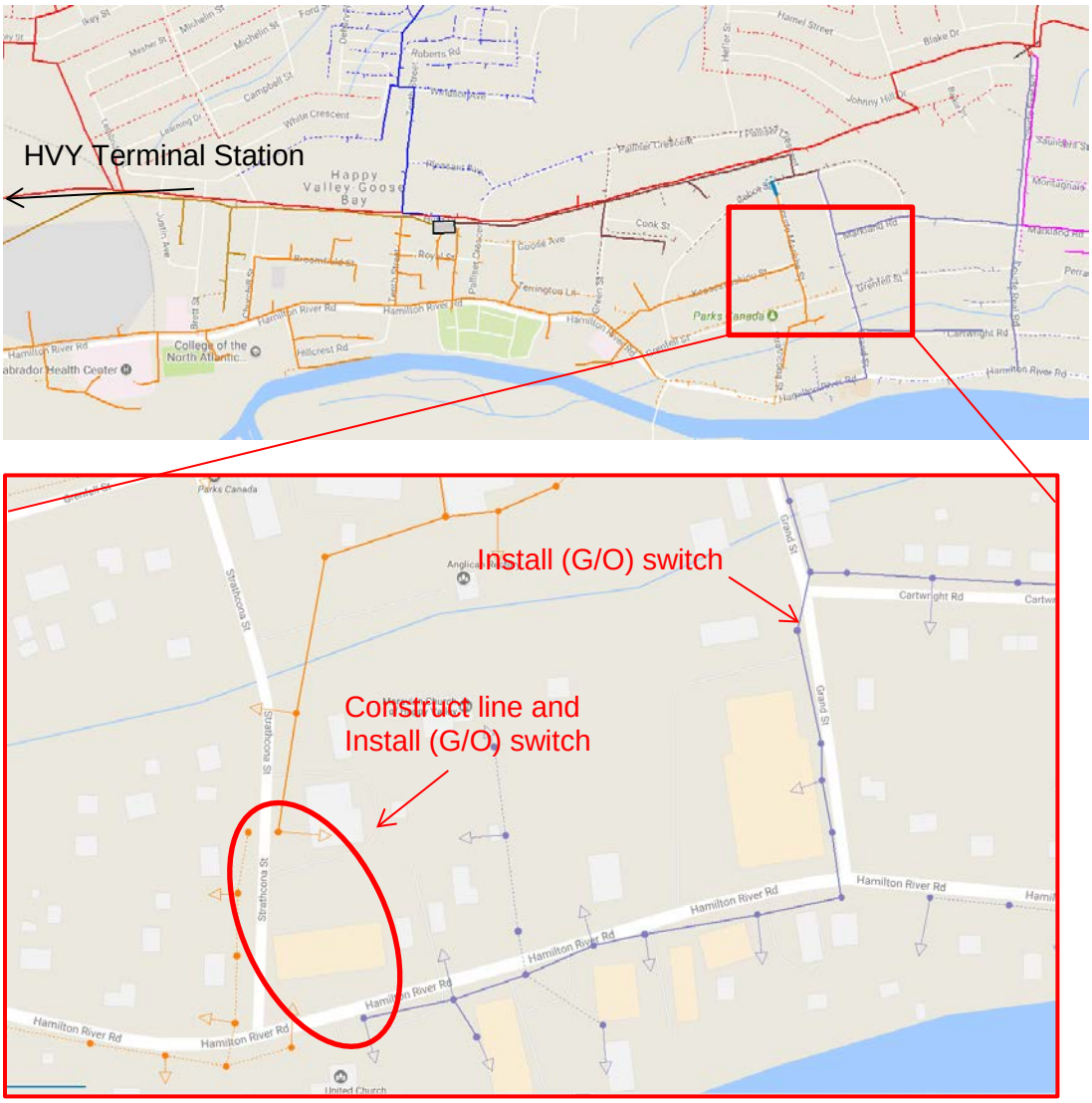


Figure A1: Capital Recommendation #1

4.2 Recommendation #2

To separate part of HV16 so that it can be tied to HV15, allowing the priority portion of HV16 to remain energized during loss of certain supply sources, one new gang-operated switch must be installed. The location of this switch is shown in Figure A2.

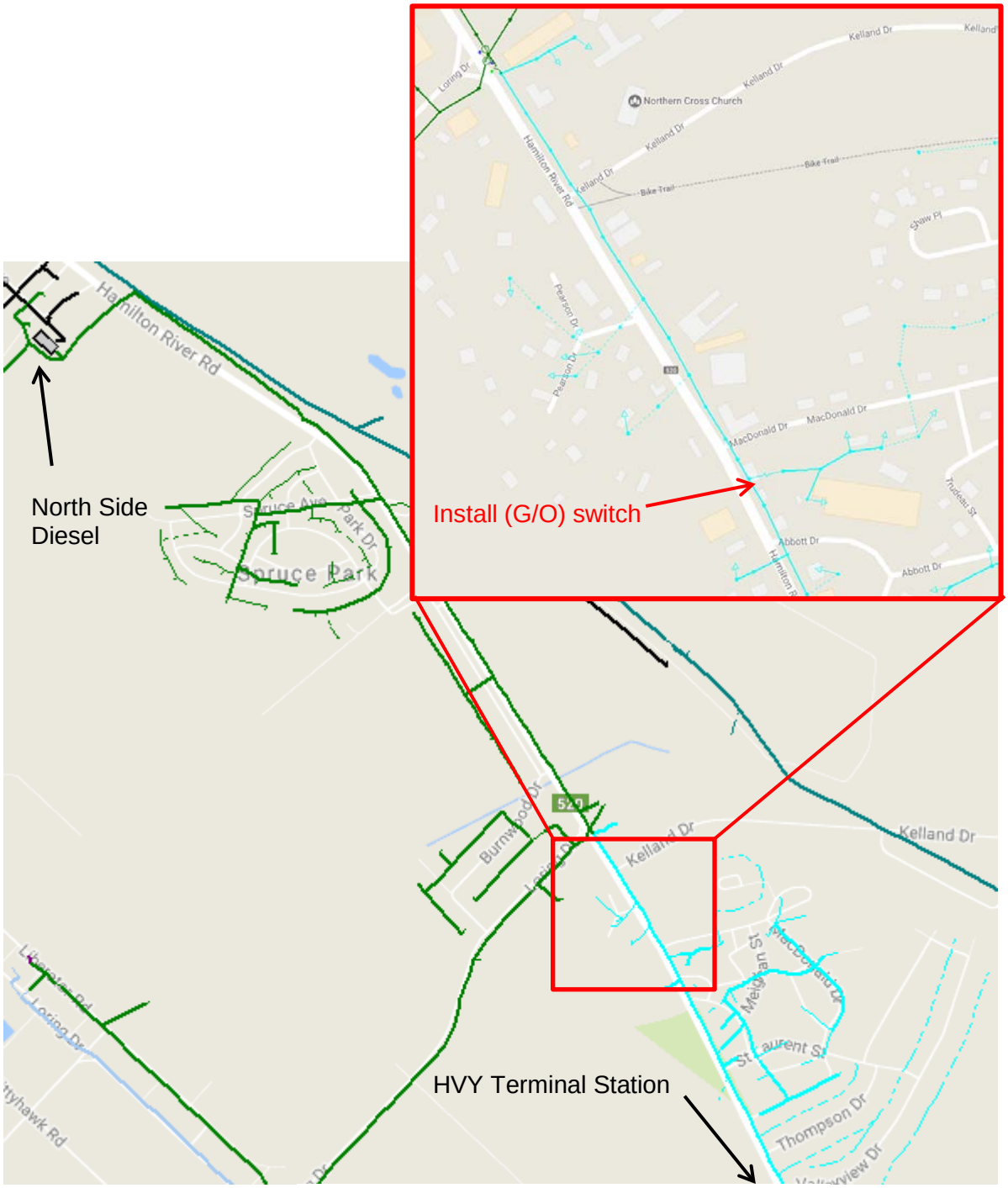


Figure A2: Capital Recommendation #2

4.3 Recommendation #3

To allow the North Side Industrial portion of Feeder HV15 to be rotated, the switch HV15-D26 must be converted to a gang-operated switch. The location of the switch is shown in Figure A3.

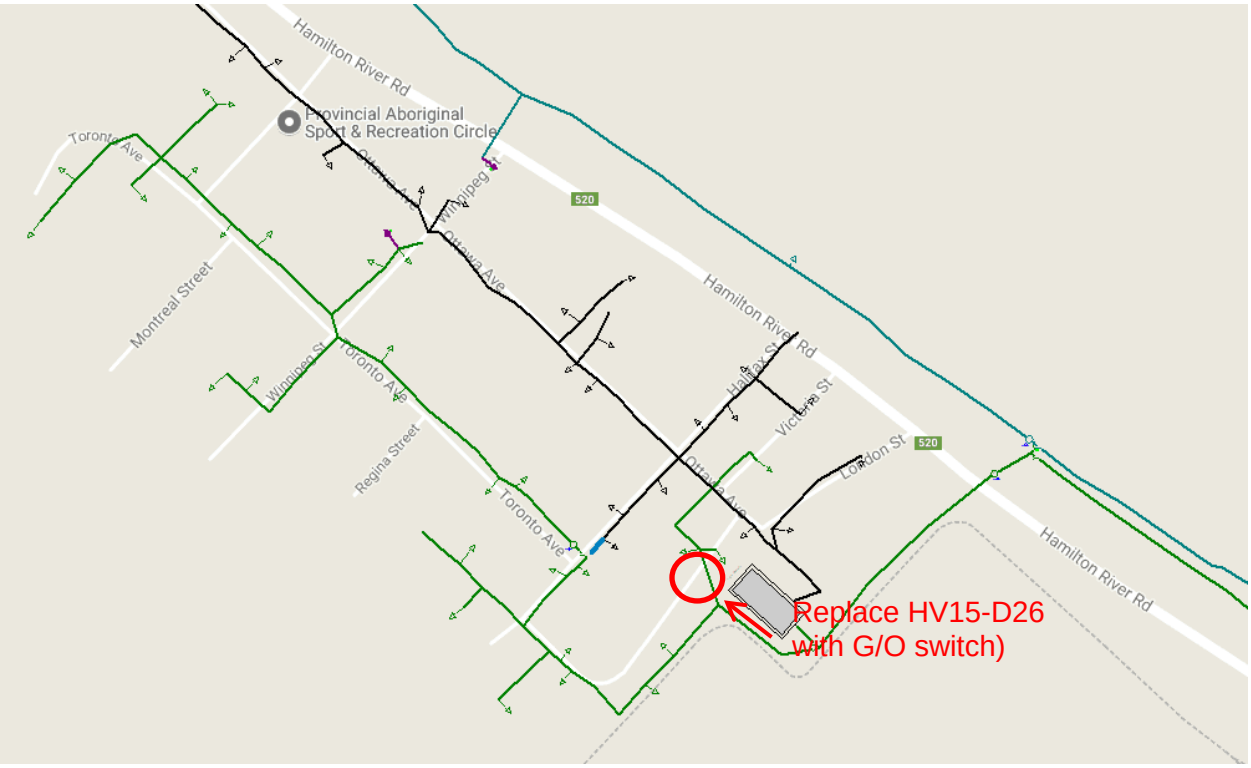


Figure A3: Recommendation #3

4.4 Recommendation #4

To allow the core of North West River and Sheshatshui to be separated from the rest of the system one new gang-operated switch must be installed. The location of the switch is shown in Figure A4.

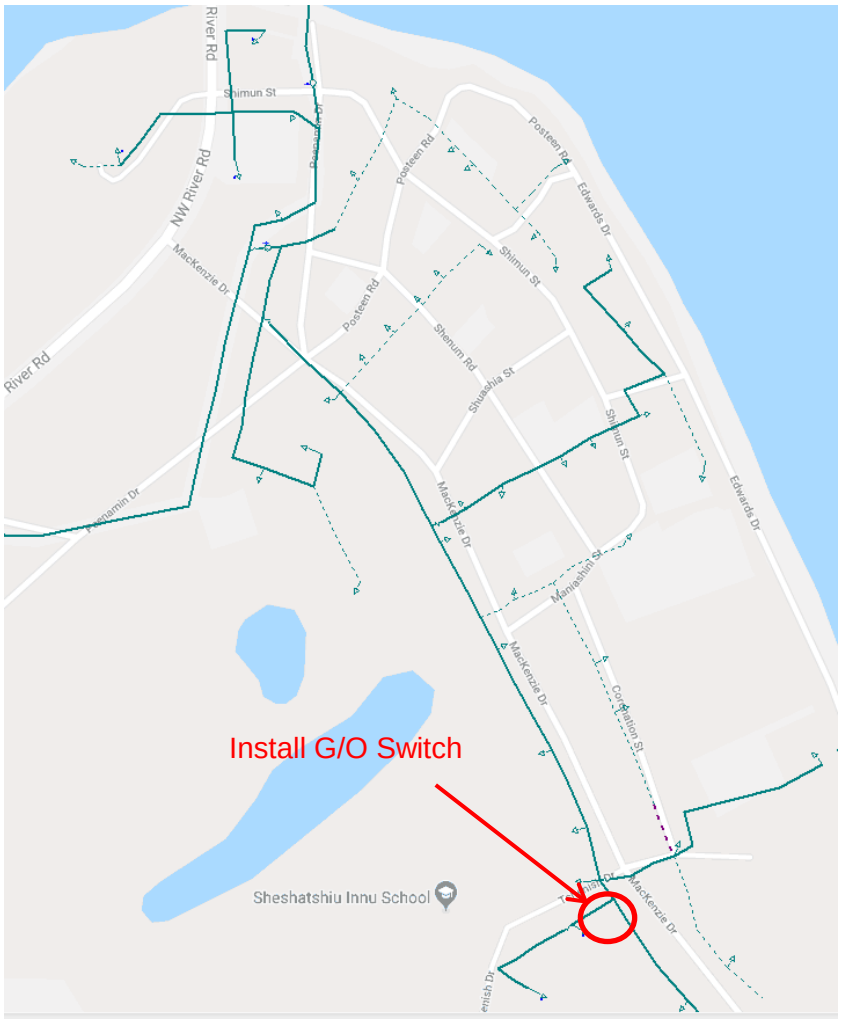
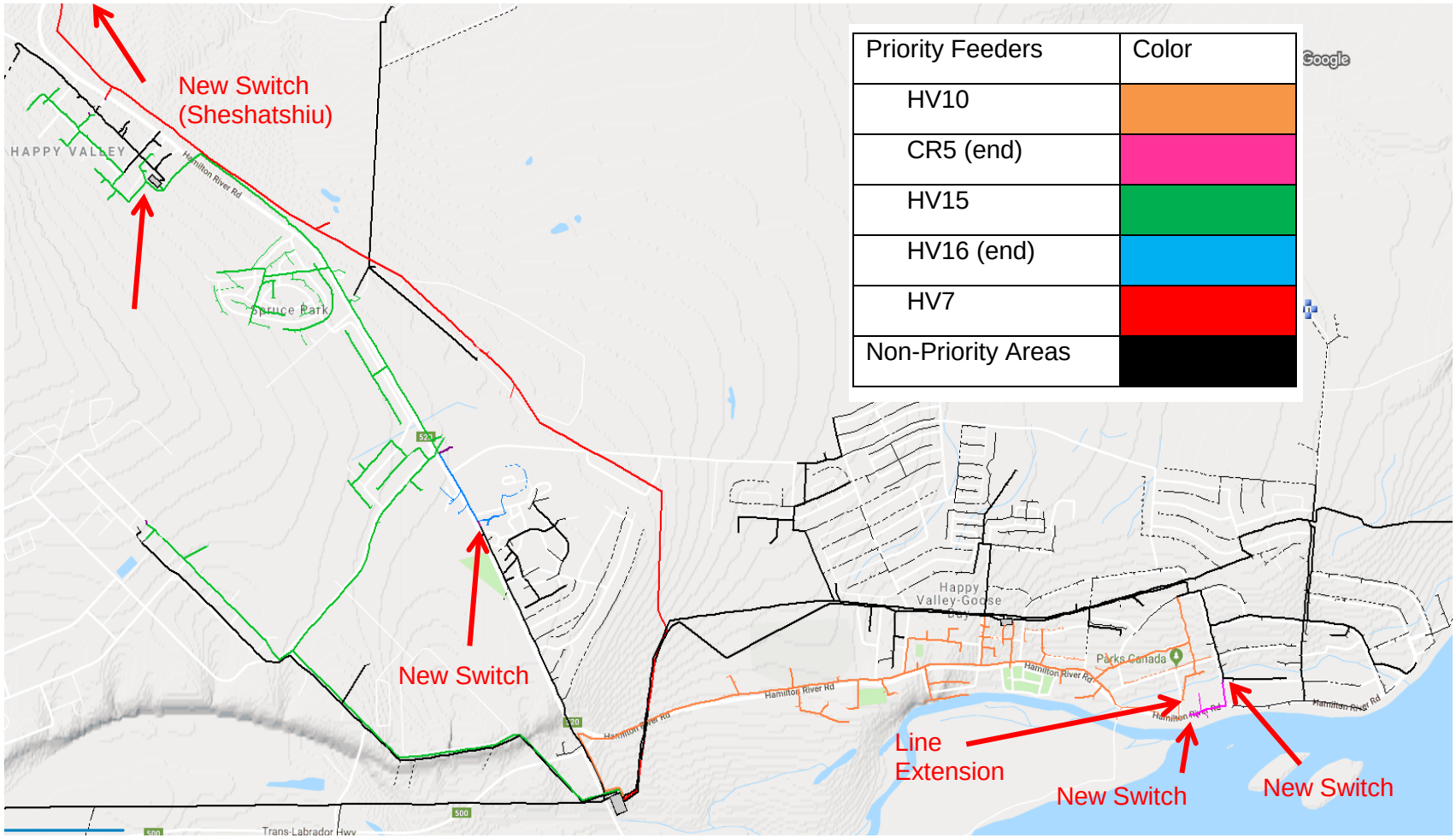


Figure A4: Capital Recommendation #4

Appendix B

Happy Valley-Goose Bay Feeder Layout

Happy Valley-Goose Bay Feeder Layout



(DRAFT ORDER)
NEWFOUNDLAND AND LABRADOR
BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

AN ORDER OF THE BOARD

NO. P.U. __(2018)

IN THE MATTER OF the *Electrical Power Control Act*, RSNL 1994, Chapter E-5.1 (the *EPCA*) and the *Public Utilities Act*, RSNL 1990, Chapter P-47 (the *Act*), and regulations thereunder;

AND IN THE MATTER OF an Application by Newfoundland and Labrador Hydro pursuant to Subsection 41(3) of the Act, for approval of capital expenditures to upgrade the Happy Valley-Goose Bay Distribution System.

WHEREAS Newfoundland and Labrador Hydro (Hydro) is a corporation continued and existing under the *Hydro Corporation Act, 2007*, is a public utility within the meaning of the *Act*, and is subject to the provisions of the *Electrical Power Control Act*, RSNL 1994; and

WHEREAS Section 41(3) of the *Act* requires that a public utility not proceed with the construction, purchase or lease of improvements or additions to its property where:

a) the cost of construction or purchase is in excess of $50,000; or
b) the cost of the lease is in excess of $5,000 in a year of the lease,

without prior approval of the Board; and

WHEREAS in Order No. P.U. 43(2017) the Board approved Hydro's 2018 Capital Budget in the amount of $170,868,300; and

WHEREAS in Order No. P.U. 5(2018) the Board approved additional 2018 capital expenditures and an amended 2018 Capital Budget for Hydro in the amount of $181,193,700; and

WHEREAS the Board approved supplementary 2018 capital expenditures:

(i) in Order No. P.U. 6(2018) in the amount of $719,400 to complete voltage conversion of the Labrador City Feeder VA26;
(ii) in Order No. P.U. 19(2018) in the amount of $1,000,000 to be added to the Allowance for Unforeseen Items;
(iii) in Order No. P.U. 23(2018) in the amount of $1,120,600 to complete Level 2 condition assessments on penstocks at Bay d'Espoir; and
(iv) in Order No. P.U. 25(2018) in the amount of $2,560,500 to restore the design performance of the air heaters to increase the generating capacity of Units 1, 2 and 3 at the Holyrood Thermal Generating Station, including the replacement of the hot end

air heater baskets in the boilers on each unit and replacement of worn air heater sector plate liners and seals on Unit 3; and

WHEREAS on August 3, 2018, Hydro applied to the Board for approval to proceed with capital expenditures of approximately $195,400 to complete upgrades on the Happy Valley-Goose Bay Distribution System; and

WHEREAS the Board is satisfied that the capital expenditures to upgrade the Happy Valley-Goose Bay Distribution System are necessary to minimize customer impact should there be a loss of generation or transmission supply.

IT IS THEREFORE ORDERED THAT:

1. The proposed capital expenditure to upgrade the Happy Valley-Goose Bay Distribution System at an estimated capital cost of $195,400 is approved.

2. Hydro shall pay all expenses of the Board arising from this Application.

DATED at St. John's, Newfoundland and Labrador, this day of , 2018.

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