newfoundland labrador
hydro
a nalcor energy company

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February 5, 2016

The 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 Corporate Services & Board Secretary

Dear Ms. Blundon:

Re: Application by Newfoundland and Labrador Hydro for a 2016 Standby Fuel Deferral Account for Fuel Consumed in Combustion Turbines and Diesel Generators

Hydro is applying for a deferral account to provide for the recovery of unforeseen costs it is incurring with respect to fuel for its standby combustion turbine and diesel generators.

Since July of 2015, precipitation and inflows in hydro-electric reservoirs on the Island have been very low. In addition, the current snow pack is well below normal. Meanwhile, Hydro continues to see strong load growth and has been experiencing outages and deratings of its Holyrood Thermal Generating Station ("Holyrood TGS"). Based on these circumstances, if action is not taken, there is a very real risk that the reservoirs will remain far below normal, putting Hydro's ability to provide sufficient energy generation to its customers in jeopardy.

The requirement to consume diesel fuel for these purposes is caused primarily by the low hydrology, not just in Hydro's reservoirs but also in the reservoirs not owned by Hydro, including the Exploits resources. In addition, Newfoundland Power and Corner Brook Pulp and Paper Limited have informed Hydro that their inflows have been, and are expected to be, lower than usual. Due to these circumstances and the need to provide reliable service to its customers, Hydro will be running combustion turbines and diesel generators at much higher levels in 2016 than in previous years.

The amount of energy that will be generated from standby resources will be far greater than the amount forecast in the 2015 Test Year for the General Rate Application and the financial impact of this could be material. Hydro is therefore applying for a deferral account to manage this generation requirement. Please find enclosed the original and twelve copies of Hydro's application, supporting affidavit, draft order and a report supporting the application.

Should you have any questions, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

Geoffrey P. Young
Senior Legal Counsel

GPY/bs

cc: Gerard Hayes – Newfoundland Power
Paul Coxworthy – Stewart McKelvey Stirling Scales
Sheryl Nisenbaum – Praxair Canada Inc.
Thomas Johnson – Consumer Advocate
Thomas O' Reilly – Cox & Palmer

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

AND IN THE MATTER OF an Application by Newfoundland and Labrador Hydro (Hydro) pursuant to section 70 of the *Act*, for approval of a deferral account for diesel fuel consumed in 2016 to provide capacity and energy to the Island Interconnected System

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

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

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 is the primary generator of electricity in Newfoundland and Labrador. Hydro meets the total generation needs of the Island Interconnected System through a combination of hydraulic and thermal resources. To ensure that Hydro has sufficient water in the reservoirs to meet its needs, during times of low reservoir inflows, Hydro must rely to a greater extent on thermal generating resources. Hydro cannot allow its reservoirs to fall below a safe threshold; in order to be certain of its ability to meet its energy generation needs, it must run sufficient thermal generation to assure that it can do so in the lowest foreseeable hydrologic conditions.

3. Normally, Hydro is able to meet its thermal generation needs in low precipitation years by increasing its generation at the Holyrood Thermal Generating Station ("Holyrood TGS"). Hydro's combustion turbines and diesel generators are typically used as standby

generation for peaking and capacity. In addition, Hydro purchases standby energy from Newfoundland Power by paying the associated fuel costs. Due to experiencing particularly low precipitation in the second half of 2015 and the first month of 2016, Hydro determined that it needs to generate a greater proportion on its energy from its thermal resources.

4. In late 2015 and to date in 2016, Hydro experienced low precipitation, low inflows and lower than usual snowpack in its reservoirs and in the reservoirs and in all hydro-electric reservoirs on the Island. Hydro understands that similarly low hydrologic conditions are occurring in the reservoirs of Hydro's customers with hydraulic generation. Also, Hydro is experiencing reduced energy generation at the Holyrood TGS in recent months due to reheater tube failures in Unit 2 requiring repairs and a likelihood of similar problems occurring in Unit 1, requiring an operational derating of these units. In addition, Hydro has been experiencing a period of continuous customer load growth. This combination of factors has resulted in Hydro needing to run standby thermal generating sources, notably combustion turbines and diesel generators, at considerably higher levels than forecast.

5. Aside from the Holyrood TGS, the other standby thermal generating resources available to Hydro, consume diesel fuel. At present, while Hydro's consumption of No. 6 fuel for its Holyrood TGS is stabilized through the Rate Stabilization Plan such that the actual cost of this fuel consumed is recovered from customers through rate adjustments, no such account or mechanism exists for the consumption of diesel fuel (No. 2 fuel). Hydro did apply for an Energy Supply Cost Variance Account ("ESCVA") in its Amended 2013 General Rate Application (GRA), a component of which addressed diesel costs incurred on the Island Interconnected System, but no order has issued as to that application to date and one is not expected immediately.

6. In order to provide reliable service to its customers and to assure a secure supply of energy throughout late 2015 and in 2016, Hydro has had no choice but to consume much more diesel fuel than was expected in its other thermal standby generating resources. Depending upon Island hydrology and hydro-electric output (whether Hydro's resources or otherwise), and upon customer load and the output of the Holyrood TGS, the amount of diesel fuel consumed could be material, as high as 215 GWh whereas the GRA test year forecast was 11.3 GWh. At current fuel prices, this could result in an exposure to Hydro of $33.3 million.

7. Hydro therefore applies for a deferral account to provide for the deferral and recovery of diesel fuel costs incurred on the Island Interconnected System for standby generation. A description of the proposed deferral account, and the need for this account at this time, are more thoroughly and particularly described and explained in the attached Report.

8. The Applicant submits that the proposed deferral account is reasonable and will assist Hydro in ensuring that it continue to provide service which is reasonable safe and adequate and just and reasonable as required by Section 37 of the *Act*.

DATED at St. John's, in the Province of Newfoundland and Labrador, this 5th day of February 2016.

Geoffrey P. Young
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2016 Standby Fuel Deferral Application

February 5, 2016

newfoundland labrador hydro
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Table of Contents

1.0 Overview: Increased Standby Generation For Energy

Newfoundland and Labrador Hydro (Hydro) has a mandate to provide energy to meet customers' requirements. To provide that energy, Hydro employs a planning methodology which balances hydraulic and thermal production and this balance is adjusted annually depending on the available hydrology. Hydro has a strong focus on ensuring the economic dispatch of its generation and specifically focuses on maximizing generation from hydraulic sources while minimizing generation from thermal sources in order to manage costs to customers. In periods of low precipitation, Hydro relies more on its thermal generation fleet to meet shortfalls in hydraulic production.

Hydro's current position is that low precipitation levels in late 2015 and to date in 2016 have reduced storage levels. Therefore, an increase in thermal generation, more than is currently provided for in rates charged to customers, is required. Specifically;

- Hydro's reservoir storage is at 48% and is the lowest level since 1993. Recent inflows into Hydro's reservoirs are lower than those experienced in all years of the Critical Dry Sequence, which represents the three driest years on record: 1959, 1960, and 1961. Hydro plans its system to meet customer needs should the Critical Dry Sequence reoccur.
- At this time, for Hydro's reservoirs to recover from current levels, Hydro estimates it requires 28 major precipitation events over the next 20 weeks.
- As a result of the forth lowest inflows in 65 years, Hydro has proactively increased its level of thermal production.
- The additional expected thermal generation required to offset low hydrology for the remainder of 2016 is approximately 1,100 GWh.
    - The Holyrood component of the additional thermal generation due to low hydrology is estimated to be 900 GWh, bringing the 2016 total production at Holyrood to 2,500 GWh, which is more than 200% of its recent average annual output.
    - Standby Generation units are, therefore, required to produce the remaining amount, which is estimated to be in excess of 200 GWh[1], compared to 11 GWh in the 2015 Test Year.

[1] In a 1961 inflow scenario, Hydro is estimating Standby Generation of 215 GWh as shown in Appendix A.

- There is currently no regulatory mechanism to allow Hydro to recover additional costs associated with operating the additional Standby Generation. In the absence of regulatory relief, Hydro's net income will be reduced by $33.3 million in 2016 for net loss of $0.1 million based on the 2015 Test Year.
- Hydro is proposing a deferral mechanism to recover the cost of increased Standby Generation for the provision of reliable service to customers.

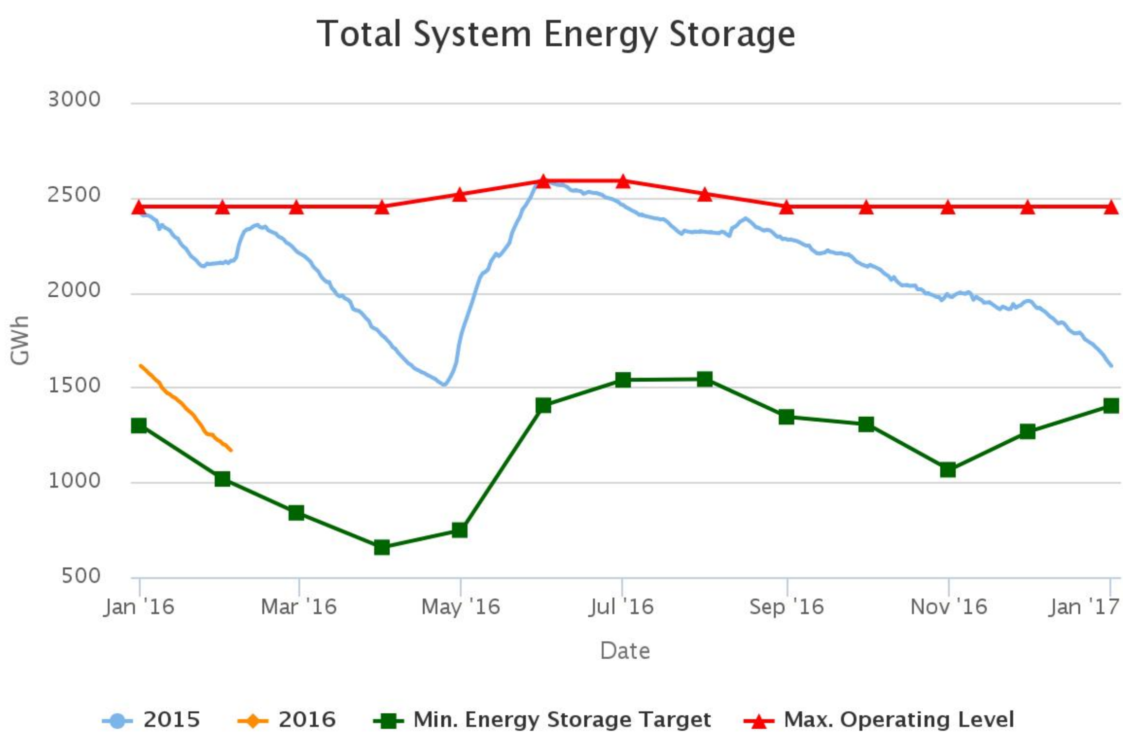
2.0 Low Hydrology: Effect on Hydraulic Production and Generation Mix

Hydro relies on precipitation to fill and maintain its reservoirs for hydraulic generation on the Island Interconnected system. Hydro reservoirs have been experiencing very low precipitation levels in the second half 2015 and in early 2016. Hydro's reservoirs were full in June 2015 and have been in decline since that time due to lower than average precipitation.

2.1 Low Reservoir Storage

Energy storage at Hydro's reservoirs has materially declined since September 2015, as shown in Chart 1. Hydro typically experiences high precipitation levels in the fall however, this did not occur in 2015. Currently, reservoir storage is at the second lowest level in 24 years. This storage level is the result of September to December 2015 inflows which were 24% below average and year to date 2016 inflows are at 26% of average.

Chart 1[2]



[2] Chart 1, minimum storage targets presented are for 2015.

2.2 Minimal Snowpack

Precipitation in the form of snowfall is also a critical part of the hydrology regime. Snow provides for runoff to the reservoirs post winter, and replenishes reservoirs in advance of the typically lower inflows of summer. For the season thus far, snowfall has also been low. Snowpack as of January 27, 2016 is well below typical end of winter levels, as noted in Table 1. Current low snowpack levels suggest that spring runoff in 2016 will result in limited reservoir recovery.

Table 1

Snowpack Data

Location	Typical [3] (mm)	Actual (mm)	Variance (mm)
Cat Arm	270	90	(180)
Victoria	180	93	(87)
Sandy Lake	205	96	(109)
Total	**655**	**279**	**(376)**

2.3 Low Recent Inflows

The cumulative effect of low reservoir storage, lack of fall precipitation, and low January snowpack is an expected material reduction in the amount of hydraulic generation available to Hydro in early 2016. Given current reservoir levels, in order for Hydro to achieve its 2015 Test Year forecast hydraulic production, and achieve 80% of maximum storage at the end of the spring runoff, Hydro would require approximately 28 precipitation events of 25 mm of rain (or approximately 25 cm of snow) during the 20 week period from February to June 2016.

Precipitation events that are mainly snow early in 2016 do not benefit Hydro's reservoirs until the spring runoff. Until that time, thermal generation has been, and will continue to be, dispatched to serve customers.

[3] Values shown in the 'Typical' column represent typical end of winter season snowpack levels. Hydro does not track snowpack data by month as snow surveys are completed twice a season. Values in Table 1 reflect snow gauge data from February 5, 2016.

Inflows experienced since September 2015 in comparison to historical averages are shown in Table 2. As noted below, actual inflow levels from September, 2015 to January, 2016 are slightly lower than Hydro's 1960/1961 dry period.

Table 2

Inflow Comparison

Inflows (GWh)	September	October	November	December	January	Total
Average	235	344	474	434	316	**1,803**
Actual	171	244	376	177	79	**1,047**
1960/1961	86	258	345	249	171	**1,109**

2.4 Reduction in Expected Hydraulic Production

Table 3 provides three hydroelectric generation scenarios for 2016 based on historical precipitation levels: average inflows, 1985 inflows, and 1961 inflows, in comparison to the 2015 Test Year.[4] The 1985 and 1961 scenarios are both unusually dry, where current inflows are also trending. As can be seen in the table, a very dry year can result in a Hydro-owned hydraulic generation nearing 1,000 GWh below average. A full scenario analysis by production source is included in Appendix A to this application.

Table 3

Hydraulic Production

Hydraulic Production (GWh)	Average Inflows	1985 Inflows	1961 Inflows
2015 Test Year	4,604	4,604	4,604
2016 Forecast	4,604	3,861	3,618
Variance	**0**	**(743)**	**(986)**

In addition, based upon the low water scenarios noted above, Hydro estimates that available power purchases from hydraulic sources, such as Nalcor Exploits, Star Lake, and Rattle Brook, could be lower by approximately 190 GWh compared to the 2015 Test Year, bringing the total island hydraulic reduction to about 1,200 GWh.

[4] 1961 inflows are the basis for Hydro's repeat critical dry sequence planning criteria. 1985 inflows represent the fourth driest year on record and a lower winter inflow year than 1961.

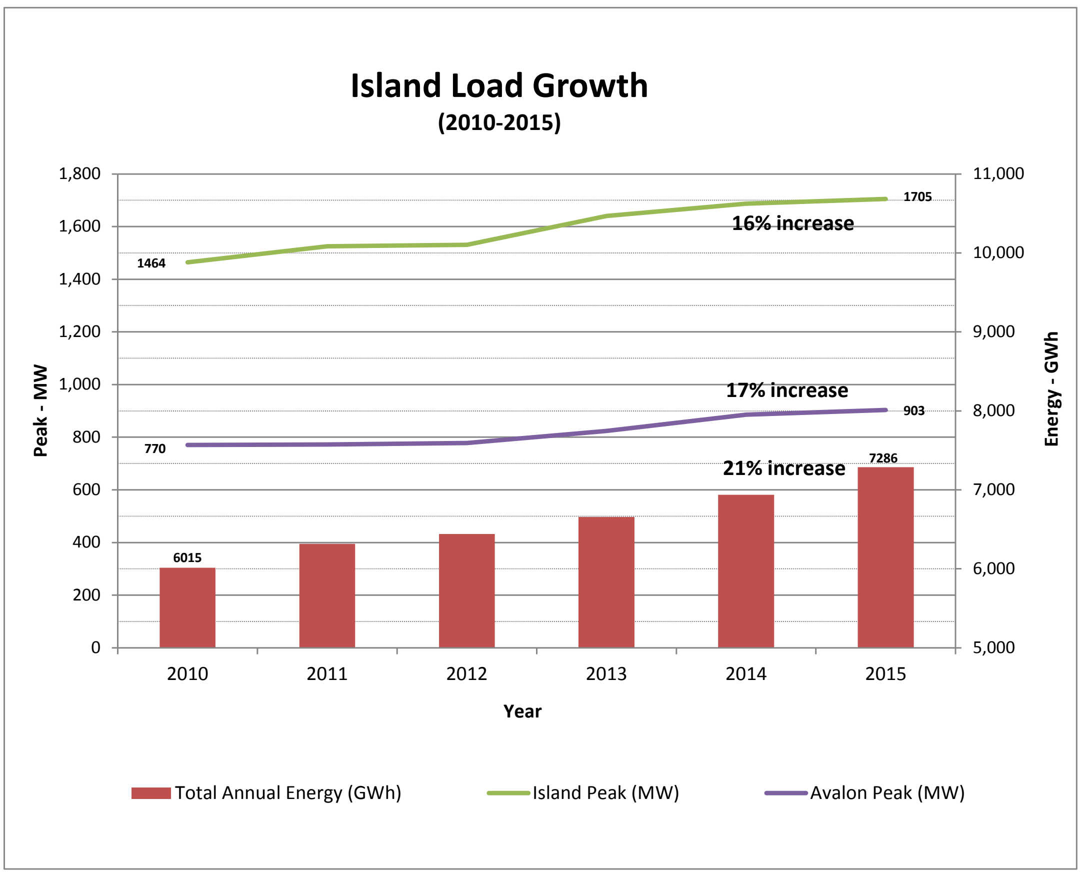
Reduced hydraulic production, both Hydro's own production and energy purchases from non-utility generators, is being replaced by thermal generation to meet customer energy requirements. Given the 2016 precipitation trend, Hydro estimates a total energy requirement of approximately 2,700 GWh from thermal generation sources.

Hydro notes that it expects Newfoundland Power's hydraulic generation will also be impacted in 2016, as the reduced inflows are generally province wide. To ensure the reliable supply to its customers, Hydro is required to ensure that it can replace any generation shortfall that occurs from any generation source.

2.5 Growing Customer Load

Customer energy requirements have been steadily increasing since 2010, as shown in Chart 2. Meeting customer load, combined with a dry year in 2016, requires increased thermal generation in Hydro's generation mix.

Chart 2



3.0 Increased Thermal Generation Required to Balance Low Hydrology

In response to low precipitation levels, Hydro has already proactively increased the amount of thermal generation in its supply mix so that it can continue to meet customer energy requirements. Any shortfall between the thermal requirement and the capability of the Holyrood TGS, which is impacted by planned maintenance, unplanned maintenance, upgrade work, and unit de-ratings at Holyrood TGS, must be replaced by Standby Generation.

3.1 Planned Holyrood TGS 2016 Unit Outages

There is a major capital project for Unit 3 in 2016 including a rewind of the Unit 3 rotor and the generator overhaul. This is in addition to normal annual planned maintenance outages for the Holyrood units. The current schedule is noted below in Table 4. This will ultimately impact the total annual energy capability of the Holyrood TGS.

Table 4

Planned Holyrood TGS Outages

Holyrood TGS	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16
Unit 1							10 Weeks		
Unit 2					12 Weeks				
Unit 3				18 Weeks					

3.2 Unplanned Holyrood TGS Outages Affecting Generation Capability

Hydro's capital budget application notes the amount of energy required to be provide by the Holyrood TGS's in a firm hydraulic year (approximately 3,000 GWH) is generally in excess of the current forecasted requirement due to low hydrology (approximately 2,700 GWh).[5] However, as the Holyrood TGS reaches the end of life, Hydro's ability to operate all units at maximum capacity outside maintenance periods is limited, based on planned and unplanned required maintenance and upgrades. This is most recently evidenced by 2016 Unit 2 unavailability.

[5] Page 4 of Hydro's 2016 Capital Budget Application report "*Holyrood Overview*" *states "The production at Holyrood may vary from that forecasted for the 2015 to 2018 period depending on the hydrologic conditions which influence Hydro's hydraulic energy supply capability. During a high inflow period, production from the Holyrood plant would be kept at minimum levels, with units operated only as required for system capacity and Avalon Peninsula transmission reliability considerations. Production during this period could be less than 1,000 GWh annually. On the other hand, during a repeat of the critical dry sequence, annual required production from Holyrood would be significant, up to 3,000 GWh per year. This requires that all units be operated at maximum capacity outside of their annual planned and maintenance outage requirements.*"

In January 2016, Unit 2 of the Holyrood TGS experienced a number of boiler tube failures. Due to the age of these tubes, a number of sections failed as a result of reduced tube wall thickness. While Hydro has replaced the failed tubes as well as those with the next highest risk of failure, there remain a number of tubes with wall thicknesses below optimal levels in both Units 1 and 2. As a result, Hydro does not consider it appropriate to operate Units 1 and 2 at their maximum capacities until full replacement can be made during the annual maintenance outages of 2016. The emergency tube replacement and reduced maximum capacity affects the total energy output of Holyrood TGS in 2016.

3.3 Holyrood TGS Resultant Maximum 2016 Capacity

Given the status of the boiler tubes and the Holyrood TGS planned outages in 2016, the forecast maximum production from the Holyrood TGS in 2016 is significantly below the theoretical maximum GWh of approximately 3,000, as shown in Table 5.

Table 5

Holyrood TGS Capacity

Particulars	GWh
Holyrood TGS Maximum	2,996
Unit 2 January Outage	(98)
Holyrood TGS Deratings	(264)
Extended Unit 3 Maintenace Outage	(159)
2016 Forecast Production	**2,475**

3.4 Holyrood TGS Recent Historic Generation Capacity

Over the past 10 years, the average annual production at the Holyrood TGS has been approximately 1,000 GWh. The 10 year average Holyrood TGS production of 1,000 GWH is in contrast to 2015 Test Year forecast production of 1,593 GWh, and the approximately maximum 2,500 GWh Holyrood will contribute to the generation mix in 2016 due to low hydrology. Hydraulic and Holyrood TGS production in relation to Island Load over the past 10 years are presented in Table 6.[6]

[6] Remainder of system load provided by power purchases.

Table 6

Historic Production Levels

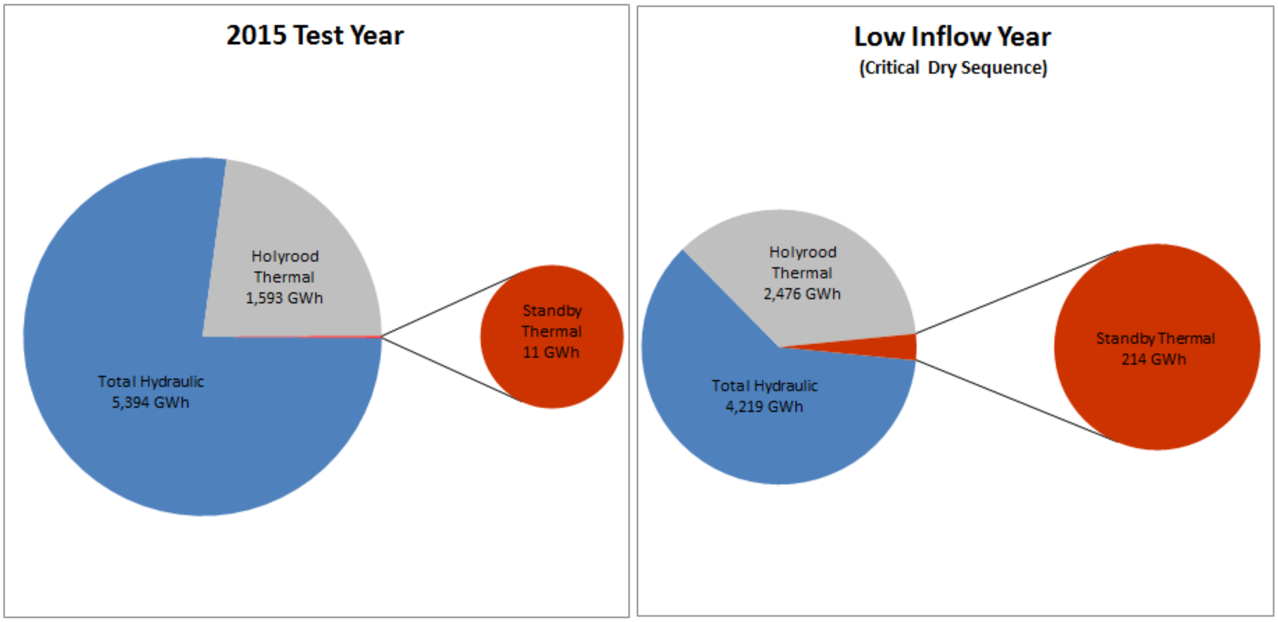
Year	Hydraulic Production (GWh)	HTGS Production (GWh)	Island Load (GWh)
2006	4,803	740	5,982
2007	4,689	1,256	6,389
2008	4,771	1,080	6,294
2009	4,200	940	6,113
2010	4,274	803	6,003
2011	4,512	885	6,287
2012	4,595	856	6,441
2013	4,688	957	6,658
2014	4,658	1,315	6,937
2015	4,824	1,458	7,286
Average	**4,601**	**1,029**	**6,439**

3.5 Standby Generation Requirement

As Holyrood TGS can contribute only 2,500 of the 2,700 GWh estimated to be required due to low hydrology, the shortfall must be made up using Standby Generation. Hydro is estimating that overall Standby Generation levels will be in excess of 200 GWh, as opposed to the 11 GWH forecast in the 2015 Test Year.

Chart 3 shows the impact of low hydraulic production in the 2015 Test Year scenario as well as a dry year scenario. In both scenarios, an increase in Holyrood TGS and Standby Thermal production is required to offset the reduction in available hydraulic production.

Chart 3[7]



3.6 Marginal Energy Production Cost

Under a low hydrology condition, the shortfall in thermal generation from the Holyrood TGS is being replaced by energy from Hydro's Standby thermal units. The forecast fuel cost of a kWh produced from these units is shown in comparison to the Holyrood TGS costs in Table 7.[8] [9]

Table 7

Marginal Production Costs

	Holyrood TGS	Interconnected Diesels	Hardwoods GT	Holyrood CT	Stephenville GT
Cents / kWh	10.61	19.43	21.10	21.40	27.70

Hydro plans to maximize production, where possible, at the Holyrood TGS in order to provide least cost service to customers. However, to ensure reliability of service under low hydrology conditions more

[7] Chart 3 excludes other power purchases, such as wind and co-generation, which are consistent in each scenario.
[8] The fuel cost at the Holyrood TGS is calculated using Hydro's proposed 2015 Test Year values of $64.41 per bbl of No. 6 fuel and a conversion factor of 607 kWh/bbl.
[9] Interconnected Diesels include St. Anthony, Hawkes Bay, and Blackstart Diesels.

energy will be generated from Standby thermal sources at a materially greater cost when compared to the Holyrood TGS.

4.0 Reliability and Operational Resiliency

4.1 Increased Reliability

Even under the Average Inflows scenario used in the test year, Hydro anticipates using increased Standby Generation in 2016 compared to the 2015 Test Year. Hydro operates its Standby Generation in the following situations:

1. In advance of single largest contingencies on the Avalon[10];
2. To meet spinning reserves requirements on the Island Interconnected system[10]; and
3. In response to unit and transmission line outages.

These operational practices are consistent with the findings of Liberty Consulting in their report on the events of March 4, 2015.[11]

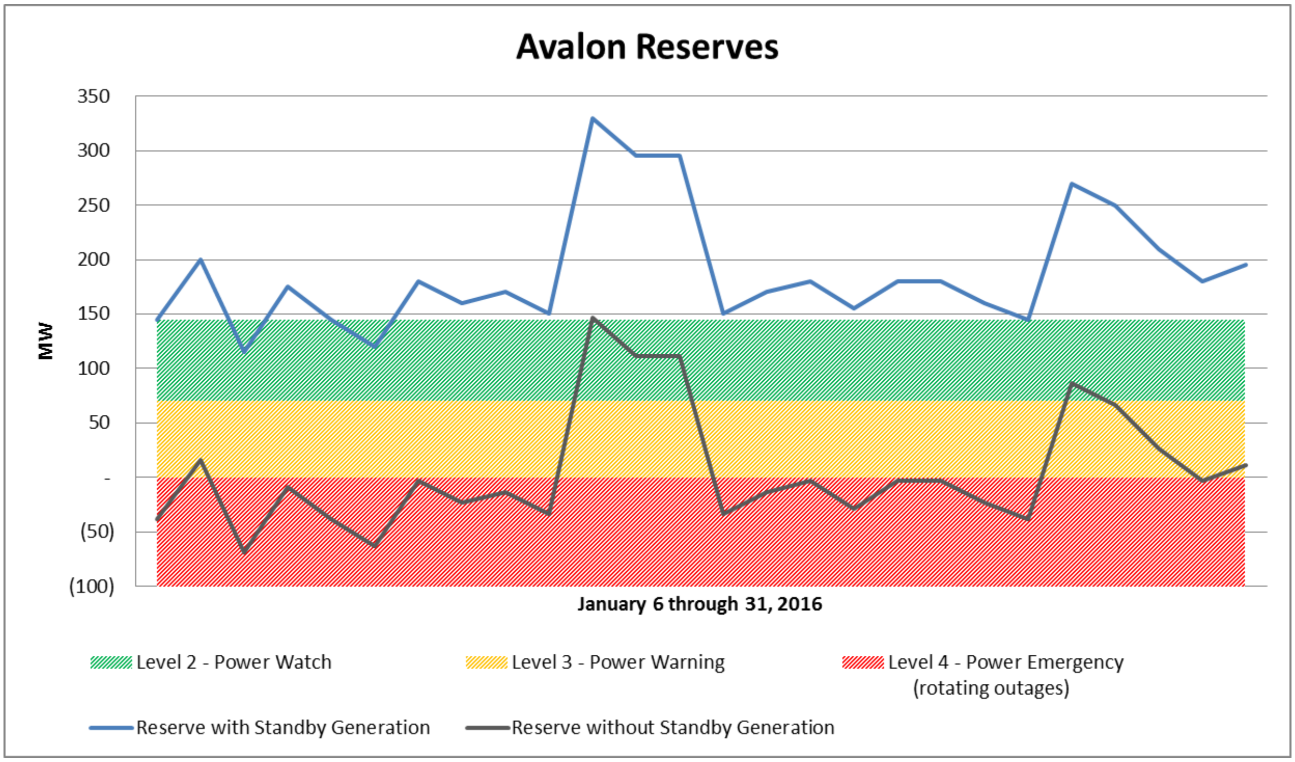
4.2 Increased Avalon and Energy Reserves

There are situations when the Standby Generation units are placed online to support system requirements. In January 2016, Hydro took Unit 2 at the Holyrood TGS out of service for emergency boiler tube replacement. During this time, Hydro's Standby Generation was used to provide reliable service to customers on the Avalon Peninsula as well as to provide energy to the system. Chart 4 illustrates the overall benefit that Standby Generation provides towards reliable supply on the Avalon Peninsula during January 2016.

[10] NLH 2013 GRA Final Submission, page reads "Included in these forecast fuel costs for 2015 is the cost of operating the new Holyrood CT. In contrast to forecast production levels included in the 2015 Test Year, Hydro has been running the Holyrood CT at minimum output levels during peak periods of the day to provide enhanced system reliability. This operational practice began in 2015 in response to enhanced reliability assessments following the March 4, 2015 outage event, and has resulted in increased fuel consumption at the Holyrood CT relative to the 2015 Test Year forecast."

[11] Liberty Consulting Review of the March 4, 2015 Voltage Collapse, Page 7 reads "Liberty continues to believe that Hydro should be significantly enhancing its capabilities to plan and manage reliability contingencies."

Chart 4



As shown in Chart 4, in the absence of running Hydro's Avalon Standby Generation, the Avalon Peninsula would have been in a Level 4 Power Emergency for the majority of January 2016 and Hydro would have instituted rolling customer outages on the Avalon. In addition to improved reliability afforded by running the Standby units, the use of Standby Generation in this manner has also injected energy into Hydro's system. This has resulted in reservoir storages which are higher than they otherwise would have been.

5.0 Financial Impact and Required Relief

Recovery of additional fuel costs not included in base rates is consistent with regulatory practice in this jurisdiction. For Hydro, the RSP is designed to, among other things, ensure recovery of increased No. 6 fuel costs in a low hydrology year. For Newfoundland Power, the Rate Stabilization Account (RSA) allows for deferral and recovery of all fuel costs in excess of base rates. However, Hydro currently has no deferral mechanism to allow for recovery of increased costs associated with operating its Standby Generation in the event of a shortfall in Holyrood TGS capability or to provide for reliable service to its customers.

In the absence of regulatory relief, Hydro's net income will be reduced by $33.3 million in 2016.[12] This would result in a net loss of $0.1 million based on the 2015 Test Year.[13]

Hydro is seeking approval for deferral of the financial impact of increased Standby fuel costs incurred in 2016 as a result of low hydraulic production, hydraulic purchases, and system reliability. The primary drivers of increased Standby fuel in 2016, i.e. low hydrology and increased reliability requirements due to load on the Avalon Peninsula, are beyond Hydro's control and therefore the utility should not be at risk for these costs. Hydro will, at every opportunity, look to minimize the cost of additional fuel in 2016 and provide least cost, reliable service to customers.

A proposed definition of the 2016 Standby Fuel Deferral is included in Appendix B to the Application. Forecast deferral balances based on three precipitation scenarios are included in Appendices C through E.

6.0 Conclusion

Approval of this Application by the Board will permit Hydro to defer fuel costs prudently incurred in the provision of service to customers due to low hydrology. It will also allow Hydro to provide reliable service to customers while still giving Hydro an opportunity to earn a just and reasonable return in 2016.

[12] Calculated deferral balance under 1961 inflows as shown in Appendix C.
[13] Hydro's proposed Net Income under a 2015 Test Year is $33.2 million.

Appendix A

2016 Inflow Scenarios	Average Inflows	1985 Inflows	1961 Inflows
Production (GWh)			
NLH Hydro			
Total Hydroelectric	**4,604.1**	**3,861.4**	**3,617.6**
NLH Thermal			
Holyrood TGS	**1,481.6**	**2,348.0**	**2,475.5**
NLH Standby			
Hardwoods Gas Turbine	6.4	6.4	6.4
Stephenville Gas Turbine	1.2	1.2	1.2
Holyrood CT	68.4	88.1	204.3
Holyrood Diesels	1.7	1.7	1.7
St. Anthony and Hawkes Bay Diesels	0.5	0.5	0.5
Total Standby	**78.2**	**97.9**	**214.1**
NLH Purchases			
Nalcor Exploits	588.0	472.9	472.9
Star Lake	142.2	117.4	117.4
Rattle Brook	14.8	11.4	11.4
CBPP Co-gen	52.2	52.2	52.2
St. Lawrence Wind	104.8	104.8	104.8
Fermeuse Wind	84.4	84.4	84.4
Total Purchases	**986.4**	**843.1**	**843.1**
Total Load	**7,150.4**	**7,150.4**	**7,150.4**

Appendix B

2016 Standby Fuel Deferral Account

This account shall be charged with the Standby Fuel Cost Variance incurred by Hydro on the Island Interconnected System in the 2016 calendar year.

It will apply to variations from Test Year fuel cost from the following supply sources:

- Holyrood Combustion Turbine;
- Hardwoods Gas Turbine;
- Stephenville Gas Turbine;
- St. Anthony Diesel Plant;
- Hawkes Bay Diesel Plant;
- Holyrood Blackstart Diesels; and
- Purchases from Newfoundland Power Thermal.

It will also include variances from Test Year fuel costs resulting from volume variance from the following hydraulic power purchases:

- Nalcor Exploits;
- Star Lake; and
- Rattle Brook.

The Standby Fuel Cost Variance will be determined by the following formula:

A + (B + C)

A = Test Year Standby Fuel Cost Variance for the defined fuel supply sources;

Where:

A = (Actual Standby Fuel Cost – Test Year Standby Fuel Cost)

B = Hydraulic Power Purchase Savings;

Where:

B = (Actual kWh Purchases – Test Year kWh Purchases) x (Test Year Purchase Cost in $ / kWh)

C = Fuel savings resulting from the reduction in generation at the Holyrood TGS.

Where:

C = D/E x F

D = Holyrood TGS Test Year average annual fuel cost per barrel;

E = Test Year fuel conversion factor (kWh/bbl); and

F = [(Actual kWh Standby Generation + Actual kWh Hydraulic Purchases) - (Test Year kWh Standby Generation + Test Year kWh Hydraulic Production)]

Disposition of any Balance in this Account

Hydro shall report to the Board the balance in this account on a quarterly basis and file an Application with the Board no later than March 1, 2017 regarding the disposition of any balance in this account.

2016 Standby Fuel Deferral Account
1961 Inflows

Line No.	Particulars ($)	Holyrood Combustion Turbine	Hardwoods Gas Turbine	Stephenville Gas Turbine	St. Anthony Diesel	Hawkes Bay Diesel	Blackstart Diesel	NP Thermal	Total
1	Forecast Fuel Costs	43,783,433	1,360,772	332,580	49,423	49,423	326,644	200,000	46,102,275
2	Test Year Fuel Costs	1,977,306	1,089,250	407,134	55,917	31,223	-	-	3,560,830
3	**A - Standby Fuel Cost Variance (Line 1 - Line 2)**								**42,541,445**

Line No.	Particulars ($)	Nalcor Exploits	Star Lake	Rattle Brook	Total
4	Forecast Power Purchases(kWh)	472,860,000	117,400,000	11,420,312	
5	Test Year Power Purchases (kWh)	633,500,000	142,180,000	15,000,000	
6	Test Year Cost ($ / kWh)	0.0400	0.0400	0.0836	
7	**B - Power Purchase Variance [(Line 4 - Line 5) x Line 6)]**	**(6,425,600)**	**(991,200)**	**(299,262)**	**(7,716,062)**
8	**C - Holyrood TGS Fuel Costs/(Savings) [(D/E)*F]**				**(1,536,323)**
9	**Standby Fuel Deferral Balance [A+(B+C)]**				**33,289,060**
10	D - Holyrood 2015 Test Year Average Fuel Cost (bbl)				64.41
11	E - Test Year Fuel Conversion Factor (kWh/bbl)				607
12	F - Annual kWh variance - 2016 Forecast vs. 2015 Test Year (kWh) (F1-F2)				(14,478,312)
13	F1 - Test Year Consumption (kWh)				801,940,000
14	F2 - Forecast Consumption (kWh)				816,418,312

2016 Standby Fuel Deferral Account
1985 Inflows

Line No.	Particulars ($)	Holyrood Combustion Turbine	Hardwoods Gas Turbine	Stephenville Gas Turbine	St. Anthony Diesel	Hawkes Bay Diesel	Blackstart Diesel	NP Thermal	Total
1	Forecast Fuel Costs	18,870,876	1,360,772	332,580	49,423	49,423	326,644	200,000	21,189,719
2	Test Year Fuel Costs	1,977,306	1,089,250	407,134	55,917	31,223	-	-	3,560,830
3	**A - Standby Fuel Cost Variance (Line 1 - Line 2)**								**17,628,889**

Line No.	Particulars ($)	Nalcor Exploits	Star Lake	Rattle Brook	Total
4	Forecast Power Purchases(kWh)	472,860,000	117,400,000	11,420,312	
5	Test Year Power Purchases (kWh)	633,500,000	142,180,000	15,000,000	
6	Test Year Cost ($ / kWh)	0.0400	0.0400	0.0836	
7	**B - Power Purchase Variance [(Line 4 - Line 5) x Line 6)]**	**(6,425,600)**	**(991,200)**	**(299,262)**	**(7,716,062)**
8	**C - Holyrood TGS Fuel Costs/(Savings) [(D/E)*F]**				**10,798,139**
9	**Standby Fuel Deferral Balance [A+(B+C)]**				**20,710,966**
10	D - Holyrood 2015 Test Year Average Fuel Cost (bbl)				64.41
11	E - Test Year Fuel Conversion Factor (kWh/bbl)				607
12	F - Annual kWh variance - 2016 Forecast vs. 2015 Test Year (kWh) (F1-F2)				101,761,688
13	F1 - Test Year Consumption (kWh)				801,940,000
14	F2 - Forecast Consumption (kWh)				700,178,312

2016 Standby Fuel Deferral Account
Average Inflows

Line No.	Particulars ($)	Holyrood Combustion Turbine	Hardwoods Gas Turbine	Stephenville Gas Turbine	St. Anthony Diesel	Hawkes Bay Diesel	Blackstart Diesel	NP Thermal	Total
1	Forecast Fuel Costs	14,661,847	1,360,761	332,580	49,423	49,423	326,639	200,000	16,980,672
2	Test Year Fuel Costs	1,977,306	1,089,250	407,134	55,917	31,223	-	-	3,560,830
3	**A - Standby Fuel Cost Variance (Line 1 - Line 2)**								**13,419,842**

Line No.	Particulars ($)	Nalcor Exploits	Star Lake	Rattle Brook	Total
4	Forecast Power Purchases(kWh)	587,970,000	142,190,000	14,800,000	
5	Test Year Power Purchases (kWh)	633,500,000	142,180,000	15,000,000	
6	Test Year Cost ($ / kWh)	0.0400	0.0400	0.0836	
7	**B - Power Purchase Variance [(Line 4 - Line 5) x Line 6)]**	**(1,821,200)**	**400**	**(16,720)**	**(1,837,520)**
8	**C - Holyrood TGS Fuel Costs/(Savings) [(D/E)*F]**				**(2,321,519)**
9	**Standby Fuel Deferral Balance [A+(B+C)]**				**9,260,803**
10	D - Holyrood 2015 Test Year Average Fuel Cost (bbl)				64.41
11	E - Test Year Fuel Conversion Factor (kWh/bbl)				607
12	F - Annual kWh variance - 2016 Forecast vs. 2015 Test Year (kWh) (F1-F2)				(21,878,000)
13	F1 - Test Year Consumption (kWh)				801,940,000
14	F2 - Forecast Consumption (kWh)				823,818,000

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

AND IN THE MATTER OF an Application by Newfoundland and Labrador Hydro (Hydro) pursuant to section 70 of the *Act*, for approval of a deferral account for diesel fuel consumed in 2016 to provide capacity and energy to the Island Interconnected System

AFFIDAVIT

I, John MacIsaac, of the City of St. John's, in the Province of Newfoundland and Labrador, Professional Engineer, **MAKE OATH AND SAY AS FOLLOWS**:

1. I am employed by Newfoundland and Labrador Hydro, the Applicant herein, in the capacity of President, and as such I have knowledge of the matters and things to which I have herein deposed, and make this Affidavit in support of the Application.

2. I have read the contents of the Application and they are correct and true to the best of my knowledge, information and belief.

SWORN to before me at St. John's, in the Province of Newfoundland and Labrador, this 5th day of February, 2016, before me:

Barrister – NL

John MacIsaac

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

AN ORDER OF THE BOARD

NO. P.U. __ (2016)

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 (Hydro) pursuant to section 70 of the *Act*, for approval of a deferral account for diesel fuel consumed in 2016 to provide capacity and energy to the Island Interconnected System

WHEREAS the Applicant 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; and

WHEREAS in the second half of 2015 and in the first month of 2016 there has been extremely low inflows in the Applicant's reservoirs and in the reservoirs of other hydro-electric producers on the island Interconnected System thereby requiring a greater proportion than usual of energy to be generated from thermal generating resources; and

WHEREAS due to the aforementioned hydrological situation, limitations in the output of Hydro's Holyrood Thermal Generating Station, increased customer load, and the need to provide reliable service to its customers, Hydro has needed and will continue to need to generate and acquire more energy than expected from other available thermal generating resources (combustion turbines and diesel generators, both which consume diesel fuel), which generating resources are more typically used as standby generation for capacity and peaking purposes; and

WHEREAS variations that occur in Hydro's fuel costs associated with No. 6 fuel consumed at the Holyrood Thermal Generation Station are stabilized through the Rate Stabilization Plan however that stabilization account does not address variations in the cost of fuel incurred to operate the standby generating resources; and

WHEREAS the fuel costs being incurred by Hydro for the foregoing reasons are material, are higher than forecast, and pose a financial hardship to Hydro; and

WHEREAS on February 5, 2016 the Applicant filed an Application with the Board requesting approval of a deferral account to permit the deferral for later recovery of these standby generation fuel costs; and

WHEREAS the Board is satisfied that the deferral account requested by Hydro in the Application should be approved.

IT IS THEREFORE ORDERED THAT:

1. The standby fuel cost deferral account applied for as set out in its Application 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 ___________, 2016.

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