newfoundland labrador hydro
a nalcor energy company

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

October 21, 2015

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: Newfoundland and Labrador Hydro – 2016 Capital Budget Application

Please find enclosed the original plus 12 copies of Hydro's written submission with regard to its 2016 Capital Budget 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
Thomas Johnson – Consumer Advocate
Thomas J. O'Reilly, Q.C. – Cox & Palmer

A REPORT TO

THE BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

2016 CAPITAL BUDGET APPLICATION
FINAL SUBMISSION

NEWFOUNDLAND AND LABRADOR HYDRO

October 21, 2015

newfoundland labrador hydro
a nalcor energy company

Table of Contents

IN THE MATTER OF the *Public Utilities Act*, (the "Act"); and

IN THE MATTER OF an Application by Newfoundland and Labrador Hydro for an Order approving: (1) its 2016 capital budget pursuant to s.41(1) of the Act; (2) its 2016 capital purchases, and construction projects in excess of $50,000 pursuant to s.41 (3) (a) of the Act; (3) its leases in excess of $5,000 pursuant to s. 41 (3) (b) of the Act; and (4) its estimated contributions in aid of construction for 2016 pursuant to s.41 (5) of the Act.

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

1 Introduction

Newfoundland and Labrador Hydro ("Hydro") filed its 2016 Capital Budget Application ("Application") with the Board of Commissioners of Public Utilities (the "Board") on July 31, 2015 seeking approval under Section 41 of the *Public Utilities Act* (the "Act") of $183.7 million in capital expenditures. On October 2, 2015, Hydro withdrew the 2016 project "Upgrade Citrix" (Volume I, E-58) and the Cartwright component of the 2016 project "Replace Diesel Units" (Volume I, C-43 and Volume III, Tab 12).

Hydro seeks approval of its 2016 Capital Budget projects and in support of that Application makes the following submissions.

2 Legislative Framework

Section 37 of the Act required Hydro to provide electrical service and facilities that are safe and adequate and just and reasonable. Section 41 of the Act also requires Hydro to obtain approval from the Board for its annual capital budget. In addition, Section 3 of the *Electrical Power Control Act, 1994* requires that Hydro provide electrical service that is efficient, that is provided such that its customers have equitable access to an adequate supply of power, and that is provided at least cost consistent with reliable service.

Hydro submits that all of its projects that are before the Board in this Application are reasonably required to meet Hydro's obligations under the Act and the *Electrical Power Control Act, 1994* to provide power and service to its customers that is reasonably safe and adequate and at the lowest possible cost consistent with reliable service.

3 Specific Projects

Hydro notes that the intervenors have made submissions about four specific projects that are the subject matter of this Application and, in addition, have made comments about two other projects that have already been approved by the Board but that have future reporting

requirements associated with them. Hydro's present submission deals with only those six projects.

3.1 Volume I, Page D-248 – Install Hydrometeorological Equipment – Various Sites

The Project Justification provided for this project clearly establishes the need and monetary savings associated with gaining accurate hydrometeorological data. This is derived from the cost of spill events at a hydro-electric generation site. At page D-249, Hydro cites an example of a single one-day spill event at Cat Arm which could cost $164,000 in Holyrood fuel. No party has challenged the merits of this project *per se*; the Island Industrial Customers (IC) have challenged this project based upon whether the actual method chosen for snow measurement is least cost. In that connection, citing IC-NLH-058, the IC has submitted that the project should not be approved unless Hydro can show it to be cheaper than the alternatives.

In response, Hydro refers to IC-NLH-058 and would point out that Hydro's decision to choose the technology it did in the absence of a cost comparison is well-founded. Glycol-filled bladders were judged to be environmentally risky and were ruled out as being unsuitable on that basis. There is another technology available (metal plates fitted with pressure sensors). Hydro has experience with this technology and has judged it to be insufficiently robust for use in Hydro's remote locations. For these reasons (respectively, environmental risks and lack of robustness for use in Hydro's remote regions), these technologies were judged to be unsuitable for use by Hydro.

Due to the potentially very high cost of spill events, the importance of the acquiring reliable data from these instruments, and the relatively low cost of acquiring these data from any these of technologies, Hydro focused on the technology which appears to be best able to provide Hydro with reliable data without causing environmental risks or suffering from in-service failures. Hydro submits that this project should not be rejected or deferred pending a comparative cost analysis that would include unsuitable technologies.

3.2 Volume I, Page D-353 – Replace Light Duty Mobile Equipment

This project provides for the replacement of 13 all-terrain vehicles, eight snowmobiles and six light-duty trailers. Hydro applies replacement criteria for these assets which is informed by its own experience and by information received from other Atlantic utilities.

The replacement criteria provide assistance in determining when the equipment is expected to require replacement. The replacement criteria differ depending upon the type of equipment and upon the use to which it is put—due to differences in terrain and operating circumstances, mobile equipment used by Hydro's transmission maintenance crews suffer more damage than that used by its distribution and generation crews, therefore, the expected life span is shorter for equipment used to support transmission maintenance work (CA-NLH-010).

The other important fact as to the assessment age criteria is that a piece of equipment which has not sustained serious damage or wear and tear will be retained beyond its assessment time. An actual assessment is conducted to determine the condition of the equipment in question. This approach can be seen by reference to the Table in CA-NLH-012 which shows two pieces of equipment that were retained significantly beyond their assessment life. As stated in CA-NLH-010 (starting at page 1 of 2, line 21:

> Hydro notes that the age and kilometer criteria for replacement is when a vehicle is *considered* for replacement. At age or mileage criteria, Hydro will evaluate the other criteria, as well as condition and maintenance cost. For example, Hydro will not replace a light duty vehicle with low mileage and low maintenance costs simply because the age criteria has been met. Considering the light duty vehicles proposed to be replaced in this project, the average age of ATV/snowmobile is about 6.5 years, as well, there is an ATV that is planned for replacement at age 9.1 years, and criteria for age to be considered for replacement ranges from three to seven years.

The Consumer Advocate was the only intervenor to take issue with this project and the concern raised is restricted to the age of assessment for non-transmission work vehicles. The Consumer Advocate submitted that Hydro should use the assessment age used by other Atlantic Province

utilities and that Hydro should defer the replacement of any that are replaced earlier than that time. With respect, Hydro submits that the differences between the lives of the assets amongst Atlantic utilities may well result from the differences in the geography in which they are used. In any event, because the assessment age is not determinative of the replacement of a particular piece of equipment but is used only as a guideline as to when replacement should be considered, there is no reason to reject any portion of this project based upon Hydro's assessment criteria.

3.3 Volume III, Tab 27 – Replace Roof on Services Building, Bishop's Falls

The Consumer Advocate is the only intervenor to have taken issue with this project and the only issue raised is the choice to use a cold applied roofing system as opposed to a hot applied system using an open flame source. The contention is that "… Hydro has not provided any evidence as to why a hot applied roofing system, which is still used for residential homes and commercial buildings, cannot be applied…" It is added that a cost-benefit analysis has not been provided for the 30% reduction in the costs between the hot and cold applied roofing systems.

Hydro notes that avoiding the 30% additional installation cost would apply to the "Contract" portion of the budget for this project. This would result in less than a 20% reduction in the overall project cost. Hydro's response to CA-NLH-039 reads:

> A. Hydro has not completed a detailed estimate for the application of a hot applied roofing system, on the Bishop's Falls Services Building. Generally speaking, cold applied systems cost approximately 30% more to install than hot applied systems.

Hydro chose the cold applied system to the open flame method primarily for safety reasons (CA-NLH-038). There is sometimes an unavoidable cost premium associated with choosing safer work and construction methods. Using cost-benefit analyses on a job-by-job basis where safer work methods are compared to cheaper, but less safe, methods can provide misleading and ill-advised results. Hydro submits that use of the safer, cold applied roofing system is prudent and reasonable.

3.4 Volume I, Page E-71 – Refresh Security Software (Hydro Place)

This project pertains to the implementing of several new systems and the refreshing of other software and hardware required for the protection of systems that are critical to the integrity of Hydro's operations. On page E-71 of the Project proposal Hydro states:

> While Hydro has been successful in protecting its IT assets from malicious threats, continual updates and improvements are necessary to protect against the global growth and increasing sophistication of cyber threats and cyber criminal activity.

The IC submitted that systems that have been refreshed in 2013 and 2014 do not need to be refreshed during 2016 and that only those that have not been refreshed since 2010 ought to be considered. With respect, Hydro submits that this would not be prudent course of action for the critical systems of public utility responsible for the generation and bulk transmission for an entire province.

It is common knowledge that constant vigilance is needed to ensure that an organization maintains secure computer systems that are free from threats. The more critical the application, the more important it is to ensure secure computer systems and networks. The Project Justification for this project clearly indicates that the increasing reliance on information systems and expanding data networks increases exposure to information security threats to Hydro's critical infrastructure. These risks relate to information security (e.g. loss of critical infrastructure stability and processing capability due to hardware/software failure or threat of virus attacks), availability of information (e.g. loss of communication across the wide area network) and risk of corporate data loss (e.g. loss of data through cybercriminal malware and attacks).

On page E-72, Hydro notes:

> A serious incident involving the loss of corporate data, or access to critical business, plant or *energy control systems*, would result in unplanned costs to contain, investigate and remediate the incident, as well as investments to change systems or processes if

required. These incidents could negatively affect financial results, reputation, and the *province's power grid***.**

Business information systems and software are critical to the secure operations of the utility. Hydro notes specifically that this project is critical to the safe, secure operation of the provincial electrical grid. These Security Software upgrades are required to maintain the reliability of the electrical grid.

3.5 Supply and Install 100 MW (Nominal) of Combustion Turbine Generation

This project was approved by Order No. P.U. 16(2014) with the costs of the project to be reviewed at a later time. The costs of this project will be reviewed by the Board as part of the Prudence review proceedings under Hydro's current General Rate Application. As part of the present Capital Budget filing for 2016, Hydro included its 2015 Capital Expenditures Overview in its normal manner. That Overview indicates that the project is $10.5 million over its budget of approximately $119 million, this amounts to approximately 8.8% of the estimated capital cost. Newfoundland Power has submitted that it is not yet clear whether this amount is reasonable, while acknowledging that the $10.5 million represents less than the 10% figure which triggers a reporting threshold.

Aside from its inclusion in the 2015 Capital Expenditures Overview, this project does not arise for review as part of the present Capital Budget Application. Hydro remains confident that the Board will find this project to have been a prudently chosen and properly executed project, and with the full amount as properly being included in rate base, upon any examination which the Board deems proper to determine this matter.

3.6 Upgrade Transmission Line Corridor, Bay d'Espoir to Western Avalon

This project (for Transmission Line TL267) is not part of Hydro's present filing, having been approved by the Board under Order No. P.U. 53(2014). Unlike a number of other projects that the Board has approved in recent years, there is no specific separate requirement for a further proceeding or process for this project to be included in rate base, however, due to the

magnitude of the project, in Order No. P.U. 53(2014), the Board included the following reporting requirement:

> 2. Hydro will file, with each capital budget application until the completion of the project, a report on the construction of the 230 kV transmission line addressing the work progress, the expenditure and budget status, and an explanation for any deviations from the project scope and budget.

Newfoundland Power has raised an issue as to the project management, engineering and construction management of the TL267 project, noting (1) that these services will be provided by an affiliate of Hydro, the Lower Churchill Management Corporation, and (2) that Hydro did not issue a public tender for these services.

Hydro submits that there is no impediment from utilizing the services of an affiliate in the carrying out of this or any other project. As set out in NP-NLH-003, the manner by which these services will be carried out will follow appropriate and prudent cost control and project execution practices. Further, as explained in NP-NLH-004, there is no standard practice or requirement, arising from the *Public Tender Act*[1] or otherwise, for a public tender process for engineering services. Hydro is confident that fulfilling the reporting requirements set out in paragraph 2 of Order No. P.U. 53(2014) (set out above) will provide the Board with sufficient information as to Hydro's execution of this project within least cost principles and practices.

[1] RSNL 1990 CHAPTER P-45, note that paragraph 2(g), which defines "services" for the purpose of identifying those that require a public tender, reads

> (g) "services" does not include legal, engineering, architectural, accounting, land surveying, banking or insurance services, voice telephone services, or other services that require the giving of an opinion, creativity, the preparation of a design, or technical expertise;

ALL OF WHICH IS RESPECTFULLY SUBMITTED at St. John's in the Province of Newfoundland and Labrador, this 21st day of October, 2015.

Geoffrey P. Young
Counsel for the Applicant,
Newfoundland and Labrador Hydro
Hydro Place, 500 Columbus Drive
P.O. Box 12400
St. John's, NL A1B 4K7

Tel: (709) 737-1277
Fax: (709) 737-1782