File No.

NEWFOUNDLAND AND LABRADOR HYDRO
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October 13, 2006

By Hand and E-Mail

Board of Commissioners
of Public Utilities
P.O. Box 21040
St. John's, NF, A1A 5B2

Attention: Cheryl Blundon – Director of Corporate Services and Board Secretary

Dear Ms. Blundon:

Re: Newfoundland and Labrador Hydro – 2007 Capital Budget Application

Please find enclosed an original and ten copies of Hydro's written submission in the above-noted matter, which was filed and circulated to the parties electronically today.

We trust that you will find the enclosed to be in order.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

Geoffrey P. Young
Legal Counsel

Encl.

cc. Mr. Joseph Hutchings, Q.C. - Poole Althouse
Mr. Paul Coxworthy - Stewart Mckelvey
Mr. Gerard Hayes - Newfoundland Power
Mr. Thomas Johnson – O'Dea Earle

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 2007 capital budget pursuant to s. 41(1) of the Act; (2) its 2007 capital purchases 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 2006 pursuant to s.41(5) of the Act and for an Order pursuant to s. 78 of the Act fixing and determining its average rate base for 2005.

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

SUBMISSION OF THE APPLICANT, NEWFOUNDLAND AND LABRADOR HYDRO

INTRODUCTION

Newfoundland and Labrador Hydro ("Hydro) has applied for approval of its 2007 capital budget in the amount of $41.4 million. The application has followed the guidelines and conditions set out by the Board in Order P.U. 7 (2002-2003) and the Provisional Capital Budget Application Guidelines dated June 2, 2005.

The Board and the Industrial Customers filed, and Hydro answered, several hundred Requests for Information. In addition, Hydro held a Technical Conference on the requested subjects of Projects B-14 Holyrood Condition Assessment and B-24 Gas Turbine Condition Assessment which focused upon questions submitted by the parties and Board staff. The parties were further

assisted in this matter by means of a tour of the Holyrood Thermal Generating Station. No formal hearing was held in the matter.

In Hydro's view, the processes that were carried out in the present matter are appropriate and sufficient for the parties and the Board to gain a full understanding of the issues and facts that are necessary for a proper consideration of Hydro's request.

For ease of reference, this discussion of projects in this submission follows the order in which they are dealt with in the Industrial Customers' submission.

HYDRO'S CAPITAL PROJECT SCREENING PROCESS

Hydro would suggest to the Board that the manner in which this issue is addressed by the Industrial Customers is suggestive of a lack of understanding or appreciation for Hydro's statutory responsibilities to provide reliable power and an acceptable level of service. The reason that Hydro does not prioritize all of its projects is simply that it is not a productive or informative process to carry out for projects that must be undertaken and completed to ensure the safety of the public or of Hydro's employees, or to ensure compliance with environmental regulations. Similarly, Hydro will not hesitate to propose to the Board those projects that are required to ensure an acceptable level of reliable service. Finally, Hydro will generally propose that those projects be undertaken that can

be shown to have positive economic attributes in that they enable Hydro to provide least cost power.

There is, however, an additional guideline that Hydro endeavours to follow – that the total of Hydro's capital projects in a year would not normally exceed cash flow from operations consisting primarily of net income, depreciation and some other non-cash items.

The Industrial Customers have not postulated an approach to capital budget selection that provides a useful, prudent or meaningful basis to "screen" projects.

Hydro would refer the Board to its responses to IC-4 NLH and IC-5 NLH which, together, clearly and succinctly set out the process Hydro undergoes in determining which projects will be proposed to the Board in Hydro's capital budget application. Hydro makes no apologies for not agreeing to set an arbitrary limit on its capital budget or for refusing to set artificial limits on the number of projects that meet these criteria. The processes that Hydro follows in assembling its capital budgets are carefully designed to ensure that the budget proposals that come before the Board are those that provide adequate, reliable and reasonable service at least cost.

Also, Hydro would observe that the recent levels of increase in Hydro's capital budget as observed by the Industrial Customers is a direct result of operating

and maintaining aging generating, transmission and distribution plant in a harsh environment. A significant portion of Hydro's plant was built in the late 1960's and much of it is requiring replacement. It would be irresponsible for Hydro to set arbitrary limits as to the level of capital investment. Hydro is required by the governing legislation to continue to provide least cost reliable service to its customers and a crucial aspect of delivering reliable service is to ensure that its assets are sound and adequate for that purpose.

Hydro submits that its 2007Capital Budget as filed with the Board is fully justified and is required in order for Hydro to provide its power and energy services in a manner that is consistent with its duties to provide those services and facilities in a manner that is reasonably safe, adequate and reliable, and at least cost.

INDIVIDUAL PROJECT COMMENTS BY INDUSTRIAL CUSTOMERS

Upgrade Upper Salmon Access Road – B-5

Hydro owns and maintains a 48 km road to gain daily access to its 86 MW Upper Salmon Plant and to a number of other critical structures and facilities in the Bay d'Espoir watershed system. While this road has been properly maintained over the years, (grading, culvert repairs, etc. see PUB 2.0 NLH) Hydro's engineering advice is that it would be prudent to carry out capital works to replace the eroded road topping. While it is true that the sub-grade roadbed is in good condition,

gravel roads require topping to ensure they can be maintained and graded to a reasonable level and that the roadbed does not deteriorate. This road is an important transportation route to vital facilities in Hydro's largest generating system. It is not prudent to wait for more significant road erosion, vehicle damage, accidents, or fuel spills to occur before this work is undertaken.

Upgrade Burnt Dam Access Road – B-6

As can be seen from the photographs that are attached to IC-7 NLH, the condition of this important road is severely deteriorated and is in need of culvert repairs and road topping to repair its eroded surface.

Hydro's most important generation assets comprise a number of remote hydro-electric facilities. The roads that Hydro uses to gain ready and regular access to these facilities are essential assets that require regular maintenance and, occasionally, sustaining capital. It is not prudent or advisable to allow these roads to deteriorate to the point that they cause damage to vehicles or interfere with Hydro's generation operations. While the costs of these projects appear to be considerable, it should be recognized that both of the roads referred to above were installed several decades ago and the combined length of these roads is 98 km. This investment is needed to ensure that these roads can be maintained in a state that is suitable for safe and efficient transporting of equipment and personnel so that Hydro's generation operations are not compromised. The dismissive "rough ride" comment from the Industrial Customers evinces a lack of

understanding of the importance of the projects and their stated purposes. The rough ride is symptomatic of the real problem, that these roads are worn to what should be their sub-grade roadbed because there is no topping left to grade.

Construct Contaminated Water Treatment Pilot Plant – Holyrood (B-18)

The Industrial Customers' comments on this project suggest that they have a profoundly different approach to this and other environmental issues than does Hydro. Hydro's approach is to take those reasonable and prudent steps that ensure that it does not violate the environmental legislation that governs its activities. This project fits that description.

Were hydro to take the approach to environmental issues that appears to be suggested by the Industrial Customers, Hydro would take actions only in those instances when the regulator becomes aware of the problem and is pressing for a solution, or when a significant impact on the environment has already been caused, as judged by their own standards, not by those set in legislated limits. In instances when the regulator has not yet discovered that a pollutant is being emitted into the environment, it would seem that the Industrial Customers would believe it to be appropriate to carry on polluting the environment until there is evidence provided by some party that the environment has been negatively impacted.

This approach to meeting environmental standards is in total disregard for the standards set by the legislature and regulator as to environmental emissions. In Hydro's view, it is not acceptable to continue to knowingly emit substances into the environment in amounts or concentrations that are in excess of those standards that have been set by legislation and regulation without taking appropriate steps to remedy the problem. Hydro has stated (see IC-42 NLH) that it became aware of the emission of excess amounts of ammoniacal nitrogen through its own investigations. This project comprises a pilot scale treatment plant to determine the best method to deal with this problem. Hydro is entitled to receive approval of capital works it proposes that are required to enable it, in a cost effective manner, to comply with environmental or other legislation.

Supply and Installation of Bridge – TL-233 at South West River – B-35

TL-233 is a 230 kV transmission line situated in western Newfoundland that connects Hydro's Buchans and Bottom Brook (near Stephenville) terminal stations. Since 2004, when the bridge owned by Abitibi became unusable and was removed, Hydro has been accessing this transmission line via a snowmobile from Bottom Brook. Hydro would normally use this bridge approximately 15 times per year for maintenance purposes but since this bridge was removed, preventative maintenance has been deferred pending a resolution to this access issue (see IC-14 NLH, PUB 67.0 NLH). Hydro has stated that fording the river would be problematic with regard to permitting due to the fact that it is a scheduled salmon river. There are significant delay issues associated with using

alternative routes that would add costs for regular maintenance activities and would likely cause delays in restoring power in emergency outage incidents.

Microwave Site Refurbishing- Godaleich Hill – B-35

This project is a continuation of a program to refurbish a number of microwave facilities throughout Hydro's system. Two similar projects were approved by the Board for Hydro's 2006 capital budget. These microwave sites are links in a chain that together constitute a vital communication system for the operation of Hydro's generation and transmission systems. Refurbishment is required to ensure that this 25 year-old facility remains reliable and it will extend its useful life by 5-10 years. The alternative to not carrying out this project is to risk failure of the facility which could cause a failure of the power grid control by Hydro's Energy Control Centre possibly leading to power outages or considerable delays in power restoration.

Holyrood Condition Assessment – B-14

The Holyrood Thermal Generating Station (HTGS) was commissioned in 1969 with a third unit added in 1980. Particularly in its early life, the plant was used as a peaking or standby plant, as opposed to a base load plant, which means that its units' operating hours are somewhat less than might be expected for a plant of its vintage. Thermal-electric generating plants, by their nature, are extremely complex facilities containing literally hundreds of systems, all of which must operate safely, reliably and efficiently. Some of these systems deteriorate in

accordance with the number of operating hours; the deterioration of other components are influenced to a greater degree by their chronological age. This plant has reached its chronological useful life and is approaching that stage in accordance with its operating hours.

To be assured that Hydro's customers are getting full value from this facility and to be assured that the plant will be able to continue to play its vital role in providing power and energy to the system, it is essential that Hydro is fully aware of the state of each of the plant's critical components. Recent experiences with boiler tube failures has demonstrated the need to gain an increased level of information as to the state of the plant's components and as to the likely source of problems so that actions can be taken to ensure the availability of the plant during the winter months when the capacity is needed. Information of this kind is also essential for making facility life extension, decisions.

With appropriate capital replacements and maintenance strategies, it is believed that the HTGS, as has been found to be the case with many other thermal plants, can have its useful life extended. It is Hydro's goal to extend it to 2043, which is just following the timeframe that power from the Upper Churchill project becomes available due to the expiration of the power contract.

In order to make the best economic decisions about the future deployment of the HTGS, in essentially its present configuration but within a range of system operations roles, it is necessary to have a sound knowledge of the likely costs of

extending the plant and whether each of these investments will be wise and prudent in the longer term.

Hydro also needs to study the various potential configurations and fuel choices for the HTGS in order to make the best decision as to its future deployment. These choices include conversion of the plant to dual firing (i.e. natural gas and No. 6 fuel) and conversion to combined cycle operation. As it is clear that any significant upgrading of the plant will require the use of best available environmental technologies, feasibility information as to capital cost, operating cost and performance characteristics of these systems is also required.

It is not industry practice to prepare a detailed scope for this kind of assessment prior to project release; preparation of the scope of the assessment, including the identification of which components will receive Level I, Level II, or Level III attention, is a component of the project itself. Carrying out work to determine further the project's scope, in advance to obtaining approval of the project, is analogous to carrying detailed engineering for a hydro-electric project prior to project release.

Hydro disagrees with the Industrial Customers' comment as to the comparable costs of thermal plant condition assessments carried out by other utilities. With reference to the response to PUB 154.0 NLH, Hydro would reiterate that the other three-unit plant assessment (at a value of $2.2 million) did not study the

condition of the boilers for that plant which, obviously, is a very large component of any thermal-electric generating station . The other assessment project referred to in PUB 154.0 NLH was for a single unit at a cost of $1.5 million. Hydro also fundamentally disagrees with the submission of the Industrial Customers that there is an advantage to waiting for a later time to receive the outcome of the proposed condition assessment. To justify its position, the Industrial Customers have referred to the likelihood of upcoming events, such as a Labrador Interconnection, to affect the future role of the HTGS. This comment inaccurately describes the utility planning process that needs to occur in relation to these decisions. The feasibility and costs involved in extending the life of the HTGS, and the appropriate role that the HTGS would play in a number of power supply scenarios, are important inputs into the planning process to be undertaken. Another important component will be the cost of converting the HTGS to either a dual fired or a combined cycle plant. Also of potential very significant importance are the cost impacts of installing emission control equipment. All of these variables must be considered together with Hydro's other options in order to determine the least cost solution to serving the Province's power and energy needs.

Upgrade Unit No.3 Turbine/Generator – B-16

This project has been proposed as being economically justifiable in that it enables Hydro to shift the overhaul interval for this unit from six-years to nine-years, the same overhaul interval which applies to Units 1 and 2. There is no

real concern that Unit 3 will not be operating throughout the period that has been studied for its economic justification. As the youngest of the three Holyrood Units, in order to extract the maximum useful life from the components that would not be utilized in. e.g., a combined-cycle plant, it would be the last to be converted. It is expected that this unit will be operating in its present configuration throughout the cross-over period (i.e. until 2019) referred to in the study.

Gas Turbine Condition Assessments – Hardwoods and Stephenville – B-24

The gas turbines at Hardwoods and Stephenville play emergency power, peaking power, and voltage support roles in their respective parts of the Island Interconnected grid. (The shutdown of the Stephenville paper mill operation has increased the importance of this voltage support function for the Stephenville gas turbine. The fact that the next generation source addition has been deferred by this reduction in load does not affect the requirement to have reliable gas turbine generation in these locations.

The reliability of these gas turbines has deteriorated dramatically in recent years (see PUB 149.0 NLH, PUB 39.0 NLH, PUB 40.0 NLH) and the problems with the availability of spare parts and manufacturer's support has become acute. Regardless of the specific generation options that Hydro considers, it will be essential that similar generation sources at these locations be retained or replaced.

Hydro's response to IC-38 NLH reads as follows:

> Both the Stephenville and Hardwoods gas turbines continue to be required for voltage support and supplying peak loads on the transmission system. The Hardwoods unit is required to support the East Coast voltage particularly at peak load and during the summer period when the Holyrood Thermal Plant is not operating. With the shutdown of the Stephenville paper mill the loading on the West Coast system is extremely light at night, particularly during summer, resulting in higher than normal transmission voltages. The Stephenville gas turbine operating as a synchronous condenser is instrumental in controlling voltages to an acceptable level. The shutdown of the Stephenville mill has deferred future generation requirements by 2-3 years, however; the reduction in load is not sufficient to warrant the removal of one of the gas turbines from the existing Island generation capability.

The gas turbine assessments proposed will provide hydro with essential information as to how to cost effectively provide this generation capacity into the future.

Replace Fuel Piping – Hardwoods and Stephenville – B-23

This project is required to prevent a potential fuel oil leak as has already occurred with the Hardwoods fuel pipes due to corrosion. The Stephenville pipes, at thirty years, are one year older than those of similar design at Hardwoods. There is reason to believe that the pipes at the Stephenville site would be in similar if not worse condition due to their environment.

Because of the known risk of an oil leak, an inspection is required, however, the cost of excavating the pipes for an inspection, followed by backfilling and repaving, would be 50% of the cost of replacing them. Hydro is not aware of any reliable method of investigating the condition of the pipes other than a visual

inspection. Given that Hydro's experience indicates that the likelihood of significant corrosion at the Stephenville site is quite high, the prudent action is to carry out the pipe replacement. Should the condition assessment of these gas turbines indicate that these generation facilities require replacement, the fuel handling components, as well as existing terminal station equipment, can be retained for that purpose.

This project is required in order to avoid environmental damage and an unplanned outage to this vital generation facility. Hydro would refer the Board to Hydro's response to IC-13 NLH.

DATED AT St. John's in the Province of Newfoundland and Labrador this 13th day of October 2006.

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