NEWFOUNDLAND AND LABRADOR
BOARD OF COMMISSIONERS OF PUBLIC UTILITIES
120 Torbay Road, P.O. Box 21040, St. John's, Newfoundland and Labrador, Canada, A1A 5B2

E-mail: traceypennell@nlh.nl.ca

2017-09-06

Ms. Tracey Pennell
Senior Counsel
Newfoundland and Labrador Hydro
P.O. Box 12400
Hydro Place, Columbus Drive
St. John's, NL A1B 4K7

Dear Ms. Pennell:

Re: Newfoundland and Labrador Hydro – 2018 Capital Budget Application Requests for Information

Enclosed are Information Requests PUB-NLH-001 to PUB-NLH-048 regarding the above-noted application.

If you have any questions, please do not hesitate to contact the Board's Legal Counsel, Ms. Jacqui Glynn, by email, jglynn@pub.nl.ca or telephone (709) 726-6781.

Yours truly,

Cheryl Blundon
Board Secretary

CB/rr

Enclosure

ecc **Newfoundland & Labrador Hydro**
Mr. Geoff Young, E-mail: gyoung@nlh.nl.ca
NLH Regulatory, E-mail: NLHRegulatory@nlh.nl.ca
Newfoundland Power Inc.
Mr. Gerard Hayes, E-mail: ghayes@newfoundlandpower.com
NP Regulatory, E-mail: regulatory@newfoundlandpower.com
Consumer Advocate
Mr. Dennis Browne, Q.C., E-mail: dbrowne@bfma-law.com
Mr. Stephen Fitzgerald, E-mail: sfitzgerald@bfma-law.com
Ms. Sarah Fitzgerald, E-mail: sarahfitzgerald@bfma-law.com
Ms. Bernice Bailey, E-mail: bbailey@bfma-law.com
Industrial Customer Group
Mr. Paul Coxworthy, E-mail: pcoxworthy@stewartmckelvey.com
Mr. Dean Porter, E-mail: dporter@poolealthouse.ca

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

IN THE MATTER OF
an Application by Newfoundland and Labrador Hydro
for an Order approving:

1) its 2018 capital budget pursuant to s.41(1) of the *Act*;
2) its 2018 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*;
4) its estimated contributions in aid of construction for 2018 pursuant to s.41(5) of the *Act*.

PUBLIC UTILITIES BOARD
REQUESTS FOR INFORMATION

PUB-NLH-001 to PUB-NLH-048

Issued: September 6, 2017

Volume I: 2018 Capital Projects Overview

PUB-NLH-001 Hydro states on page 6, line 12, that the increase in Gas Turbines expenditures results from the need to ensure environmental compliance and reliability of the Holyrood Gas Turbine. Please provide a breakdown of the proposed 2018 gas turbine expenditures indicating the percentage to be expended on the Holyrood Gas Turbine, the Stephenville Gas Turbine Plant, the Hardwoods Gas Turbine Plant and the Happy Valley Gas Turbine Plant.

PUB-NLH-002 Please provide the percentage breakdown of the gas turbine expenditures as requested in PUB-NLH-01 for the last 5 years.

Volume I: Holyrood Overview

Hydro states on page 5, line 22, that the Standby Production Phase will run from the "second quarter 2018 through to the end of the winter 2021".

PUB-NLH-003 Please confirm that the Holyrood Thermal Generating Station will be placed in Standby Production Phase by June 2018.

PUB-NLH-004 Please provide details of the demand that will be placed on the units and the Holyrood Thermal Generating Station as a whole during this phase.

PUB-NLH-005 Please provide details of the off-Island supply that will be secured and whether there will be any associated capital expenditures required.

PUB-NLH-006 Please confirm whether "end of winter 2021" refers to March 31, 2021 or March 31, 2022.

PUB-NLH-007 Hydro states on page 9, line 5, that "preparation has begun to operate in synchronous condenser mode as part of the Phase 3 operational requirements". Please provide details on what preparation activities are underway in this respect.

Volume I: Holyrood Projected Operating Maintenance Expenditures

PUB-NLH-008 Page 2, line 10: Please confirm the three main types or categories of maintenance undertaken at Holyrood.

Hydro states on page 3, line 15, that "Since 2008, the Preventive Maintenance Program has been enhanced to include the extra costs associated with plant cleaning in areas where asbestos and heavy metals have been identified as potential health hazards."

In Order No. P.U. 2(2005) the Board approved an Asbestos Abatement Plan. According to the *Asbestos Abatement Plan for Holyrood Thermal Generating Station – November 2004* report, the

purpose of the program was to "remove all friable asbestos piping and ductwork insulation and asbestos dust and debris in a three-year period."

PUB-NLH-009 How much asbestos is still present at the Holyrood Thermal Generating Station?

PUB-NLH-010 What is the plan to deal with whatever asbestos remains?

Tab B; Volume I: Capital Budget Summary with Multi Year Projects Separated

PUB-NLH-011 Page B-3 presents the project "*Provide Service Extensions – All Regions*" with expenditure of $4,520,000 for 2018 whereas the project description budget estimate located at C-48 shows Cost Recoveries of ($200,000) and a total budget of $4,320,000. Please reconcile and update, where necessary, the schedule on B-3 with the budget estimate presented on page C-48.

Tab C; Volume I: Projects $500,000 and Over (Hydraulic Generation In-Service Failures)

PUB-NLH-012 Hydro states on page C-30 that "Similar to Hydro's Terminal Station In-Service Failures Project, Hydro will use a standby pool of equipment (formerly referred to as Capital Spares) and undertake the timely refurbishment and replacement work required to maintain the integrity and reliability of the electrical system."

Please provide details on Hydro's overall critical spares program and how the purchase of critical spares under these In-Service Failures projects relates to the overall critical spares program. Will these spares be part of the overall critical spares program, in addition to the critical spares program, or has the critical spares program been replaced by similar individual budget allocations within various projects?

PUB-NLH-013 Page C-31 identifies three items that are anticipated to be purchased in 2018 under the Hydraulic Generation In-Service Failures project: Hinds Lake Circuit Breaker, Cat Arm Excitation Transformer, and Hinds Lake Service Transformer.

Please explain why Hydro anticipates the need to purchase this equipment for these specific locations in 2018. Please provide any supporting analysis/documentation.

PUB-NLH-014 Hydro states on page C-31 that "Hydro uses historical data and engineering judgement to predict the magnitude of in-service failures."

Please provide additional details of the engineering assessment of historical data that is performed and used as the basis for the budget.

Tab D; Volume I: Projects Over $200,000 and Less Than $500,000 (Energy Efficiency Improvements)

PUB-NLH-015 Page D-3: What criteria does Hydro utilize to determine which costs and factors are included in the cumulative net present worth analysis?

Tab D; Volume I: Projects Over $200,000 and Less Than $500,000 (Replace Personal Computers)

PUB-NLH-016 Hydro states on page D-43 that in 2015 the tender "was awarded for a period of two years with the possibility of three one-year extensions." Is it Hydro's intention to extend the 2015 tender award for the supply of personal computer equipment for an additional one year?

PUB-NLH-017 Based on the category, quantity and estimated cost for equipment as provided on page D-43 the materials required total $409,305. Table 1 on page D-44 indicates a Material Supply estimate of $325,200. Please explain the variance between these two numbers.

Tab 1; Volume II: Hydraulic Generation Refurbishment and Modernization (2018-2019)

PUB-NLH-018 For 2018 Hydro has consolidated program, pooled and stand-alone hydraulic generation projects into one project entitled *Hydraulic Generation Refurbishment and Modernization (2018-2019)*. For the individual projects, please provide the information required in the *Capital Budget Application Guidelines* to show that the capital expenditure for each of the individual projects is prudent and necessary to provide reasonably safe, adequate, just and reasonable service.

PUB-NLH-019 Page 5, Section 2.1.3 (Replace/Improve Unit Metering, Monitoring, Protection, and Control Assets) Hydro proposes to replace the condition monitoring equipment for Units 1, 2, 3, 4, and 5. Has the condition monitoring equipment been previously replaced on Unit 6 and Unit 7 or is this planned to be completed at a later date?

PUB-NLH-020 Page 9, Table 1: Project Budget Estimate shows a total expenditure of $14,608,500. On page B-5 of Volume I, Tab B: Capital Budget Summary with Multi Year Projects Separated the total expenditure for this project is shown as $17,859,600. Please confirm the yearly and total expenditure for this project and revise where necessary.

Tab 2; Volume II: Increase Fuel & Water Treatment System Capacity

PUB-NLH-021 How did Hydro determine that the proper fuel storage capacity needs to increase to 5 million litres?

PUB-NLH-022 The addition of TL267, the Maritime Link, and the Labrador-Island Link is expected to allow greater access to generation west of the Avalon. With this greater access to generation, is there still a requirement for either increased fuel storage or additional water treatment system capacity at Holyrood? If so, please explain.

PUB-NLH-023 What was the longest fuel delivery delay experienced with respect to the Holyrood Gas Turbine and what was the cause of the delay?

PUB-NLH-024 What was the longest period of time to date that the Holyrood Gas Turbine has run at 100% capacity?

PUB-NLH-025 Has there ever been a time that the Holyrood Gas Turbine could not be used because of inadequate fuel supply? If so, how many times has this occurred?

PUB-NLH-026 What is the plan for the Holyrood Gas Turbine during the Standby Production Phase and after interconnection?

Tab 4; Volume II: Install Plant Heating System (Holyrood Thermal Generating Station)

PUB-NLH-027 Is the plant heating system required for the continued operation of the Holyrood Gas Turbine?

PUB-NLH-028 Was the $5,685,000 capital expenditure to install the plant heating system a consideration in the analysis to use Unit 3 as a synchronous condenser and not move all synchronous condensing functions to Soldiers Pond or elsewhere?

PUB-NLH-029 Is there potential for future cost savings by integrating Unit 3 into future synchronous condensing requirements?

Tab 6; Volume II: Install Remote Operation of Salmon River Spillway

PUB-NLH-030 Please provide a listing of spillways in Hydro's hydraulic system and indicate whether or not each site has remote control capabilities.

PUB-NLH-031 What impact does the installation of remote control have on the risk profile with respect to the possible compromise of the Salmon River Spillway?

Tab 13; Volume II: Muskrat Falls to Happy Valley - Interconnection

PUB-NLH-032 Hydro states on page 4, line 23, that "As this project will increase the maximum fault level in the Happy Valley Terminal Station, five

reclosers and one circuit breaker will be replaced with six new circuit breakers". Why are the reclosers being replaced with circuit breakers rather than reclosers?

Tab 14; Volume II: Wood Pole Line Management Program (2018)

PUB-NLH-033 Hydro states on page 9, line 6, that "Prior to the 2016 inspection program, it was estimated that three poles would require replacement on TL232 in 2016. However, upon completion of the 2016 inspections it was determined that sixteen poles required replacement." Was there any analysis undertaken to determine why the number of poles needing replacement was significantly higher than estimated? If so, please provide the analysis. If not, please explain the rationale for not doing so.

PUB-NLH-034 Has Hydro performed a review of the strategy used in the Wood Pole Line Management Program since it was first approved in Order No. P.U. 53(2004)?

Tab 18; Volume II: Overhaul Diesel Engines (2018)

PUB-NLH-035 On page 2, Hydro states that a comprehensive internal maintenance review was completed in 2003. Has any further review of the diesel engine overhaul criterion been undertaken by Hydro since 2003? If yes, please provide the analysis. If not, does Hydro plan to conduct such a review in the future?

Tab 19; Volume II: Replace Transformer T1 - Buchans

PUB-NLH-036 Hydro indicates the least cost alternative for this project is to replace the existing Buchans' T1 transformer with a spare 230:66 kV, 40/53.3/66.6 MVA transformer currently located at the Hardwoods Terminal Station. In keeping with Hydro's Asset Management Program will the spare transformer removed from the Hardwoods Terminal Station have to be replaced? If yes, was this considered in the cumulative net present worth analysis?

Tab 21; Volume II: Install Breaker Bypass Switches - Howley

PUB-NLH-037 What are the costs associated with the remote control and monitoring of the breaker bypass switch as well as the costs of any protection and control modifications required in conjunction with the bypass switch installation? Have these been included in the overall cost of this project?

PUB-NLH-038 Page 6, Table 3: Please indicate the total number of customers impacted and how the Total Customer Outage Minutes is calculated.

Tab 25; Volume II: Install Automated Meter Reading (2018-2019)

PUB-NLH-039 Has Hydro performed an analysis of the actual cost benefits achieved by previous AMR projects? If so, please provide the analysis. If not, please explain the rationale for not doing an analysis.

Tab 26; Volume II: Replace Off-Road Track Vehicles – Bishop's Falls and Bay d'Espoir

PUB-NLH-040 Did Hydro have an accident insurance policy for Unit V7239 at the time of the accident? If yes, did Hydro receive proceeds from the policy as a result of the accident? If no, please provide the criteria that Hydro uses to determine which vehicles will be insured.

Tab 27; Volume II: Implement Terminal Station Flood Mitigation – Springdale

Hydro states on page 2 that "the installation will be designed to prevent flooding of the terminal station during a 1 in 100 year rainfall event."

PUB-NLH-041 What is the criteria for a 1 in 100 year rainfall event in terms of amount of rain, duration of rainfall, and any other significant characteristics that define a rainfall as being a 1 in 100 year event?

PUB-NLH-042 How do the referenced rainfall events in 2006 and 2015 compare to the 1 in 100 year criteria?

PUB-NLH-043 Pages 4 and 5 outline the alternatives and a brief discussion of them concluding that "the earth retention berm is the least cost option and is therefore the recommended alternative."

Was a cumulative net present value analysis completed? If so, please provide the analysis. If not, please provide the rationale for not doing such an analysis.

Tab 31; Volume II: Additions for Load Growth

PUB-NLH-044 What is Hydro's practice with respect to the re-utilization of generators, such as the generator on Unit 2029 in Makkovik, that are replaced to accommodate load growth?

Tab 34; Volume II: Replace Vehicles and Aerial Devices (2018 – 2019) – Various

PUB-NLH-045 Table 4 on page 4 shows expenditures in 2018 and 2019 for this project yet Section 4.2 on page 5 states the project is scheduled to be completed

by December 31, 2018. Please confirm the budget estimate and completion date for this project.

Tab 36; Volume II: Replace MDR 6000 Microwave Radio

PUB-NLH-046 (a) Was Hydro aware in 2001 when it installed the MDR 6000 microwave radio equipment that it would be discontinued in 2002?

(b) Did Hydro attempt to receive any compensation from Alcatel when Alcatel announced that the MDR 6000 microwave radio equipment that Hydro had installed the previous year would be discontinued by the manufacturer in 2002? If yes, how successful was Hydro in doing so? If no, why was no attempt at reimbursement made?

PUB-NLH-047 Were alternatives (such as leased circuits from a telecom service provider, Hydro funded fibre builds, or joint-partner funded fibre builds) considered? Please provide the details of any alternative analyses undertaken along with any associated cumulative net present value comparisons.

Tab 38; Volume II: Upgrade Exterior of Building – Hydro Place

PUB-NLH-048 Please provide the 2015 condition assessment of the precast concrete panels that form the outside cladding system for Hydro Place referenced on page 3, line 19.

DATED at St. John's, Newfoundland this 6th day of September, 2017.

BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

Per _____
Cheryl Blundon
Board Secretary