POOLE ALTHOUSE
BARRISTERS AND SOLICITORS

Jamie Merrigan, Q.C.
Dean A. Porter
J. Annette Bennett

Margaret C. Hepditch
Robby D. Ash
Glen G. Seaborn

Melissa May
Adam G. Baker
Jonathan M. Andrews

Toll Free: 1 877 634-3136
E-Mail: info@poolealthouse.ca
www.poolealthouse.ca

Edward P. Poole, Q.C., Retired
D. Paul Althouse, Q.C., Retired

■ **CORNER BROOK**
Telephone: 709 634 -3136
Fax: 709 634 8247/9815
Western Trust Building
49-51 Park Street
Corner Brook, NL
Canada A2H 2X1

□ Happy Valley-Goose Bay
Telephone: 709 896-8777
Fax: 709 896-8779
49A Grenfell Street
PO Box 1450, Station B
Happy Valley-Goose Bay, NL
Canada A0P 1E0

September 3, 2015

Via Electronic Mail & Courier
Newfoundland and Labrador Board
of Commissioners of Public Utilities
120 Torbay Road
P.O. Box 21040
St. John's, NL A1A 5B2

Attention: Ms. G. Cheryl Blundon
Director of Corporate Services and Board Secretary

Dear Ms. Blundon:

Re: Newfoundland and Labrador Hydro 2016 Capital Budget Application
Requests for Information – IC-NLH-1 to IC-NLH-73

Please find enclosed one original and twelve (12) copies of the Requests for Information of the Island Industrial Customers Group in relation to the above noted Application.

We trust you find the foregoing satisfactory

Yours very truly,

POOLE ALTHOUSE

Dean A. Porter

DAP/lp
Enclosures
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cc: Mr. Geoffrey P. Young, Senior Legal Counsel, Newfoundland and Labrador Hydro
Mr. Thomas J. Johnson, Consumer Advocate
Mr. Gerard Hayes, Newfoundland Power
Mr. Peter Alteen, QC, Newfoundland Power
Mr. Paul Coxworthy, Stewart McKelvey
Mr. Raman Balakrishnan, Consumer Advocate

IN THE MATTER OF the *Public Utilities Act*, RSNL 1990, Chapter P-47 (the Act) as amended; 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.

REQUESTS FOR INFORMATION OF THE ISLAND INDUSTRIAL CUSTOMERS GROUP

IC-NLH-1 to IC-NLH-73

ISSUED SEPTEMBER 3, 2015

IN THE MATTER OF the *Public Utilities Act*, RSNL 1990, Chapter P-47 (the Act) as amended; 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.

REQUESTS FOR INFORMATION OF THE ISLAND INDUSTRIAL CUSTOMERS GROUP

IC-NLH-1 – IC-NLH-73

ISSUED SEPTEMBER 3, 2015

2015 Capital Plan

IC-NLH-1 RFI IC-NLH-4 filed in Hydro's 2015 Capital Budget Application queried as follows:

> "What factors will Hydro take into consideration, other than supplying power within the Province to island customers in accordance with the power policy of the Province set out in section 3 of the *Electrical Power Control Act, 1994*, in determining whether each component of current Island hydraulic plant will continue to be an essential component of the Provincial electrical grid, after full commissioning of the Post-Isolated Island System?"

Please update Hydro's response to IC-NLH-4 filed in Hydro's 2015 Capital Budget Application based on information now available to Hydro.

IC-NLH-2 RFI IC-NLH-5 filed in Hydro's 2015 Capital Budget Application queried as follows:

> "Will any of the hydraulic plants on the Island, at some foreseeable time or milestone after full commission of the Post-Isolated Island System, be used to meet commitment or plans of Hydro or of its parent Nalcor) to supply power to be transmitted outside of the Province?"

Please update Hydro's response to IC-NLH-5 filed in Hydro's 2015 Capital Budget Application based on information now available to Hydro.

IC-NLH-3 RFI IC-NLH-6 filed in Hydro's 2015 Capital Budget Application queried as follows:

> "At page 7 of the 2015 Capital Projects Overview, Hydro states that the retirement of the Hardwoods and Stephenville gas turbines is not expected until 2025 and 2028, respectively. At page 5 of the Capital Plan section of the Application, Hydro states that "These facilities accumulate few operating hours generating electricity but are crucial sources of power and energy during emergencies and system peaks and provide voltage support, especially when operating as synchronous condensers."
>
> Explain, in detail, why and how, after full commissioning of the 100 MW combustion turbine at Holyrood and of the Post-Isolated Island System, and the conversion of Holyrood plant to synchronous condenser more, these gas turbines will continue to be an essential component of the Provincial electrical grid for the supply of power to Island customers?"

Please update Hydro's response to IC-NLH-6 filed in Hydro's 2015 Capital Budget Application based on information now available to Hydro.

IC-NLH-4 RFI IC-NLH-8 filed in Hydro's 2015 Capital Budget Application queried as follows:

> "With reference to IC-NLH-6, explain in detail, what foreseeable "emergency", "system peak", or "voltage support" scenarios, after full commissioning of the 100 MW combustion turbine at

> Holyrood and of the Post-Isolated Island System, and the conversion of the Holyrood Plant to synchronous condenser mode, will still need to be addressed by the continued operational status of the Stephenville Gas Turbine?"

Please update Hydro's response to IC-NLH-8 filed in Hydro's 2015 Capital Budget Application based on information now available to Hydro.

IC-NLH-5

RFI IC-NLH-9 filed in Hydro's 2015 Capital Budget Application queried as follows:

> "What are the projected capital expenditures, in addition to those applied for or specifically identified in the 2015 Capital Budget Applicant, to reliably maintain the operational status of the Harwoods and Stephenville gas turbines until 2025 and 2028, respectively?"

Please update Hydro's response to IC-NLH-9 filed with Hydro's 2015 Capital Budget Application based on information now available to Hydro.

IC-NLH-6

RFI IC-NLH-11 filed in Hydro's 2015 Capital Budget Application queried as follows:

"With respect to the $2.5 million dollars of 2015 capital expenditure proposed for the 127MW Cat Arm generation plant (for replacement of ABB Exciter Unit 2, replacement of station service breakers and refurbishment of the access road) explain why and how, after full commissioning of the Post-Isolated Island System, this generation plant will continue to be an essential component of the Provincial electrical grid to supply power within the Province to Island customers?"

Hydro was sought approval of $4,062,500 of 2016 capital expenditure for the 127 MW Cat Arm generation plant (for upgrade work, rehabilitation of shoreline protection and replacement of station service breakers).

Please update Hydro's response to IC-NLH-9 filed with Hydro's Capital Budget Application based on information now available to Hydro.

IC-NLH-7 RFI IC-NLH-14 filed in Hydro's 2015 Capital Budget Application requested as follows:

> "Provide details of all actual capital expenditures for the period 2010-2014, in relation to the Cat Arm generation plant, including identifying all instances where the actual capital expenditure has exceeded the amount approved, or has not yet been approved, by the Board further to a capital budget application or a supplemental capital expenditure application."

Please update Hydro's response to IC-NLH-14 filed with respect to Hydro's 2015 Capital Budget Application based on information now available to Hydro, including information for the period 2014-2015.

Specifically Assigned Capital Expenditures

IC-NLH-8 Identify any and all proposed capital expenditures for 2016 which Hydro intends to seek to have specifically assigned to one or more members of the Island Industrial Customer Group (Corner Brook Pulp and Paper, North Atlantic Refining and Teck Resources).

Project C-3: Replace Site Facilities - Bay d'Espoir

IC-NLH-9 With reference to section 3.3, "Development of Alternatives", page 25 of the Report at Tab 1, Volume II, states:

> "As part of the development of the cost benefit analysis, the following items were added to the analysis, in addition to the construction cost estimate:
>
> - Construction cost of a new 8625 sqft building as outlined above;
> - Demolition costs of the existing three buildings; and
> - Residual benefit of the new buildings at the end of the 25 year study period."

Please provide full details of the referenced construction costs, demolitions costs and of the residual benefits analysed.

Project C10: Replace Interior and Exterior Protective Coating on Surge Tank 2 - Bay d'Espoir

IC-NLH-10 When did Hydro become aware of the corrosion in Surge Tank 2?

IC-NLH-11 Does Hydro have any information with respect to the inspection and maintenance of the coating system in Tank 2?

IC-NLH-12 With respect to the "Development of Alternatives" for this Project, has Hydro analysed the estimated cost of inspections and periodical localized repairs of the interior coating of Surge Tank 2? If so, please provide details of such estimated costs.

Project C-12: Rewind Rotor and Install Flux Probe Unit 3 - Holyrood

IC-NLH-13 With reference to "Development of Alternatives" for this Project, at page 7 of the Report at Tab 5, Vol II, it is stated that "?

"As it has been recommended that the stator be rewound by 2022, Hydro intends to carry out testing of the stator in 2016, to determine the feasibility of deferring the stator rewind until the 2022 major unit outage."

Please provide the cost of the intended testing of the stator in 2016 and the estimated cost to rewind the stator (if available).

IC-NLH-14 At page 8 of the Report at Tab 5, Vol II, it is stated that:

"The extra handling of the rotor would require additional costs and would introduce risks to workers and equipment. Again, if the 2016 test results indicated that the stator must be addressed before the planned major overhaul in 2022, Hydro would undertake the required work at the required time."

Please provide the estimated cost of additional handling of the rotor as compared to the suggested approach?

IC-NLH-15 Did Hydro consider and/or obtain an estimate of insurance costs in relation to the three alternatives considered? If yes, please provide a breakdown of the insurance costs for each alternative.

IC-NLH-16 Did Hydro consider rewinding the stator during the 2016 scheduled major overhaul? If so, why did Hydro not consider the rewinding of the stator in 2016 a viable option?

Project C-14: Upgrade Work – Cat Arm

IC-NLH-17 With reference to Section 3.2.2 - "Vendor Recommendations" of the Report at Tab 6, Vol. II, please provide any details of the cost of refurbishment of the servometers provided by the O.E.M.

Project C-24: Rehabilitate Shoreline Protection – Cat Arm

IC-NLH-18 With reference to section 2 - "Project Description" filed at page 2 of the Report at Tab 7, Volume II, has Hydro filed applications for and/or received any response with respect to the various approvals and permits required to undertake the subject work?

IC-NLH-19 With reference to Section 3.2.4 - "Historical Information" set out at page 9 of the Report at Tab 7, Volume II, if Hydro was aware of loss of material as early as 2008, why did Hydro not take action to maintain and/or repair the existing embankment to date?

IC-NLH-20 With reference to Section 3.2.4 - "Historical Information" set out at page 9 of the Report at Tab 7, Volume II, why did Hydro not take action to complete remedial measures to the embankment when recommended by the AMEC assessment in 2011?

IC-NLH-21 With respect to "Alternative #5" set out at page 12 of the Report at Tab 7, Volume II, please provide further information with respect to the costs of obtaining the referenced pre-cast concrete armour units.

IC-NLH-22 With respect to Table 3, set out on page 15 of the Report at Tab 7, Volume II, please provide further data used in the calculation of the CPW for the alternatives identified.

Project C-33: Upgrade Circuit Breakers – Various Sites

IC-NLH-23 With respect to Section 3.2 - "Operating Performance", Hydro's Application at page 11 of the Report at Tab 8, Volume II, states:

"As the above table demonstrates, Hydro's break performance exceeds CEA performance generally. The above data would therefore suggest that Hydro's current long-term refurbishment/replacement plans remain in place."

Please provide further information with respect to the cost of the implementation of the upgrades of circuit breakers as extended to the year 2031.

Project C-35: Construct 230 kv Transmission Line-Soldiers Pond to Harwoods

IC-NLH-24 When did Hydro become aware of the requirement for increased transmission capacity in the SOP-HWD corridor following the completion of the lower Churchill Project and the Post-Isolated Island System?

IC-NLH-25 With respect to Section 3 - "Development of Alternatives", at page 18 of the Report at Tab 9, Vol. II, it is stated:

"...the thermal uprating of TL266 as described in previous section ensures compliance with System Planning Criteria. Thermal uprating is performed such that the loss of a single system element does not result the overloading of another. It must be noted, however, that the thermal uprating of the transmission line only provides an increase in ampacity and does not result in any improvement in the reliability or robustness due to structural or hardware weaknesses. Further analysis was therefore performed to assess the risk associated with transmission line icing events that have the potential to cause damage to multiple transmission lines."

TL266 is designed to withstand a 25.4 mm ice load. TL218 is designed to withstand a 38mm ice load. TL242 was upgraded in the early 2000s to withstand a 66mm ice load.

Please provide the number and extent of failures attributed to ice load on TL266 and TL218 from 2010-2015.

IC-NLH-26 With reference to Maintenance History, at pages 12-13 of the Report at Tab 9, Vol. II, maintenance history tables were provided for TL201, TL218 and TL242. Please provide the maintenance history of TL266 for the years 2010 to 2015.

IC-NLH-27 Has Hydro considered the cost to upgrade TL266 and/or TL218 to withstand a 66mm ice load? If yes, why was this not considered a viable option?

Project C-52: Perform Wood Pole Line Management Program

IC-NLH-28 Please identify the number of defective components identified to date in the year 2015 as part of the Wood Pole Management Program.

IC-NLH-29 With reference to IC-NLH-28, please identify any work deferred in 2015 to be completed in 2016.

Project C-58: Replace Insulators - TL203

IC-NLH-30 With reference to the 2015 replacement of insulators, provide all available statistics of service interruptions attributable to insulator failures since 2014.

Project C-60: Replace Disconnect Switches - Various Sites

IC-NLH-31 Does Hydro have any data available with respect to the maintenance of disconnect switches? If so, please provide same.

Project C-64: Replace Aircraft Markers at Grand Lake Crossing - TL228 (Grand Lake/Glover Island)

IC-NLH-32 Volume I, Tab C, pages C-64 to C-65, cites Appendix, "Replace Aircraft Obstruction Lighting" found in Volume III, Tab 20. On page 5 of this Appendix, it notes that since 1993, preventative and corrective maintenance has been performed, as required on the existing marker systems. Please provide log of maintenance history for the existing marker systems.

Project C-77: Install Fire Protection in 230 kV Stations – Bay d'Espoir

IC-NLH-33 Volume I, Tab C, pages C-77 to C-65, cites Appendix, "Install Fire Protection, Bay d'Espoir" found in Volume III, Tab 26. On page 6 of the Appendix, Hydro advises that FM Global recommends to install a gaseous fire suppression system where major loss due to fire is critical and states that Manitoba Hydro uses automatic fire suppression systems in its plant. Is it considered the industry norm to install gaseous fire suppression systems in terminal stations?

Project C-83: Upgrade Digital Fault Recorders - Various Sites

IC-NLH-34 Volume I, Tab C, pages C-83 to C-84, cites Appendix, "Upgrade Digital Fault Recorders" found in Volume III, Tab 29. On pages 6-7 of the Appendix, it notes that the current DFRs are not monitoring some "important information". Elaborate on the information not being monitored and how this translates to the necessity of increasing analog channels, as proposed.

Project C85: Replace Vehicles and Aerial Devices - Various Sites

IC-NLH-35 Volume I, Tab C, pages C-85 to C-86. Please provide a copy of all vehicle replacement guidelines.

IC-NLH-36 Further to IC-NLH-35, how does Hydro's vehicle replacement guidelines compare to industry standards for replacing light to heavy duty vehicles?

Project C-90: Replace MDR 4000 Microwave Radio East - Various Sites

IC-NLH-37 Volume I, Tab C, pages C-90 to C-91. On page 90, Hydro states that the noted microwave radios have been discontinued since

2004 and that Hydro has obtained some components from the used market. Please elaborate the meaning of "used market".

IC-NLH-38 Further to IC-NLH-37, provide the number of times Hydro has purchased components for its radio system since 2004.

Project C-92: Replace UPS System - Hydro Place

IC-NLH-39 Volume I, Tab C, pages C-92 to C-93. On page 92, it states that the vendor support for the existing UPS controllers will end in 2017. Has Hydro considered deferring the UPS upgrade until the 2017 Capital Budget? If yes, why did Hydro not consider this a viable option?

IC-NLH-40 Further to IC-NLH-39, Appendix "Replace UPS Systems – Hydro Place", Volume III, at page 4 it is noted that the current UPS systems operated as designed during the 2013-2014 blackout but their designed hold time of 20 minutes was found to be insufficient. Please provide a log of incidents where the existing UPS systems failed in their operation, and instances where their hold time was found to be insufficient since the systems' installation in 2005.

Project C-94: Replace Battery Banks and Chargers - Various Sites

IC-NLH-41 Volume I, Tab C, pages C-94 to C-95. On page 8, the maintenance history of the subject batteries is briefly described. Please submit results from conductance tests completed on batteries seeking replacement.

IC-NLH-42 Further to IC-NLH-41, Appendix "Replace Battery Banks and Chargers", Volume III, at page 4, please provide the following information in relation to Table 1:

- The proposed capital expenditure for each location;
- The number of batteries at each location which have been tested and found to have a capacity of 80% or less of their rated capacity.

IC-NLH-43 Further to IC-NLH-42, Appendix "Replace Battery Banks and Chargers", Volume III, at pages 1-2, Hydro states that the flooded-cell battery has a typical service life of 18-20 years and the VRLA battery has a typical service life of 7-10 years. What is the source for this information?

IC-NLH-44 Further to IC-NLH-43, what has been Hydro's operational experience for flooded-cell batteries with in excess of 20 years of service life and for VLRA batteries with in excess of 10 years of service life?

Project C-96: Replace Personal Computers - Various Sites

IC-NLH-45 Volume I, Tab C, pages C-96 to C-97, cites Appendix, "Replace Personal Computers" found in Volume 3, Tab 35. Please submit the lease or purchase cost benefit analysis referenced on page 7 of the Appendix.

Project C-102: Upgrade Telecontrol Facilities - Sandy Hill Brook

IC-NLH-46 Volume I, Tab C, pages C-102 to C-103, cites Appendix, "Replace Personal Computers" found in Volume III, Tab 38. On page 12 of the Appendix, it states Table 2 is the Budget estimate to refurbish the microwave shelter. On page 13 of the Appendix, it also states that Table 3 is the Budget estimate to refurbish the microwave shelter, however the title of Table 3 states it is the "Budget Estimate for Replacement Option". Please confirm which Table cites the budget estimate for the refurbishment option, and which Table cites the budget estimate for the replacement option.

Project D-2: Upgrade Public Safety around Dams and Waterways - Bay d'Espoir

IC-NLH-47 The Report for this Project at Vol 1, Tab D, refers to both a "Public Safety Risk Assessment" and "Public Safety Audit" with respect to the Granite Canal Development and Granite Reservoir Structures. Please clarify whether a Public Safety Risk Assessment is the same as a Public Safety Audit and, if not, what are the primary differences?

Project D-27: Replace Powerhouse No. 1 Station Service Transformer - Bay d'Espoir

IC-NLH-48 With reference to Volume I, Tab D, pages D-27 to D-30, when were the noted distribution and padmount transformers installed at the Bay d'Espoir generating plant?

IC-NLH-49 Tab D of Hydro's 2016 Capital Budget Application, at pages D-27 to D-30, states that the station service transformers located at the Bay d'Espoir generating plant have not failed since their installation, but they do not provide adequate fault current production. Please provide a log of incidents relating to the transformers' inadequate fault current production at the Bay d'Espoir generating plant.

Project D-95: Replace Vibration Monitoring System Unit 7 - Bay d'Espoir

IC-NLH-50 With reference to Volume I, Tab D, pages D-95 to D-100. How often is vibration data collection done manually by operations personnel?

IC-NLH-51 Further to IC-NLH-50, which, if any, of the recommendations noted on pages D-154 to D-155 have been completed/complied with to date?

IC-NLH-52 Further to IC-NLH-51, which, if any, of the recommendations noted on page D-188 have been completed/complied with to date?

Project D-226: Replace Spherical By-Pass Valve Units 1 and 2 - Bay d'Espoir

IC-NLH-53 Volume I, Tab D, pages D-226 to D-230. On page D-226, it is noted that the spherical valve by-pass assemblies on Units 1 and 2 located in Powerhouse 1 at Bay d'Espoir Hydroelectric Generation Station were set to be replaced as part of Hydro's 2014 budget, but due to "outage constraints", Generating Units 3 and 4 were substituted for Units 1 and 2. Please elaborate on the meaning of "outage constraints"?

IC-NLH-54 Further to IC-NLH-53, on page D-227 it is noted that in the past 5 years, there have been times when by-pass assemblies have not been operating in compliance with the design for the spherical valve control system. Please advise when the system was not in compliance and submit any log of entries relating to such incidents.

Project D-231: Perform Condition Assessment of Control Structure - Hinds Lake

IC-NLH-55 Volume I, Tab D, page D-231 to D-237. On page D-236, it is noted that Gate 2 was removed, inspected and repaired from late 2011 into January 2012. At this time, did the inspector provide the anticipated service life of Gate 2 following its repairs?

IC-NLH-56 Further to IC-NLH-55, which, if any, of the recommendations noted on page D-240 have been completed/complied with to date?

Project D-248: Install Hydrometeorological Equipment - Various Sites

IC-NLH-57 Volume I, Tab D, page D-248 to D-253. On page D-251, it is noted that Hydro's hydrometeorlogical gauges sometimes render missing or erroneous data points due to harsh weather conditions. Please provide details of the gauges' rate of accuracy in rendering data and the number of occurrences where the gauges rendered missing or erroneous data points.

IC-NLH-58 Further to IC-NLH-57, page D-253 notes that there are various types of sensors for obtaining snow water measurements. Please

provide alternative sensors available and a breakdown of the price comparisons for each alternative.

Project D-298: Upgrade Aluminum Support Structure - Holyrood

IC-NLH-59 When did Hydro become aware of the deterioration of aluminum support structures?

IC-NLH-60 What, if any, action has Hydro taken to prevent corrosion and deterioration of aluminum support structures?

IC-NLH-61 Provide an estimate of future maintenance costs projected with respect to the aluminum support structures at the Holyrood Generating Station.

Project D-394: Implement Industrial Billing Software - Hydro Place

IC-NLH-62 With reference to "Justification" for this Project at page D-396, has Hydro obtained further information with respect to the solutions available for software upgrades and the associated costs thereof.

IC-NLH-63 With reference to "Operating Experience" at page D-396, Hydro has identified the vendor recommended solutions which will be evaluated. How has Hydro prepared the Budget Estimate at Table 1, page D-395, including labour and material supply, prior to evaluating solutions? Please provide details of the calculation of the Budget Estimate at Table 1, page D-205.

Project D-297: Replace Peripheral infrastructure - Various Sites

IC-NLH-64 With reference to the alternatives for this Project, does Hydro have any further information with respect to the cost of leasing the equipment? If so, please provide same.

Project D-419: Upgrade Server Technology Program - Hydro Place

IC-NLH-65 With reference to the Report at Volume I, Tab D, pages D-420 to D-421, under the subheading "Summary of the Physical Asset Hardware Status", Hydro has identified four priority levels for Server Hardware Replacement and indicated specific hardware that corresponds to these priority levels: Level 0; Level I; Level II; and Level III. Of the noted priority levels, which is Hydro seeking server upgrades for as part of the 2016 Capital Budget Application? For example, are all noted priority levels to be upgraded, or are only specific priority levels requiring upgrades?

Project E-2: Replace Generator Cooling Water Piping - Hinds Lake

IC-NLH-66 With reference to the "Justification" for this Project, please provide details with respect to the cost of piping, the cost of cleaning piping and Hydro's anticipated future maintenance costs associated with the suggested 316 stainless steel schedule ten pipe.

Project E-37: Upgrade Warehouse Lighting - Bishop's Falls

IC-NLH-67 With respect to "Project Justification", does Hydro have any information related to the cost savings associated with the installation of replacement luminaries? If yes, please provide details with respect to the same.

Project E-52: Replace Air Conditioners - Massey Drive and Happy Valley

IC-NLH-68 With reference to "Operating Experience", page Vol. I, Tab E, page E-52 relates:

"The AC unit in the Massey Drive Station (MDR) was installed in 1992 and has been in service for over 23 years. The unit is maintained by contract. The AC unit has performed well during its service life but due to the age of the unit it is time to be replaced".

Please provide the maintenance history for the MDR unit, the cost of maintenance of the unit by contract and provide details of any known issues with the MDR unit at present.

Project E-42: Install Variable Frequency Drives - Grey River

IC-NLH-69 At Volume I, Tab E, pages E-42 to E-44, it is noted that Grey River's diesel station has an annual station energy consumption of approximately 20% of gross energy output, based on a five-year average between 2010-2014. Please provide the Grey River diesel plant's gross output for 2010 through 2014.

Project E-45: Replace Air Receivers and Compressors - St. Anthony

IC-NLH-70 Volume I, Tab E, pages E-45 to E-46, state "*There is a high potential failure of the air start system due to the current condition of the air receivers and compressors which could lead to unplanned outages of the St. Anthony diesel plant*". Please provide the risk assessment results replied upon to determine the potential failure rate of the St. Anthony diesel plant's air receivers and compressors.

Project E-58: Upgrade Citrix - Hydro Place

IC-NLH-71 With respect to "Operating Experience" noted at Vol. I, Tab E, page E-61, it is stated:

"Hydro anticipates that the next version of Citrix XenApp, version 7.x, will be supported until mid-2018, based on published lifecycle dates. The Windows Server 2008 R2 platform is supportable through this date as well, according to Microsoft published lifecycle dates (approximately 2020)."

Has Hydro considered deferring the Citrix upgrade until 2018? If yes, why did Hydro not consider this to be a viable option?

IC-NLH-72 With reference to IC-NLH-71, the last major update design cost in 2011 was $25,000. In the 2016 Capital Budget Application, Hydro requests approval of an expenditure of $159,600 (including cost recoveries) with respect to the next upgrade. Why is there such a substantial increase in the cost of upgrades from 2011 to 2016?

Project E-71: Refresh Security Software - Hydro Place

IC-NLH-73 With reference to Volume I, Tab E, pages E-71 to E-72, please provide the maintenance schedule of Hydro's Information Security and Cyber Safety tools for 2010 through 2014, including when these systems were refreshed throughout this time period.

DATED at Corner Brook, in the Province of Newfoundland and Labrador, this 3rd day of September, 2015.

POOLE ALTHOUSE

Per: _____
Dean A. Porter

STEWART MCKELVEY

Per: _____
Paul L. Coxworthy

TO: The Board of Commissioners of Public Utilities
Suite E210, Prince Charles Building
120 Torbay Road
P.O. Box 21040
St. John's, NL A1A 5B2

Attention: Board Secretary

TO: Newfoundland & Labrador Hydro
P.O. Box 12400
500 Columbus Drive
St. John's, NL A1B 4K7

Attention: Geoffrey P. Young,
Senior Legal Counsel

TO: Thomas Johnson, Consumer Advocate
O'Dea, Earle Law Offices
323 Duckworth Street
St. John's, NL A1C 5X4

TO: Newfoundland Power Inc.
P.O. Box 8910
55 Kenmount Road
St. John's, NL A1B 3P6

Attention: Gerard Hayes,
Senior Legal Counsel