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: gyoung@nlh.nl.ca

2014-06-10

Mr. Geoffrey Young
Newfoundland and Labrador Hydro
P.O. Box 12400
St. John's, NL A1B 4K7

Dear Sir:

Re: Newfoundland and Labrador Hydro - the Board's Investigation and Hearing into Supply Issues and Power Outages on the Island Interconnected System - Requests for Information

Enclosed are Information Requests PUB-NLH-165 to PUB-NLH-230 regarding the above-noted matter. The deadline for filing the responses to the Requests for Information is Friday, June 20, 2014.

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

Yours truly,

Cheryl Blundon
Board Secretary

/bds
Encl.

cc. **Newfoundland Power Inc.**
Mr. Gerard Hayes, E-mail: ghayes@newfoundlandpower.com
Ian Kelly, QC, E-mail: ikelly@curtisdawe.com
Consumer Advocate
Mr. Thomas Johnson, E-mail: tjohnson@odeaearle.ca
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Grand Riverkeeper® Labrador Inc.
Ms. Roberta Frampton Benefiel, E-Mail: rebnfl@gmail.com

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

IN THE MATTER of the Board's Investigation
and Hearing into Supply Issues and Power Outages
on the Island Interconnected System.

PUBLIC UTILITIES BOARD
REQUESTS FOR INFORMATION

PUB-NLH-165 to PUB-NLH-230

Issued: June 10, 2014

PUB-NLH-165 Please provide asset management organization charts related to transmission, terminal station, substation, subtransmission and distribution equipment asset management. Explain in detail how the asset management organization and personnel have changed since 2009.

PUB-NLH-166 Explain in detail how asset management personnel monitors, in general, the completions by field maintenance and construction operations of various inspections, PMs and CMs and reliability enhancement work.

PUB-NLH-167 Does Hydro have future staffing and succession plans for the asset management personnel and for the maintenance operations management personnel and the field personnel who inspect, maintain and repair the equipment for the transmission, terminal station, substation, subtransmission and distribution systems equipment? If so, please explain in detail those staffing and succession plans and provide copies of them.

PUB-NLH-168 Have transmission lines inspection and maintenance (CM and PM) practices changed since 2009? Are there any changes beginning in 2014? Explain in detail any changes in transmission lines inspections and maintenance, including any changes beginning in 2014.

PUB-NLH-169 Have terminal station and substation inspection, repair (CM) and preventive maintenance (PM) practices changed since 2009? Are there any changes beginning in 2014? Please explain in detail any changes in terminal station/substation inspection and maintenance practices, including any changes beginning in 2014.

PUB-NLH-170 Have subtransmission and distribution inspection, repair (CM) and preventive maintenance (PM) practices changed since 2009? Are there any changes beginning in 2014? Please describe in detail any changes in the inspection and maintenance practices, including any changes beginning in 2014.

PUB-NLH-171 RE: PUB-NLH-091: The response combined the substation and relay backlog numbers. Please provide numbers of substation (assuming that terminal stations are included) CM and PM work backlogs at the end of 2011, 2012 and 2013 and separately provide numbers of relay work backlogs at the end of those years.

PUB-NLH-172 Please describe Hydro's transmission line inspections and transmission pole inspection and treatment policies and practices. In the response include who completed the inspections and whether Hydro has a formal policy stating the number of inspections to be completed each year, the expected inspection completion rate, how the inspections are tracked and the top level of management who monitors the completions consistent with policy and schedules and the title of the person held accountable for

the completion of the inspection work consistent with the policy and the schedule. If transmission pole inspections are conducted, state the percent of poles inspected which have been rejected each year and replaced each year for 2011, 2012 and 2013.

PUB-NLH-173 Please describe Hydro's subtransmission line inspections and pole treatments policies and practices. In the response include who conducts the inspections treatments, how the inspections and the resulting repairs are tracked, whether Hydro has a formal policy indicating the number of inspections to be completed each year and the expected inspection completion rate, the level of management who monitors the completions consistent with policy and/or schedules and the title of the person held accountable for the completion of the inspection work consistent with the policy and the schedule.

PUB-NLH-174 Please describe Hydro's terminal station and substation inspections policies and practices. In the response include who conducts the inspections treatments, how the inspections and the resulting repairs are tracked, whether inspectors use paper forms or handheld computers, whether Hydro has a formal policy stating the number of inspections to be completed each year and the expected inspection and repair (CM) completion rates, the level of management who monitors the completions consistent with policy and schedules and the title of the person held accountable for the completion of the inspection work consistent with the policy and the schedule.

PUB-NLH-175 Please describe Hydro's distribution line and pole inspections/treatment policies and practices. In the response include who conducts the inspections treatments, how the inspections and the resulting repairs are tracked, whether inspectors use paper forms or handheld computers, whether Hydro has a formal policy stating the number of inspections to be completed each year and the expected inspection and repair (CM) completion rates, the level of management who monitors the inspection and repair completions consistent with policy and schedules and the title of the person held accountable for the completion of the inspection work consistent with the policy and the schedule.

PUB-NLH-176 Please provide Hydro's transmission system, terminal station, substation, subtransmission system and distribution system design criteria. These criteria should include system contingencies and line and equipment normal and allowed emergency loading limitations. Indicate where Hydro's transmission and distribution system is not consistent with these criteria (because the criteria may have changed over the years).

PUB-NLH-177 Please provide tables or lists indicating Hydro's transmission and distribution conductor ratings and explain the bases for those ratings.

PUB-NLH-178 List the various transmission system studies such as stability, load flow, fault duty and transmission to subtransmission protection coordination studies, conducted by Hydro or its consultants and whether these studies are periodic or driven by changes in the system.

PUB-NLH-179 Does Hydro conduct coordination and fault duty studies on its subtransmission and distribution systems? If yes, are these studies periodic or driven by changes in the systems?

PUB-NLH-180 To what extent does Hydro provide automatic and/or remote controlled sectionalizing of its subtransmission circuits and distribution feeders? In the response include the extent the taps on the feeders are fused and the extent the subtransmission and distribution feeder breakers are SCADA controlled.

PUB-NLH-181 Please state the numbers and titles of personnel responsible for Transmission System Operations, including personnel who provide technical assistance. Describe the type of previous experience System Operations personnel typically have before becoming Operators and state whether Hydro has a System Operations staffing succession plan.

PUB-NLH-182 Please state the numbers and titles of personnel responsible for Subtransmission and Distribution Operations and Dispatching, including personnel who provide technical assistance. Describe the type of previous experience System Operations personnel typically have before becoming Distribution Operators and Dispatchers and state whether Hydro has a Distribution System Operations and Dispatching staffing succession plan.

PUB-NLH-183 Please state the number and titles of personnel (troublemen) who respond to distribution outages for the Distribution System Operators/Dispatchers.

PUB-NLH-184 Please state the number and titles of personnel who respond to transmission outages for the Transmission System Operators.

PUB-NLH-185 Provide Hydro's list of outage-cause codes and indicate how troublemen are managed and trained to properly use the codes. Explain the method used to report outage causes.

PUB-NLH-186 Describe Hydro's transmission system planning policy and criterion and process. Include in the response the numbers and titles of personnel involved with the transmission planning process.

PUB-NLH-187 Describe Hydro's subtransmission system planning policy, criterion and process. Include in the response the numbers and titles of personnel involved with the subtransmission planning process.

PUB-NLH-188 Describe Hydro's distribution system planning policy, criterion and process. Include in the response the numbers and titles of personnel involved with the distribution planning process.

PUB-NLH-189 Please provide a copy of the customer research strategy, plans, schedule and a description of programs in place or planned for 2014 and 2015.

PUB-NLH-190 Please provide budget/actuals details supporting customer research and customer satisfaction measurement efforts, including all primary research efforts conducted to-date and planned for the current and upcoming budget years. Include 2013, 2014YTD for budget/actuals and budgeted for 2015.

PUB-NLH-191 Please provide staffing levels supporting customer research and customer satisfaction efforts, including any management, supervisory and support personnel. Provide the number of staff for 2013, 2014YTD and budgeted 2015.

PUB-NLH-192 Please describe the internal organization responsible for customer research and customer satisfaction measurement, detailing roles and responsibilities. In the response also provide details on any vendors that provide service relating to customer research and customer satisfaction measurement and the services provided.

PUB-NLH-193 Please describe methods, techniques, channels and procedures used to communicate customer research and customer satisfaction results internally and externally. Include examples of recent internal and external communications and reports and summaries.

PUB-NLH-194 Please provide copies of customer research or customer satisfaction surveys and data collection materials and resulting reports, presentations and communications for all research conducted in 2013 and 2014 YTD.

PUB-NLH-195 Please describe the system(s) supporting the Outage Management/ Restoration process, detailing user roles (including second-role), functionality, system interfaces and use of the system in blue-sky, weather and equipment-related events. Also specify vendor, version, recent enhancements and any plans to replace, upgrade and enhance.

PUB-NLH-196 Please detail the process to establish and update estimated restoration times for blue-sky, weather and equipment-related events, including roles and responsibilities for establishing, updating, closing and communicating.

PUB-NLH-197 Please provide copies of outage history reports and statistics from recent events and storms, including any analysis and comparison of ETR performance (estimated vs actual restoration times) and restoration times.

PUB-NLH-198 Please describe the quality assurance process to review Outage Management System closed orders and data following an event and procedures for editing and cleaning-up data.

PUB-NLH-199 Please describe methods, techniques, channels and procedures used to communicate outage restoration progress and status results internally and externally. Include examples of recent internal and external communications and reports and summaries.

PUB-NLH-200 Please describe methods, techniques, channels and procedures used to communicate outage restoration progress and status results internally and externally. Include examples of recent internal and external communications and reports and summaries.

PUB-NLH-201 Please describe training conducted during 2013 and 2014 relating to the operation and use of the Outage Management System. Please specify job titles and number of employees participating in this training.

PUB-NLH-202 Please provide a copy of the customer service strategy, plans, schedule and a description of programs in place or planned for 2014 and 2015.

PUB-NLH-203 Please provide budget/actuals details supporting customer service operations. Include 2013, 2014YTD for budget/actuals and budgeted for 2015.

PUB-NLH-204 Please provide staffing levels supporting customer service operations, including any management and supervisory and other support personnel. Provide the number of staff for 2013, 2014YTD and budgeted 2015.

PUB-NLH-205 Please describe the organization responsible for providing customer service to large commercial, industrial customers and key accounts, detailing roles and responsibilities.

PUB-NLH-206 Please specify training provided for customer service related positions in 2013 and 2014YTD. Also describe planned training.

PUB-NLH-207 Please provide a list of customer service performance and operational metrics reports and presentations used by management and supervisors and reports prepared for upper management.

PUB-NLH-208 Please provide supply reliability data, in terms of LOLH and reserves, for the contingency of a delay in Muskrat Falls and/or the Labrador Island Link project and include data for each year of delay up to a maximum of five years (in-service date of December 1, 2022).

PUB-NLH-209 Please provide any supply plans designed to address the contingency of a delayed Muskrat Falls project or Labrador Island Link project and if none are currently in place, discuss any plans to produce such contingency plans.

PUB-NLH-210 Please provide any risk analyses that have been done regarding the Muskrat Falls project and the Labrador Island Link project and if no such risk analyses have been completed, discuss any plans to produce them.

PUB-NLH-211 Please provide organization charts depicting the project management for Muskrat Falls project and Labrador Island Link project.

PUB-NLH-212 Please provide any studies of reliability for the post Muskrat Falls project and Labrador Island Link project.

PUB-NLH-213 Please explain how the Muskrat Falls project individual units will be incorporated into the supply reliability model. Include in the response the expected forced outage rates, a description of any possibility for common mode failures simultaneously removing multiple Muskrat Falls project generators and how common mode failures been have incorporated into modeling.

PUB-NLH-214 Please identify and describe the expected reliability of the supply via the Labrador Island Link project, the probability of losing one pole and the associated loss of MW.

PUB-NLH-215 Please identify and describe the probability of losing one pole in the Labrador Island Link and the associated loss of MW.

PUB-NLH-216 Please describe how various segments or facilities associated with the Labrador Island Link impact the overall Labrador Island Link reliability; i.e., which critical segments or facilities have the highest failure probabilities and the impact on the Labrador Island Link when those segments or facilities fail.

PUB-NLH-217 Please describe the effects on reliability with the loss of the Labrador Island Link project under one and two pole loss assumptions. In the response identify how much load may be lost under each assumption and if load is lost by a full or partial loss of Labrador Island Link project, how long it would take to restore the system from other sources.

PUB-NLH-218 Please describe in detail Hydro's obligations to Emera, Nova Scotia and any others via the Maritime Link under various operating conditions, such as normal operation, supply shortages in Newfoundland and full or partial loss of the Labrador Island Link project.

PUB-NLH-219 Please identify any circumstances under which Hydro may curtail service on the Maritime Link and identify any costs to be borne in doing so.

PUB-NLH-220 Please provide copies of all agreements by Hydro or Nalcor with Emera or Nova Scotia Power that relate to the Maritime Link.

PUB-NLH-221 Please provide the final design criteria for the Labrador Island Link project.

PUB-NLH-222 Please describe any Labrador Island Link project impact on the current level of under-frequency interruptions experienced by Hydro.

PUB-NLH-223 Please describe all planning regarding restoration challenges associated with the loss of any Labrador Island Link project component.

PUB-NLH-224 Please describe the planned use in the dispatch process of the supply provided via the Labrador Island Link project and what portion of load will be served by the Labrador Island Link project versus supply from other Island resources.

PUB-NLH-225 To the extent any maintenance plans associated with the Holyrood Plant or the combustion turbines are directly driven by the conclusions reached in formal condition assessments, please provide the resulting action plans or other recommended maintenance actions.

PUB-NLH-226 Please provide the O&M budgets and actual expenditures in each year from 2004 through 2013 showing a breakdown of the expenditures by major category as generally used by Hydro and a breakdown by generating unit.

PUB-NLH-227 Please provide the capital budget and actual expenditures in each year from 2004 through 2013 and include the details specifically for projects greater than $500,000.

PUB-NLH-228 Please provide any reports or analyses prepared after completion of a significant unit outage (>2 weeks) in the last five years.

PUB-NLH-229 Please provide any staffing studies or projections prepared by or for the staff involved in operating generating plants.

PUB-NLH-230 Please describe the "*pipeline*" for completing capital projects (design, procurement, construction, etc.) as it requires resources to support the desired capital project completion rate and any recent or anticipated resource shortages that might constrain any portion of the "*pipeline*".

DATED at St. John's, Newfoundland this 10th day of June 2014.

BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

Per _____
Cheryl Blundon
Board Secretary