

June 16, 2014

The Board of Commissioners of Public Utilities  
Prince Charles Building  
120 Torbay Road, P.O. Box 21040  
St. John's, Newfoundland & Labrador  
A1A 5B2

**Attention: Ms. Cheryl Blundon**  
**Director Corporate Services & Board Secretary**

Dear Ms. Blundon:

**Re: The Board's Investigation and Hearing into Supply Issues and Power Outages  
on the Island Interconnection System**

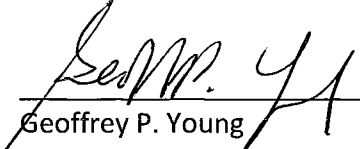
In accordance with the Board's Interim Report dated May 15, 2014, wherein the Board required the filing of reports on today's date with respect to the above noted matter, please find enclosed the original plus 12 copies of Hydro's:

- Hydro Place Emergency Power Report;
- Protection and Control Systems Report;
- Terminal Station and P&C Resource Requirements Report;
- Terminal Station Transformers Report; and
- Generation Availability Report.

Should you have any questions, please contact the undersigned.

Yours truly,

**NEWFOUNDLAND AND LABRADOR HYDRO**

  
\_\_\_\_\_  
Geoffrey P. Young  
Senior Legal Counsel

GPY/cp

cc: Gerard Hayes – Newfoundland Power  
Paul Coxworthy – Stewart McKelvey Stirling Scales  
Sheryl Nisenbaum – Praxair Canada Inc.  
Roberta Frampton Benefiel – Grand Riverkeeper Labrador

Thomas Johnson – Consumer Advocate  
Thomas O’ Reilly – Cox & Palmer  
Danny Dumaresque

*Investigation and Hearing into Supply Issues and Power Outages on the  
Island Interconnected System*

**REPORT TO THE BOARD OF COMMISSIONERS OF PUBLIC UTILITIES  
RELATED TO TERMINAL STATION AND PROTECTION AND CONTROL  
RESOURCE REQUIREMENTS**

Newfoundland and Labrador Hydro

June 16, 2014





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1   **1    BACKGROUND AND INTRODUCTION**

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3   On May 15, 2014 the Board of Commissioners of Public Utilities (PUB) issued its Interim Report  
4   in connection with the Board’s investigation and hearing into the supply disruptions and power  
5   outages which occurred on the island interconnected system in January, 2014.

6

7   In this Report reference was made to two recommendations previously made by Liberty  
8   Consulting (Liberty) which addressed the level of staffing resources required to complete  
9   substation maintenance and protection and control work required in 2014 and beyond.

10

11   Liberty recommended that Hydro should use qualified substation contractor personnel to  
12   provide the skilled manpower required to assist with the transformer projects and to catch up  
13   with regular scheduled maintenance on transformers and circuit breakers. Liberty also  
14   recommended that Hydro should review its substation and protection and control (P&C)  
15   staffing needs for the future, in light of the more intense maintenance needs of its aged  
16   transformers and circuit breakers, its protective relay replacement and modification work, and  
17   upcoming construction work on the new DC lines.

18

19   In its response to the Liberty report, filed with the PUB on May 2, 2014, Hydro indicated its  
20   agreement with both of these recommendations, and committed to obtaining the right amount  
21   and quality of resources to get the necessary work done in a timely manner.

22

23   This Report is filed in response to the request made by the PUB in its Interim Report that Hydro  
24   file a report by June 16, 2014 addressing associated costs in relation to how it will meet its  
25   substation and protection and control system resource requirements beginning in 2014.

## 2 TERMINAL STATION RESOURCES – Incremental Work

Substation maintenance and P&C work incremental to Hydro's base annual work plan will be required in 2014 and 2015. This work is comprised of two main components: a) preventative maintenance (PM) recovery work on its terminal station transformers and air blast circuit breakers; and b) execution of the various P&C actions which have been included in Hydro's Integrated Action, including the implementation of the recommendations from prior P&C studies.

The PM recovery plan for transformers and air blast circuit breakers will be executed by a combination of contractors and temporary Hydro employees. The details of this PM recovery plan, including schedule, resources and cost, were outlined in reports filed with the PUB on June 2, 2014. Hydro estimates that its incremental employee requirements associated with this program will be 3.5 FTEs in 2014, and five FTEs in 2015.

Hydro estimates it will utilize temporary supervision and technologists to execute the 2014 P&C action items. This will require an incremental requirement of 0.75 FTEs, at a cost of \$100,000. Table 2.1 below summarizes the costs in 2014 and 2015 associated with the incremental work described above. Reference should be made to the reports filed by Hydro on June 2, 2014 for additional detail in relation to the PM recovery plans for transformers and air blast circuit breakers.

<b>Resource</b>	<b>2014</b>	<b>2015</b>
Skilled tradespersons, contractors and vehicles (PM recovery)	\$833,130	\$833,130
Supervision and administrative staff (PM recovery)	\$207,300	\$330,950
P&C Technologists and Supervision (P&C actions 2014)	\$100,000	
<b>Total</b>	<b>\$1,140,430</b>	<b>\$1,164,080</b>



1 **3 TERMINAL STATION RESOURCES – Base Requirements**

2

3 Hydro is confident that the terminal station and P&C work required in 2014, including the  
4 incremental work discussed in Section 2.0, will be competed through the utilization of existing  
5 staff, supplemented as required by contractor personnel for the planned PM recovery work.

6

7 In the meantime, Hydro is reviewing its longer-term P&C resourcing plan to ensure that its staff  
8 complement is adequate, and to determine the appropriate mix of internal (staff) and external  
9 (contractor) resources it should establish in order to effectively meet its ongoing and future  
10 operational needs. This review will be completed by July 31, 2014, and it will include a  
11 consideration of the following factors:

- 12 a) Possible changes to the frequency of PM routines on transformers, circuit breakers, and  
13 other assets;
- 14 b) Forecasted retirement attrition and related succession planning requirements;
- 15 c) The near-term addition of new generation and transmission infrastructure within  
16 Hydro's operations;
- 17 d) Increasing requirements related to Hydro's expanding capital program and system  
18 upgrades; and
- 19 e) Possible other additions to the base P&C workplan in 2015 and future years.

20

21 In addition to reviewing its P&C resourcing levels, the Company is also implementing improved  
22 processes for both planning and monitoring the execution of annual work plans.