

October 15, 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: Newfoundland and Labrador Hydro - the Board's Investigation and Hearing into  
Supply Issues and Power Outages on the Island Interconnected System - Request for  
Generation Availability Additional Reporting**

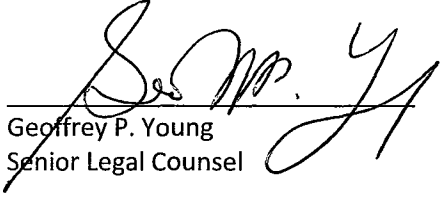
Please find attached Hydro's Monthly Generation Availability Additional Reporting update as requested by the Board in its letter of August 13, 2014. The following items are addressed in this update:

- The status of Annual Work Plan Items;
- The status of progress on the milestones for critical spares indicated in Hydro's June 16, 2014 report on Generation Availability; and
- The status and progress of activities to secure economically available interruptible loads.

We trust the foregoing is satisfactory. If you have any questions or comments, please contact the undersigned.

Yours truly,

**NEWFOUNDLAND AND LABRADOR HYDRO**

  
Geoffrey P. Young  
Senior Legal Counsel

GPY/jc

cc: Gerard Hayes – Newfoundland Power  
Paul Coxworthy – Stewart McKelvey Stirling Scales  
Sheryl Nisenbaum – Praxair Canada Inc.  
ecc: 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*

**ADDITIONAL REPORTING TO THE BOARD OF COMMISSIONERS OF  
PUBLIC UTILITIES RELATED TO GENERATION AVAILABILITY**

Newfoundland and Labrador Hydro

October 15, 2014





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1 **1 BACKGROUND AND INTRODUCTION**

2 On June 16, 2014, Newfoundland and Labrador Hydro (“Hydro”) submitted a report to the  
3 Board of Commissioners of Public Utilities (the “Board”) on various matters related to  
4 Generation Availability. Specifically, that Report outlined Hydro’s plans and progress in the  
5 areas of winter readiness and generation availability improvement; critical spares; and securing  
6 economically available interruptible loads.

7  
8 This Report is in response to a request by the Board in its letter dated August 13, 2014 that the  
9 following reports be filed monthly by the 15<sup>th</sup> of each month, reporting on the previous  
10 month’s activity, commencing August 15<sup>th</sup>:

- 11
- 12 1. The status of Annual Work Plan items, comparing items planned for the year, items  
13 planned to be complete as of the report date, and those actually completed for each of  
14 the three generating units at the Holyrood Thermal Generating Station, the balance of  
15 plant at Holyrood, the Hardwoods and Stephenville gas turbines, and the hydro units.  
16
  - 17 2. The status of capital projects showing the number forecast to be completed by the end  
18 of the year and an S-curve of actual capital spending through the month for which the  
19 report is filed in comparison to the planned spending for that month.  
20
  - 21 3. The status of progress for each milestone for critical spares on Tables 3.1, 3.2, and 3.3 of  
22 Hydro’s June 16 report on Generation Availability and the procurement status of the list  
23 of critical spares developed for the Holyrood Thermal Generating Station, the  
24 Hardwoods and Stephenville gas turbines, and the Hydro units.  
25
  - 26 4. The status and progress of activities on Hydro’s work plan to secure economically  
27 available interruptible loads.

28  
29 The following sections of this Report address items 1, 3, and 4 above respectively.

- 1 An update regarding the status of capital projects (item 2) is provided separately.

1 **2 ANNUAL WORK PLAN STATUS**

2 Hydro’s Annual Work Plan (AWP) integrates all planned activities for the year related to the  
3 corrective maintenance, preventive maintenance, and capital project support which are critical  
4 to safe, reliable production. Work orders generated during the year are also integrated into the  
5 AWP as appropriate. Hydro regularly measures the progress of AWP execution in comparison  
6 with plan, and is able to track AWP status down to the level of individual work plan items. This  
7 Report produces a consolidated summary of actual AWP progress versus plan as of the week  
8 ending October 4, 2014 for each of the following generation assets:

9

10 1) Holyrood Thermal Generating Station

11 a. Units 1, 2 and 3

12 b. Balance of Plant

13 2) Gas Turbines

14 a. Hardwoods

15 b. Stephenville

16 3) Hydraulic Generation

17 a. Bay d’Espoir

18 b. Cat Arm

19 c. Hind’s Lake

20 d. Paradise River

21 e. Upper Salmon

22 f. Granite Canal

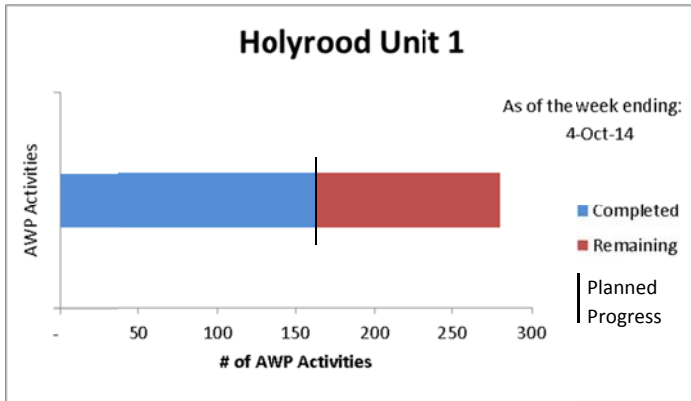
23

24 In each case, comments have been included next to the bar graph presentations to provide  
25 context and to address any areas where recovery is planned for items that may be behind plan.



1 **2.1 AWP Status: Holyrood Thermal Generating Station**

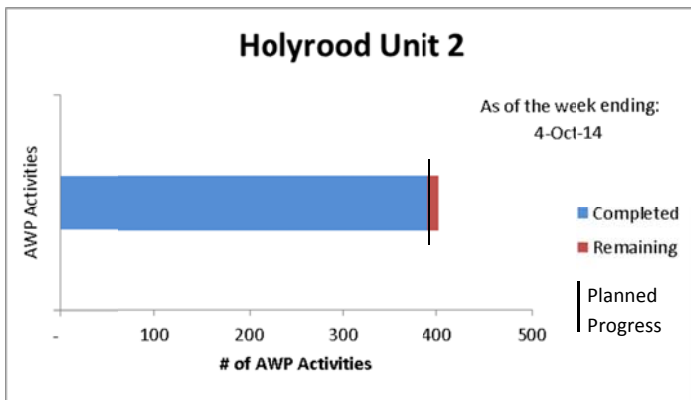
2 The current status of AWP execution at Holyrood is summarized in the charts below. Progress  
 3 to the end of the reporting period is in line with plan, and the forecasted completion status of  
 4 all remaining 2014 AWP items is Green.  
 5



**Forecast Completion Status (R/Y/G):** Green

**Comments and Schedule:**

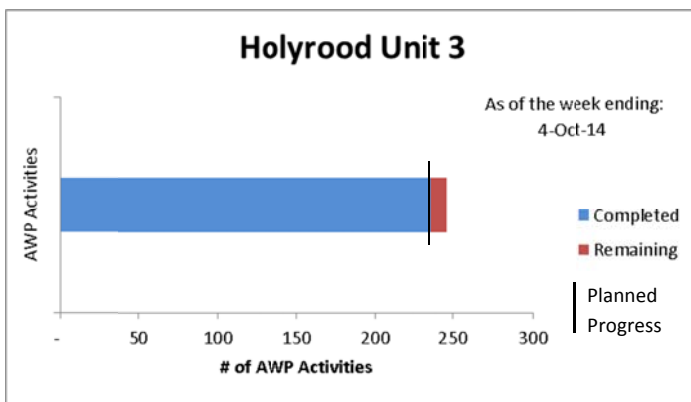
- Planned maintenance outage has a completion date of November 7
- Overall program completion status, including work in progress, is 58%
- Planned work is on schedule for successful completion



**Forecast Completion Status (R/Y/G):** Green

**Comments and Schedule Notables:**

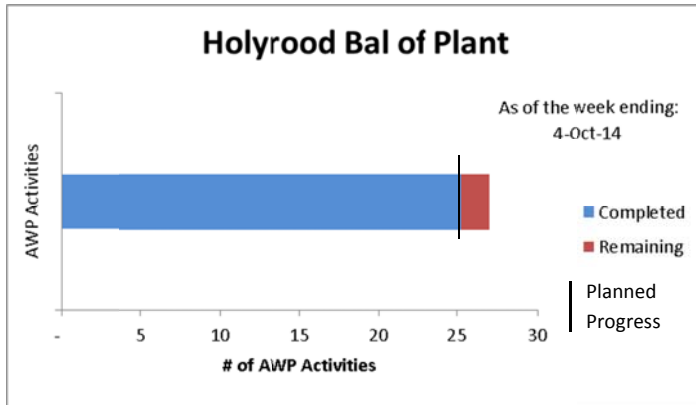
- Planned maintenance outage complete
- Overall program completion status, including work in progress, is 97%
- Remaining items are related to unit start up and balancing activities with completion by Nov. 30<sup>th</sup>.



**Forecast Completion Status (R/Y/G):** Green

**Comments and Schedule Notables:**

- Planned maintenance outage is complete
- Overall program completion is 96%
- EVT Testing to be completed by Oct 31.
- Condition assessment (NDT) remaining tasks to be completed by Nov. 30<sup>th</sup>.



Forecast Completion Status (R/Y/G): **Green**

**Comments and Schedule Notables:**

- Activities are 93% complete
- Remaining activities primarily pertain to support for ongoing capital projects
- PM and CM activities complete
- Remaining capital activities are on schedule for successful completion by end of Q4

1

2 **2.2 AWP Status: Gas Turbines**

3 The current status of AWP execution at the Hardwoods and Stephenville gas turbines is  
 4 summarized in the charts below. Overall progress to the end of the reporting period is slightly  
 5 ahead of plan, and the forecasted completion status of all 2014 AWP items at both facilities is  
 6 Green.

7

8 A fire at Hardwoods on July 25, 2014 resulted in a forced outage to the entire facility. The  
 9 return of the unit to service was Hydro’s priority in August and September, and the work  
 10 required to return the unit to service included:

11

- 12 a) Refurbishment of the MCC sections affected by the fire – this required removal of the
- 13 affected sections and shipment to an external, off-island facility;
- 14 b) Removal of damaged control and power wiring and installation of new wiring;
- 15 c) Pre-commissioning checks and testing; and
- 16 d) Final commissioning and start up.

17

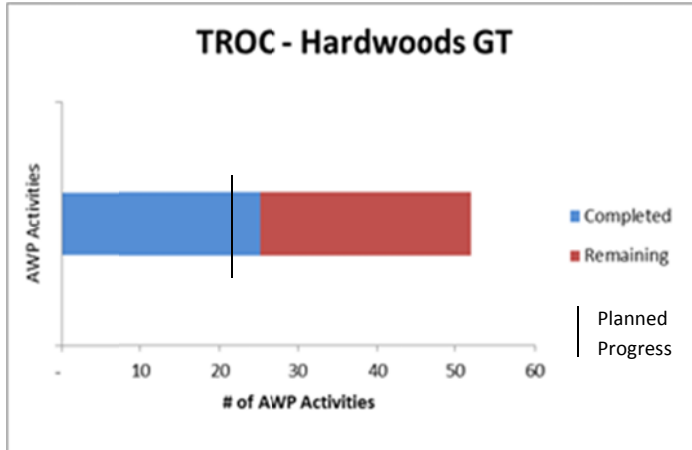
18 The unit was returned to service on September 25.

19

20 As reported previously, the delay in the completion of capital work at the Stephenville gas  
 21 turbine was a result of a delay in the factory acceptance testing of the overhauled engine at the  
 22 test facility. The engine was tested on September 28, and the scheduled outage for the

1 completion of the capital work has not changed. It is expected that the unit will be returned to  
 2 service by the end of October.

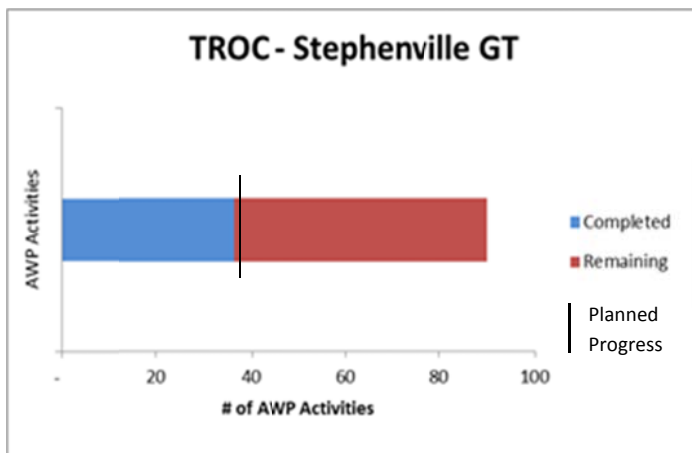
3



**Forecast Completion Status: (R/Y/G):** Green

**Comments and Schedule Notables (e.g. ahead, behind, recovery plan):**

- 25 activities fully completed vs. plan of 21
- Planned PMs, CMs are on schedule
- Overall program completion status, including work in progress, is 48%



**Forecast Completion Status (R/Y/G):** Green

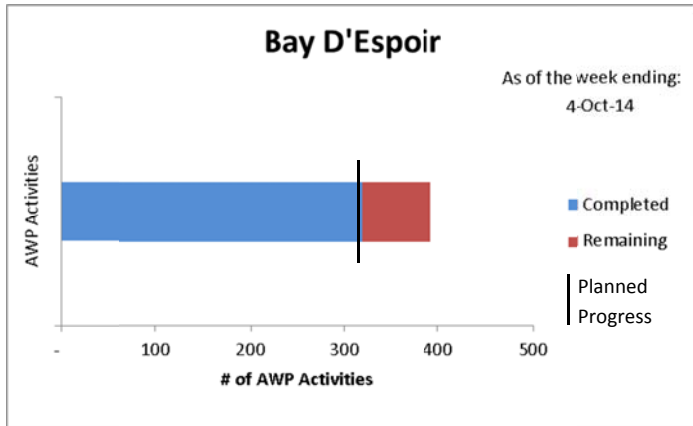
**Comments and Schedule Notables (e.g. ahead, behind, recovery plan):**

- 36 of 39 planned activities fully completed
- Planned PMs, CMs are on schedule
- Overall program completion status, including work in progress, is 40%
- Capital project work is slightly behind schedule due to a delayed start of outage due to system requirements.

4

5 **2.3 AWP Status: Hydraulic Units**

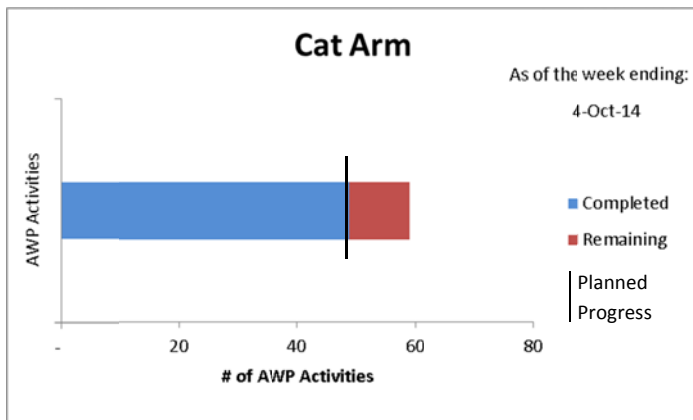
6 The current status of AWP execution at Bay d’Espoir and other hydraulic generation facilities is  
 7 summarized in the charts below. Progress to the end of the reporting period is in line with  
 8 plan, and the forecasted completion status of all remaining 2014 AWP items is Green.



**Forecast Completion Status (R/Y/G):** Green

**Comments and Schedule Notables:**

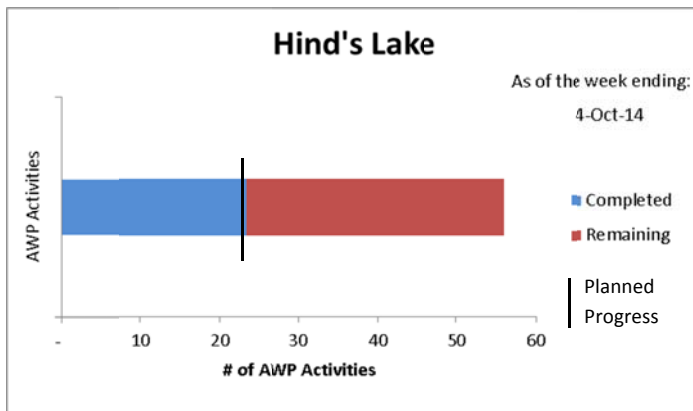
- 5 of 7 planned unit outages are complete
- Overall program completion status, including work in progress, is 81%
- Remaining work is on schedule for successful completion by Nov. 28<sup>th</sup>.



**Forecast Completion Status (R/Y/G):** Green

**Comments and Schedule Notables:**

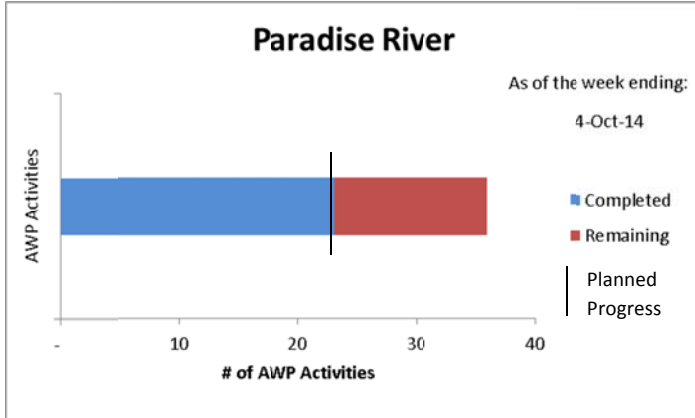
- Both unit outages are complete.
- Overall program completion status, including work in progress, is 83%
- Remaining work is on schedule for successful completion by Nov. 7th



**Forecast Completion Status (R/Y/G):** Green

**Comments and Schedule Notables:**

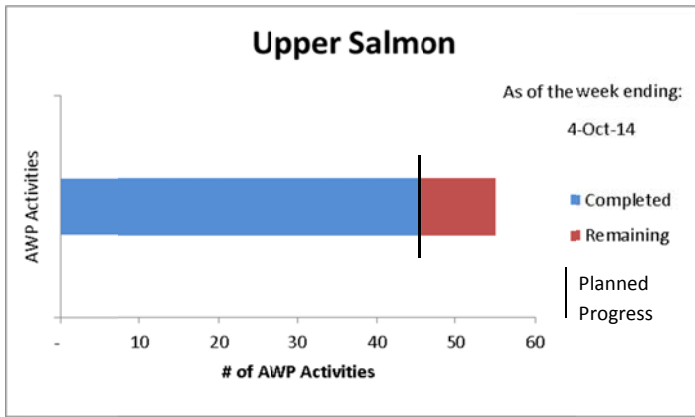
- Unit outage is in progress
- Overall program completion status, including work in progress, is 41%
- Remaining work is on schedule for successful completion by Nov. 21st



**Forecast Completion Status (R/Y/G):** Green

**Comments and Schedule Notables:**

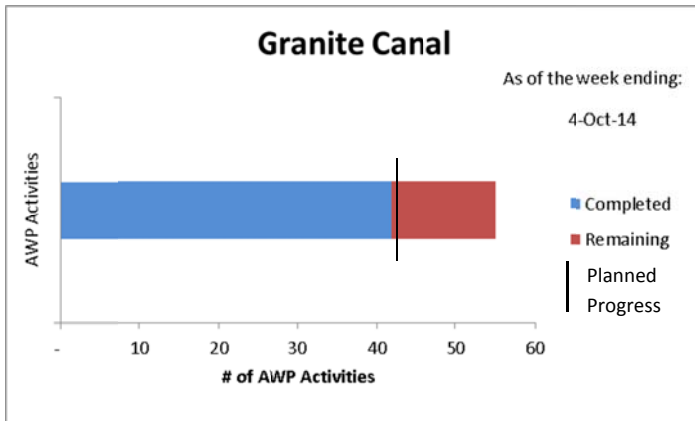
- Unit outage is complete with unit fully operational and returned to service
- Overall program completion status, including work in progress, is 64%
- Remaining work does not require an outage and is on schedule for successful completion by Nov. 14th



**Forecast Completion Status (R/Y/G):** Green

**Comments and Schedule Notables:**

- Unit outage is complete.
- Overall program completion status, including work in progress, is 84%
- Remaining work is on schedule for successful completion by Nov. 7th



**Forecast Completion Status (R/Y/G):** Green

**Comments and Schedule Notables:**

- Unit outage is complete.
- Overall program completion status, including work in progress, is 86%
- Remaining work is on schedule for successful completion by Nov 28th

### 1 3 CRITICAL SPARES

#### 2 3.1 Holyrood Thermal Generating Station

3 The milestones for Holyrood’s critical spares review were indicated in Hydro’s June 16, 2014  
4 report on Generation Availability. The current status of these milestones is noted below.

5

Phase 1 of Critical Spares Review - HTGS		
Activity	Completion Date	Status
Purchase Order Issued	May 8, 2014	Complete
Kick off meeting	May 14, 2014	Complete
Draft Report of Spares to be Stocked	August 7, 2014	Complete
Presentation of Report	August 28, 2014	Complete
Finalized Report of Critical Spares to be Stocked	September 30, 2014	Complete
Finalized Critical Spares Listing Including: a) Bill of Materials; b) estimated lead times; and c) cost estimates	November 30, 2014	15% complete. On target.

6

7 The Consultants engaged to assist Holyrood with their review of critical spares to be stocked  
8 presented their final report on October 1. The listing is being further analyzed by Hydro to  
9 ensure accuracy and completeness. The preparation of cost estimates in relation to the last  
10 milestone above continues to progress and is on target. Overall, Holyrood remains on track to  
11 complete its review of critical spares within the planned schedule.

12

13 Hydro has completed an assessment of its critical spares requirements and approach for 4 kV  
14 motors. Three options were evaluated and it has been determined that the most reliable and  
15 cost-effective solution is to purchase the four most critical motors and procure spare parts for  
16 the others. A purchase order has been issued to the supplier.

17

#### 18 3.2 Gas Turbines

19 The milestones for the critical spares review for the Hardwoods and Stephenville gas turbines  
20 were indicated in Hydro’s June 16, 2014 report on Generation Availability. The current status  
21 of these milestones is noted below.

<b>Critical Spares Review – Gas Turbines</b>		
<b>Activity</b>	<b>Completion Date</b>	<b>Status</b>
Project start	June 18, 2014	Complete
Kick off meeting	June 20, 2014	Complete
Preliminary spares list complete	August 8, 2014	Complete
Draft Report submitted	August 29, 2014	Complete - Sept 5
Final Report submitted	September 12, 2014	Complete - Sept 22
Completed procurement of critical items	November 15, 2014	On Target

1

2 Procurement activities are continuing in the following areas in parallel with the formal review:

3

- 4 • Review/confirmation of spares on hand and identification of procurement requirements
- 5 based on a prioritized spares list;
- 6 • DCS system required spares have been ordered;
- 7 • Spares information related to capital work being completed this year is being
- 8 documented; and
- 9 • Sourcing of additional spares is ongoing as identified through the completion of
- 10 preventative and corrective maintenance activities.

11

### 12 **3.3 Hydro Generation**

13 The milestones for Hydro Generation’s critical spares review were indicated in Hydro’s June 16,  
14 2014 report on Generation Availability. The current status of these milestones is noted below.

15

<b>Critical Spares Review – Hydro Generation</b>		
<b>Activity</b>	<b>Completion Date</b>	<b>Status</b>
Identify equipment and critical equipment/components	July 31, 2014	Complete
Assess critical spares for critical equipment/components	Sept 30, 2014	Completion date changed to Oct 31
Cross reference assessed spares with existing critical spares list	October 31, 2014	On Target
Order critical spares that are not already set-up in inventory	November 30, 2014	On Target

- 1 Activities 2 and 3 above are being completed simultaneously for work efficiency reasons. For
- 2 that reason, and because some critical path work related to item 4 required early attention (i.e.,
- 3 an application to the Board before procurement could be initiated for some items not already
- 4 carried in inventory), the completion date for item 2 above has been adjusted to coincide with
- 5 the target date for item 3.
- 6
- 7 Hydro Generation’s critical spares review is on track for completion as scheduled.



1 **4 SECURING ECONOMICALLY AVAILABLE INTERRUPTIBLE LOADS**

2 The work plan for securing economically available interruptible loads presented in Hydro’s June  
3 16, 2014 report on Generation Availability is indicated below. With the exception of Item  
4 numbers 12 and 13, all work plan activities are complete. The table below reflects these  
5 updates.

6  
7 Hydro’s internal expertise has undertaken assessments of Hydro’s Isolated Island System needs  
8 as well as legal and regulatory considerations. The Company conducted research into  
9 interruptible load arrangements in other Canadian jurisdictions and reviewed its own historic  
10 interruptible contracts to inform discussions with customers.

11  
12 Hydro has had either telephone or face-to-face discussions with most of its Industrial  
13 Customers regarding their ability to participate in an interruptible service/capacity assistance  
14 arrangement. The discussions were largely concerned with determining how much capacity  
15 each customer can provide, the costs associated with the provision of interruptible capacity  
16 assistance, and the potential impacts on the customers’ operations. The conversations  
17 indicated that two of Hydro’s Island Industrial Customers, Corner Brook Pulp and Paper Limited  
18 (“CBPP”) and Vale, have the ability to commit to providing varying degrees of winter capacity  
19 assistance to Hydro. Hydro is finalizing an agreement with CBPP for 60 MW of capacity  
20 assistance and anticipates filing for PUB approval in the near future. Discussions between Hydro  
21 and Vale for a potential capacity assistance arrangement are ongoing.

22  
23 Hydro anticipates having capacity assistance arrangements in place in advance of the 2014/15  
24 winter season.

<b>Status of Workplan for Securing Economically Available Interruptible Load</b>			
<b>Item number</b>	<b>Description of Activity</b>	<b>Status</b>	<b>Expected Completion Date</b>
<b>A. Preliminary Research</b>			
1.	Research interruptible loads and capacity assistance in other Canadian jurisdictions	Complete	August 31, 2014
2.	Review Hydro's previous interruptible power and capacity assistance contracts to inform discussion with customers	Complete	June 15, 2014
3.	Complete analysis of costs expected to be incurred by potential customers for the provision of interruptible load	Complete	August 31, 2014
4.	Complete analysis of Hydro's cost of providing additional capacity for incorporation into developing pricing considerations for interruptible load	Complete	August 31, 2014
<b>B. Legal Considerations</b>			
5.	Complete legal review of any potential issues associated with obtaining interruptible power and/or capacity assistance	Complete	September 15, 2014
<b>C. Regulatory Considerations</b>			
6.	Determine regulatory process to follow with respect to obtaining interruptible power and/or capacity assistance arrangements	Complete	September 15, 2014
<b>D. System Considerations</b>			
7.	Assess most appropriate means of incorporating interruptible power and/or capacity assistance arrangements into Hydro's Isolated Island System	Complete	September 15, 2014
<b>E. Commercial Considerations</b>			
8.	Assess appropriate commercial terms (including rate structure) to be incorporated into potential agreements	Complete	September 15, 2014
<b>F. Engagement of Customers</b>			
9.	Make contact with Industrial Customers inquiring as to their ability to curtail or provide capacity assistance	Complete	June 30, 2014
10.	Meet with Industrial Customers as necessary	Complete	September 21, 2014
11.	Determine optimal combination of interruptible and/or capacity assistance contracts moving forward	Complete	September 15, 2014
12.	Obtain alignment/agreement with applicable Industrial Customers on terms & conditions/commercial arrangements	Complete (CBPP) In Progress (Vale)	September 21, 2014
<b>G. Approval of Commercial Arrangements &amp; Execution</b>			
13.	Put forward for final PUB approval and execute arrangements as required	Pending	October 2014