

August 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 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.

In its letter, the Board also requested a capital projects status update. This information has been compiled but requires a final review by Hydro's Manager of Project Execution who will be returning from vacation on Monday. This component of Hydro's update will be forwarded to the Board by the end of business on Monday, August 18<sup>th</sup>.

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

Yours truly,

**NEWFOUNDLAND AND LABRADOR HYDRO**



Tracey L. Pennell  
Legal Counsel

TLP/cp

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

August 15, 2014





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1 **1 BACKGROUND AND INTRODUCTION**

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

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

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

- 1 The following sections of this Report address items 1, 3, and 4 above respectively. Status
- 2 information pertaining to item 2 above has been compiled but requires a final review by
- 3 Hydro's Manager of Project Execution and will be provided to the Board on Monday, August 18.



1 **2 ANNUAL WORK PLAN STATUS**

2  
3 Hydro’s Annual Work Plan (AWP) integrates all planned activities for the year related to the  
4 corrective maintenance, preventive maintenance, and capital project support which are critical  
5 to safe, reliable production. Work orders generated during the year are also integrated into the  
6 AWP as appropriate. Hydro regularly measures the progress of AWP execution in comparison  
7 with plan, and is able track AWP status down to the level of individual work plan items.

8  
9 For the purposes of this Report, Hydro has produced a consolidated summary of actual AWP  
10 progress versus plan as of the week ending August 9, 2014 for each of the following generation  
11 assets:

12  
13 1) Holyrood Thermal Generating Station

14 a. Units 1, 2 and 3

15 b. Balance of Plant

16 2) Gas Turbines

17 a. Hardwoods

18 b. Stephenville

19 3) Hydraulic Generation

20 a. Bay d’Espoir

21 b. Cat Arm

22 c. Hind’s Lake

23 d. Paradise River

24 e. Upper Salmon

25 f. Granite Canal

26  
27 In each case, comments have been included next to the bar graph presentations to provide  
28 context and to address any areas where recovery is planned for items that may be behind plan.  
29 Additional levels of detail are available from the AWP should the Board require detailed status

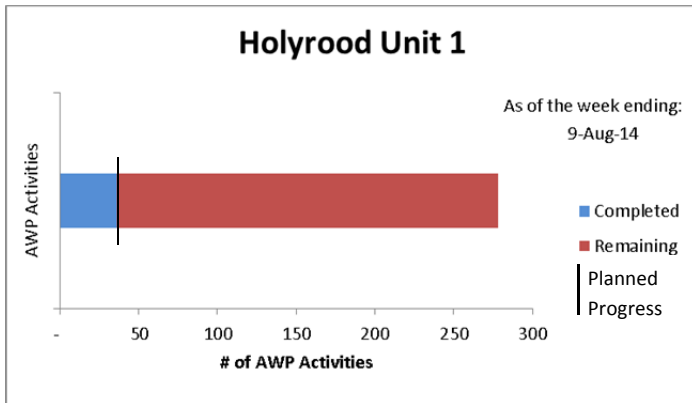
1 information related to specific areas or workplan items. S-curves are also available as an  
 2 alternative to the bar graph format used in this Report.

3

4 **2.1 AWP Status: Holyrood Thermal Generating Station**

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

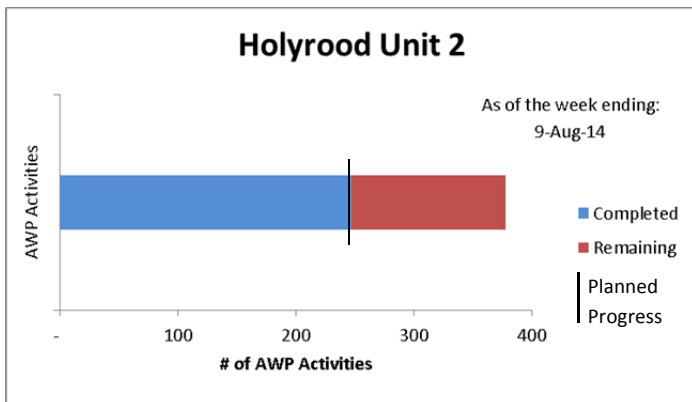
8



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

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

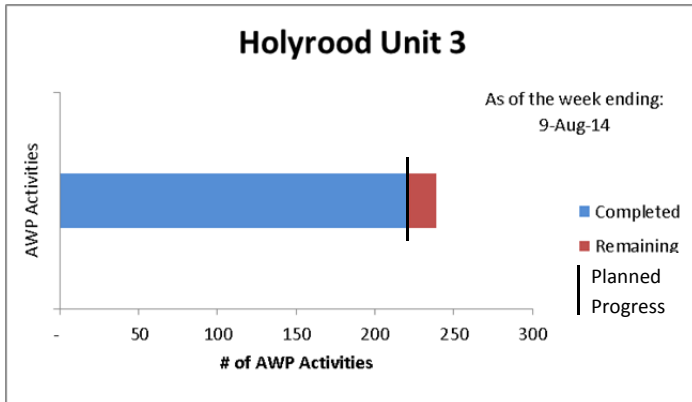
- Planned maintenance outage began July 21 with a finish date of November 7
- Approximately 15% of AWP activities are complete
- Currently on schedule



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

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

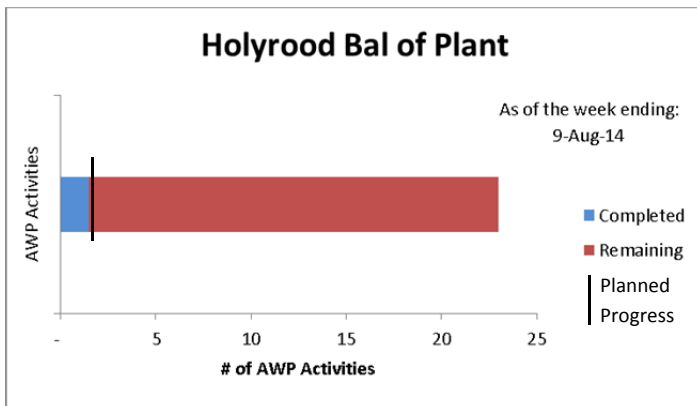
- Planned maintenance outage began May 19 with a finish date of September 5
- Approximately 75% of AWP activities are complete
- Currently on schedule



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

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

- Planned maintenance outage is complete and unit has been returned to service
- Currently on schedule



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

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

- Activities in this area are primarily those related to Stage I (Units 1 & 2) outage
- Expect to complete activities by end of Stage 1 outage (Sept 5)
- Currently on schedule

1

2 **2.2 AWP Status: Gas Turbines**

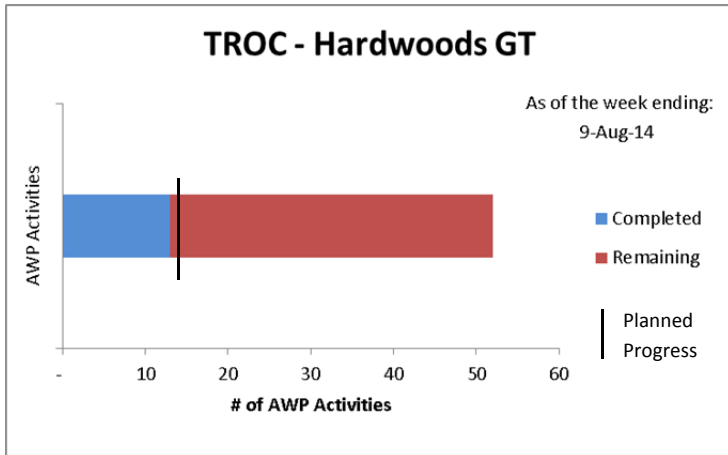
3 The current status of AWP execution at the Hardwoods and Stephenville gas turbines is  
 4 summarized in the charts below. Progress to the end of the reporting period is slightly behind  
 5 plan, however the forecasted completion status of all 2014 AWP items is Green.

6

7 A fire at Hardwoods on July 25, 2014 resulted in a forced outage to the entire facility. The  
 8 investigation and repairs have been Hydro’s priority. To the extent possible, maintenance work  
 9 which has been delayed as a result will be completed in conjunction with the repair.

10

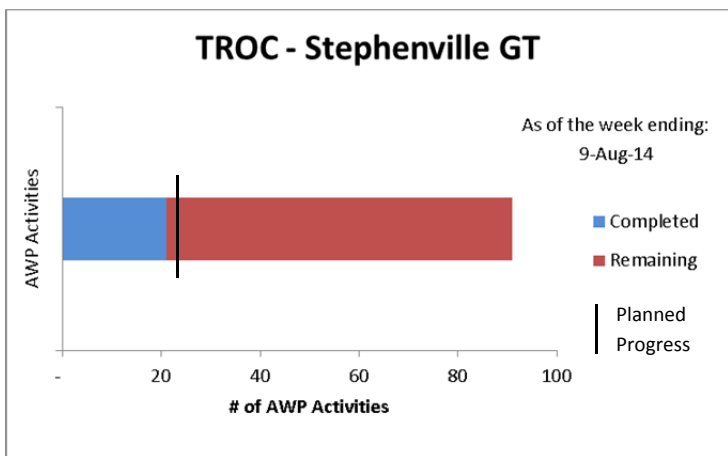
11 An outage which was required in order to maintain schedule on maintenance activities at  
 12 Stephenville was delayed as a result of issues related to the coordination of technical inspection  
 13 by external personnel on project work. However, these activities will be completed during the  
 14 re-scheduled outage.



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

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

- 13 of 17 planned activities completed
- Recent focus has been on unit return to service
- Currently expect to recover within two weeks



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

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

- 21 of 27 planned activities completed
- Planned PMs, CMs are on schedule
- Project work is behind due to delayed start. Project work is now ongoing, and is expected to be completed on schedule

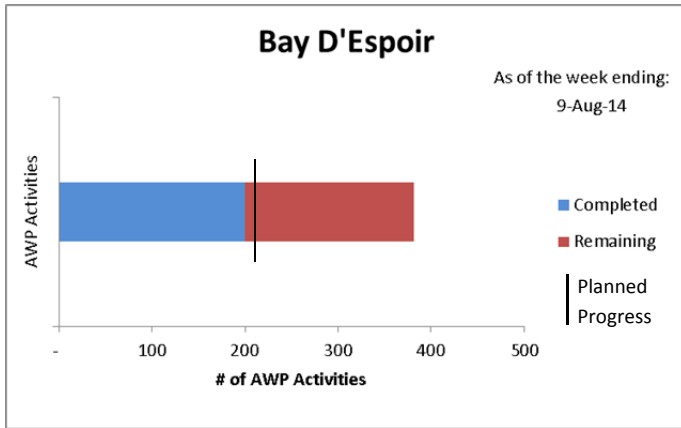
1

2 **2.3 AWP Status: Hydraulic Units**

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

6

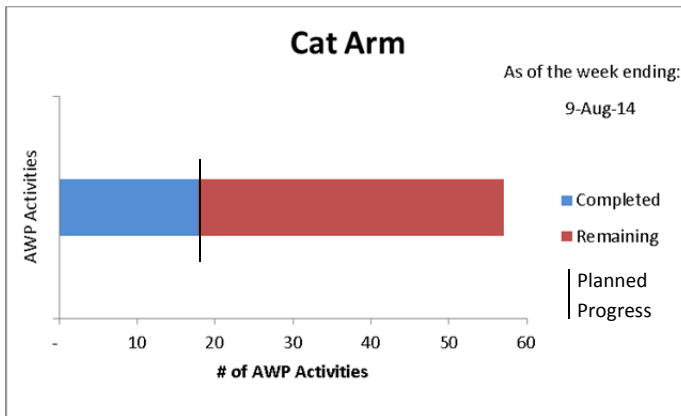
7 AWP execution is slightly behind plan at both Bay d’Espoir and Upper Salmon for reasons  
 8 related to trades resource scheduling and high water levels earlier in the year which caused  
 9 some scheduling delays and schedule compression. Available resources are assigned to  
 10 generation unit work as a first critical priority, where AWP status is in line with plan. In the  
 11 meantime, additional temporary resources have been hired to assist in recovery with control  
 12 structure work.



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

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

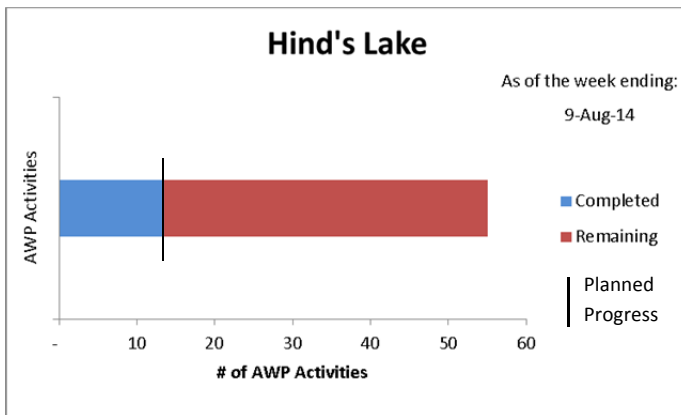
- 4 of 7 planned maintenance outages are complete
- Remaining 3 outages scheduled in Sept, Oct
- Planned work to date on generating units is on schedule
- Control structure work is behind schedule



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

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

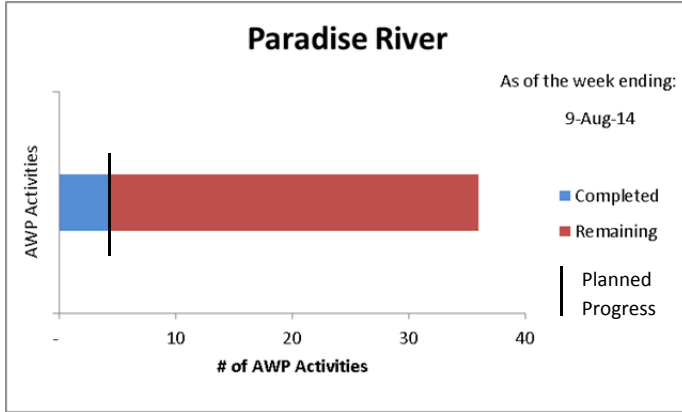
- Planned work to date is on schedule
- Unit 2 planned maintenance outage is scheduled to begin later this month



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

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

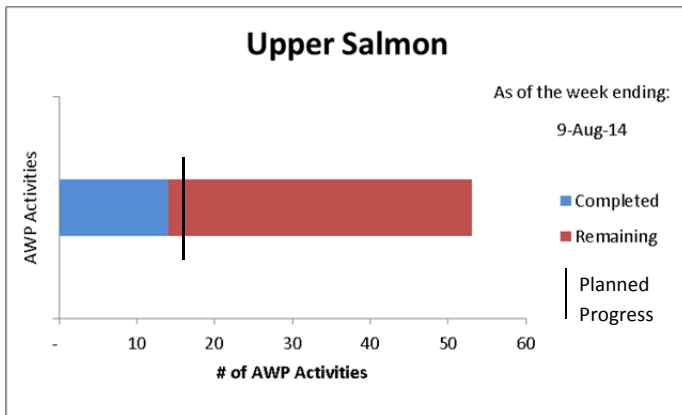
- Planned major maintenance outage is scheduled for October and November
- Planned work to date is on schedule



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

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

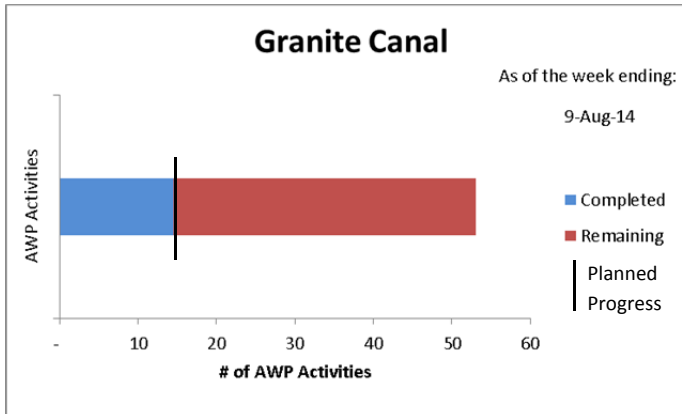
- Planned maintenance outage is scheduled in September
- Planned work to date is on schedule



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

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

- Planned maintenance outage is scheduled in September
- Planned work on generating units to date is on schedule
- Work on control structure is behind schedule



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

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

- Planned maintenance outage was completed August 13
- Work completed during outage is not reported here
- Planned work to date is on schedule

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 as follows:

5

<b>Schedule for Phase 1 of Critical Spares Review at HTGS</b>	
<b>Activity</b>	<b>Completion Date</b>
Purchase Order Issued	May 8, 2014
Kick Off Meeting	May 14, 2014
Draft Report of Spares to be Stocked	August 7, 2014
Presentation of Report	August 28, 2014
Finalized Report of Critical Spares to be Stocked	September 11, 2014
Finalized Critical Spares Listing Including: a) Bill of Materials; b) estimated lead times; and c) cost estimates	November 30, 2014

6

7 All of the milestone activities noted above have either been completed or are on target. A draft  
8 spares report is currently in circulation for review and comment (item 3), and some cost  
9 estimates in relation to item 6 have already been prepared.

10

11 Hydro is actively assessing its critical spares requirements and approach for 4 kV motors.  
12 Engineering work has been completed to generate a technical specification for each of these  
13 motors to assist in the evaluation of alternative motor replacements, considering both new and  
14 refurbished units from both OEM and non-OEM suppliers. Expected delivery times have also  
15 been factored into this evaluation. All pricing and delivery information has now been received  
16 and this information is being compiled to form the basis of a procurement recommendation.

17

18 **3.2 Gas Turbines**

19 The milestones for the critical spares review for Hydro’s Hardwoods and Stephenville gas  
20 turbines were indicated in its June 16, 2014 report on Generation Availability as noted below:

Schedule for Critical Spares Review, Gas Turbines	
Activity	Completion Date
Project start	June 18, 2014
Kick off meeting	June 20, 2014
Preliminary spares list complete	August 8, 2014
Draft report submitted	August 29, 2014
Final report submitted	September 12, 2014
Completed procurement of critical items	November 15, 2014

1

2 All milestones to date have been completed or are on schedule. A preliminary spares list has  
 3 been received and is being reviewed, and no concerns have been identified related to the  
 4 completion of the study work as scheduled.

5

6 In the meantime, procurement activities are being conducted in the following areas in parallel  
 7 with the formal review:

8

- 9 • Review/confirmation of spares on hand;
- 10 • A spare fuel control valve is on hand at Hardwoods;
- 11 • Price and lead times of DCS system spares have been obtained;
- 12 • Spares information related to capital work being completed this year is being  
 13 documented; and
- 14 • Sourcing of additional spares is ongoing as identified/documentated.

15

16 **3.3 Hydro Generation**

17 The milestones for Holyrood’s critical spares review were indicated in Hydro’s June 16, 2014  
 18 report on Generation Availability as follows:



<b>Schedule for Critical Spares Review, Hydro Generation</b>	
<b>Activity</b>	<b>Completion Date</b>
Identify equipment and critical equipment/components	July 31, 2014
Assess critical spares for critical equipment/components	September 30, 2014
Cross reference assessed spares with existing critical spares list	October 31, 2014
Order critical spares that are not already set-up in inventory	November 30, 2014

- 1
- 2 Item 1 above has been completed and the ongoing assessment of critical spares is on track for
- 3 completion as scheduled.

1 **4 SECURING ECONOMICALLY AVAILABLE INTERRUPTIBLE LOADS**

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

7  
8 Hydro has been in either telephone or face-to-face discussion with most of its Industrial  
9 Customers regarding their ability to participate in an interruptible service/capacity assistance  
10 arrangement. These discussions have been largely concerned with determining how much  
11 capacity each customer can provide; the costs associated with the provision of interruptible  
12 capacity assistance; and the potential impacts on the customers’ operations.

13  
14 Hydro’s internal expertise has been tasked with assessing system needs as well as legal and  
15 regulatory considerations. The Company is also conducting research into interruptible load  
16 arrangements in other Canadian jurisdictions and has reviewed its own historic interruptible  
17 contracts to inform discussions with customers.

18  
19 Hydro is advancing in accordance with its schedule in negotiating economically available  
20 interruptible/capacity assistance arrangements with its industrial customers. This process will  
21 be finalized in advance of the 2014/15 winter season.

22  
23 As requested by the Board in its letter of August 13, 2014, Hydro will file a schedule with  
24 identified target completion dates by August 25, 2014.

Activity	Planned Activities Description	Status
<b>A. Preliminary Research</b>		
1.	Research interruptible loads and capacity assistance in other Canadian jurisdictions	In progress
2.	Review Hydro’s previous interruptible power and capacity assistance contracts to inform discussion with customers	Complete
3.	Complete analysis of costs expected to be incurred by potential customers for the provision of interruptible load	In progress
4.	Complete analysis of Hydro’s cost of providing additional capacity for incorporation into developing pricing considerations for interruptible load	In progress
<b>B. Legal Considerations</b>		
5.	Complete legal review of any potential issues associated with obtaining interruptible power and/or capacity assistance	In progress
<b>C. Regulatory Considerations</b>		
6.	Determine regulatory process to follow with respect to obtaining interruptible power and/or capacity assistance arrangements	In progress
<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	In progress
<b>E. Commercial Considerations</b>		
8.	Assess appropriate commercial terms (including rate structure) to be incorporated into potential agreements	In progress
<b>F. Engagement of Customers</b>		
9.	Make contact with industrial customers inquiring as to their ability to curtail or provide capacity assistance	Complete
10.	Meet with industrial customers as necessary	In progress
11.	Determine optimal combination of interruptible and/or capacity assistance contracts moving forward	In progress
12.	Obtain alignment/agreement with applicable industrial customers on terms & conditions/commercial arrangements	Pending
<b>G. Approval and Execution of Commercial Arrangements/Terms &amp; Conditions</b>		
13.	Put forward for final PUB approval and execute arrangements as required	Pending