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December 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.
Thomas Johnson – Consumer Advocate
Thomas O' Reilly – Cox & Palmer
Danny Dumaresque
ecc: Roberta Frampton Benefiel – Grand Riverkeeper Labrador

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

December 15, 2014

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1.0 BACKGROUND AND INTRODUCTION

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

This Report is in response to a request by the Board in its letter dated August 13, 2014 that the following reports be filed monthly by the 15th of each month, reporting on the previous month's activity, commencing August 15th:

1. The status of Annual Work Plan items, comparing items planned for the year, items planned to be compete as of the report date, and those actually completed for each of the three generating units at the Holyrood Thermal Generating Station, the balance of plant at Holyrood, the Hardwoods and Stephenville gas turbines, and the hydro units;

2. The status of capital projects showing the number forecast to be completed by the end of the year and an S-curve of actual capital spending through the month for which the report is filed in comparison to the planned spending for that month;

3. The status of progress for each milestone for critical spares on Tables 3.1, 3.2, and 3.3 of Hydro's June 16 report on Generation Availability and the procurement status of the list of critical spares developed for the Holyrood Thermal Generating Station, the Hardwoods and Stephenville gas turbines, and the Hydro units; and

4. The status and progress of activities on Hydro's work plan to secure economically available interruptible loads.

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

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

2.0 ANNUAL WORK PLAN STATUS

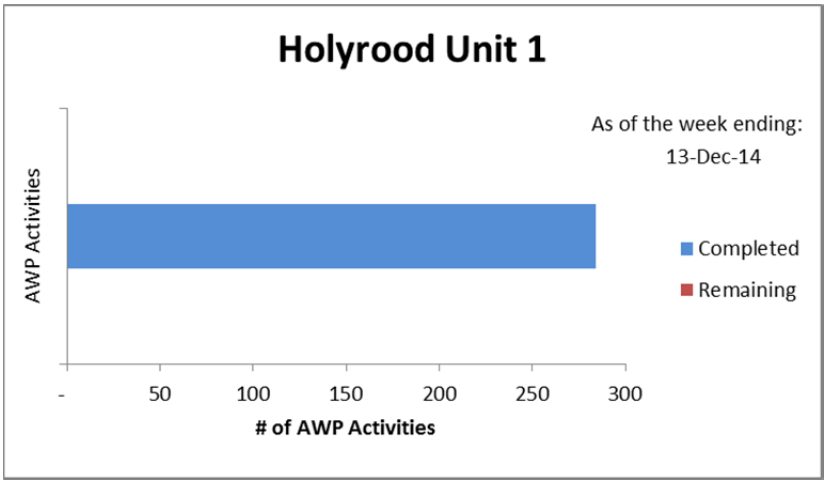
Hydro's Annual Work Plan (AWP) integrates all planned activities for the year related to the corrective maintenance, preventive maintenance, and capital project support which are critical to safe, reliable production. Work orders generated during the year are also integrated into the AWP as appropriate. Hydro regularly measures the progress of AWP execution in comparison with plan, and is able to track AWP status down to the level of individual work plan items. This Report produces a consolidated summary of actual AWP progress versus plan as of the week ending December 13, 2014 for each of the following generation assets:

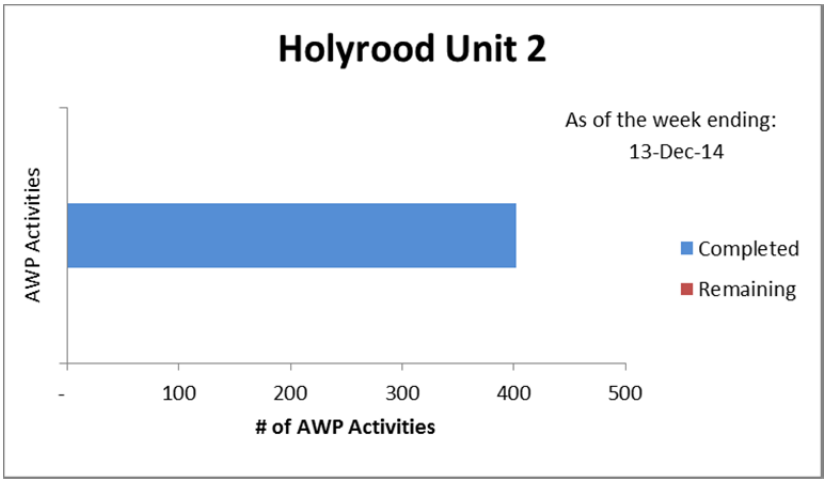
1) Holyrood Thermal Generating Station
    a. Units 1, 2 and 3
    b. Balance of Plant
2) Gas Turbines
    a. Hardwoods
    b. Stephenville
3) Hydraulic Generation
    a. Bay d'Espoir
    b. Cat Arm
    c. Hind's Lake
    d. Paradise River
    e. Upper Salmon
    f. Granite Canal

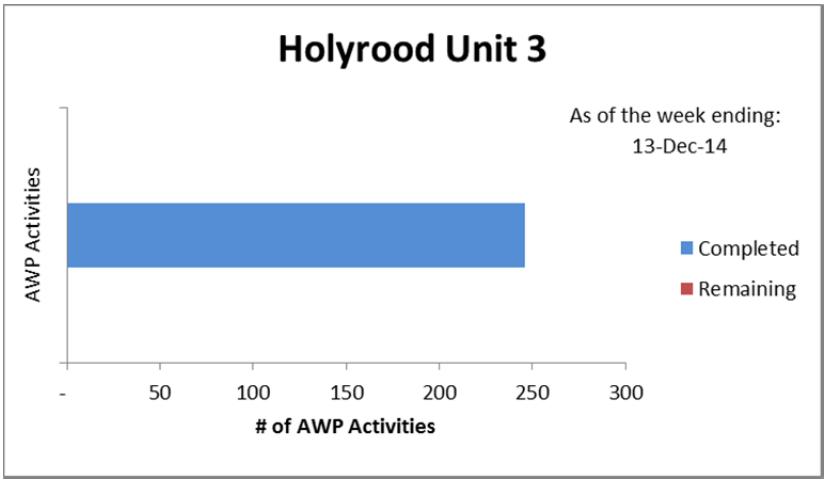
As Sections 2.1 and 2.3 below indicate, the AWPs at both Holyrood and Hydraulic operations have been fully completed. In Section 2.2 (Gas Turbines), comments have been included next to the bar graph presentations to provide context and to address any areas where recovery is planned for items that may be behind plan.

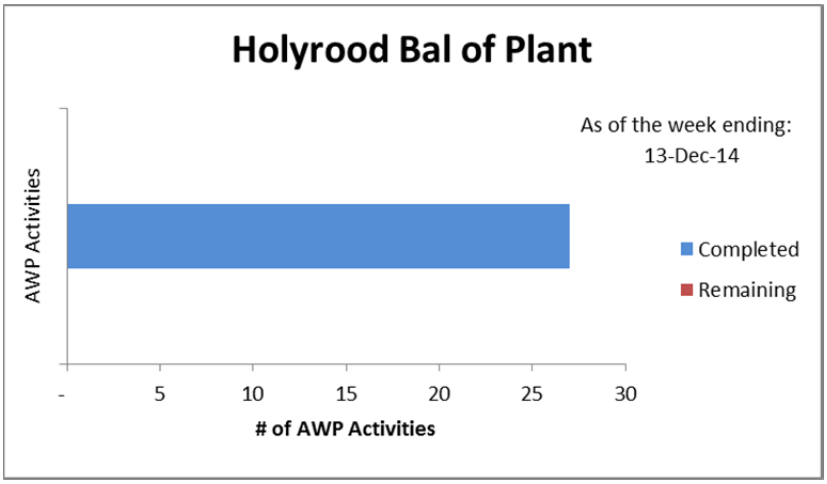
2.1 AWP Status: Holyrood Thermal Generating Station

The status of AWP execution at Holyrood is summarized in the charts below. All planned work has been completed as of the week ending December 13, 2014.





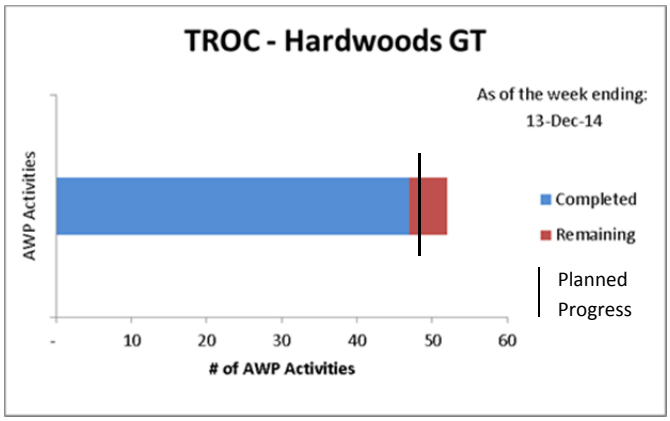




2.2 AWP Status: Gas Turbines

The current status of AWP execution at the Hardwoods and Stephenville gas turbines is summarized in the charts below. AWP progress to the end of the reporting period is slightly behind plan at both plants, and in both cases the PMs and CMs which are behind schedule are Protection and Control (P&C) activities (one at Hardwoods, six at Stephenville). However, these maintenance activities are not essential to generation availability over the coming winter period, and some or all of them may be deferred into January, 2015 to allow for the completion of other, higher priority P&C work within Hydro in the month of December.

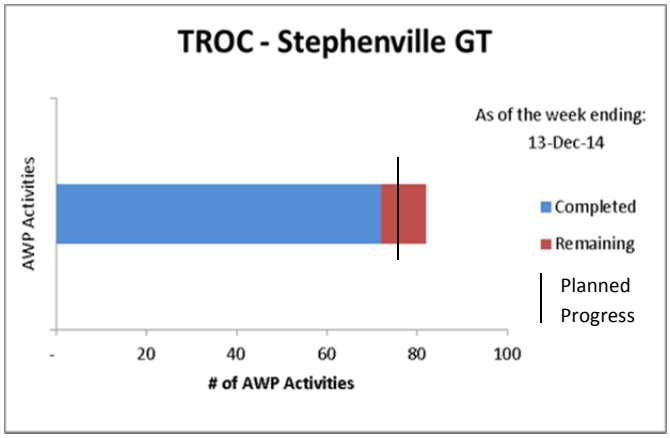
Hydro expects that, at the end of December, the overall AWP completion status at Hardwoods will be 98%, and at Stephenville it will be at least 93%.



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

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

- 47 of 52 planned activities fully completed
- All but 1 Planned PM are complete, CMs are complete
- Overall program completion status is 90%



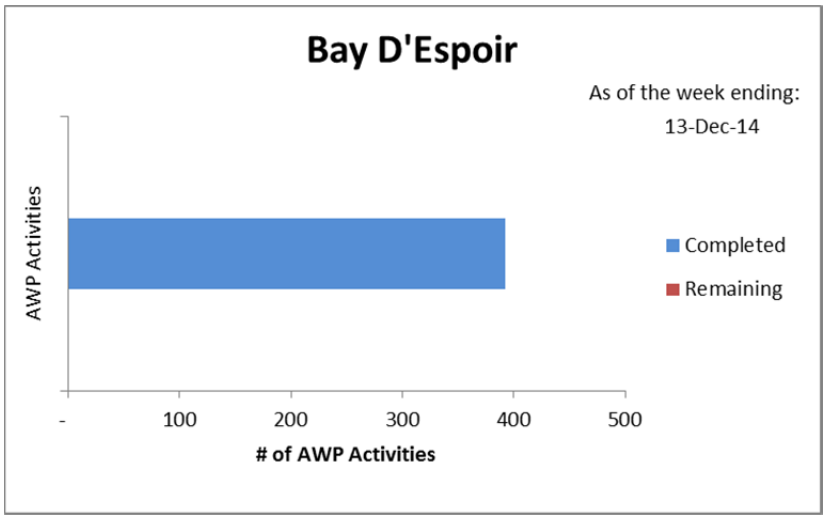
Forecast Completion Status (R/Y/G): Yellow

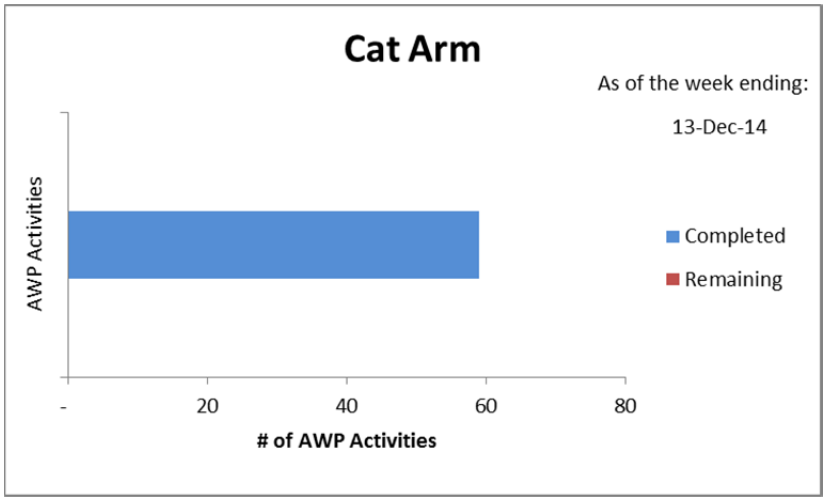
Comments and Schedule Notables (e.g. ahead, behind, recovery plan):

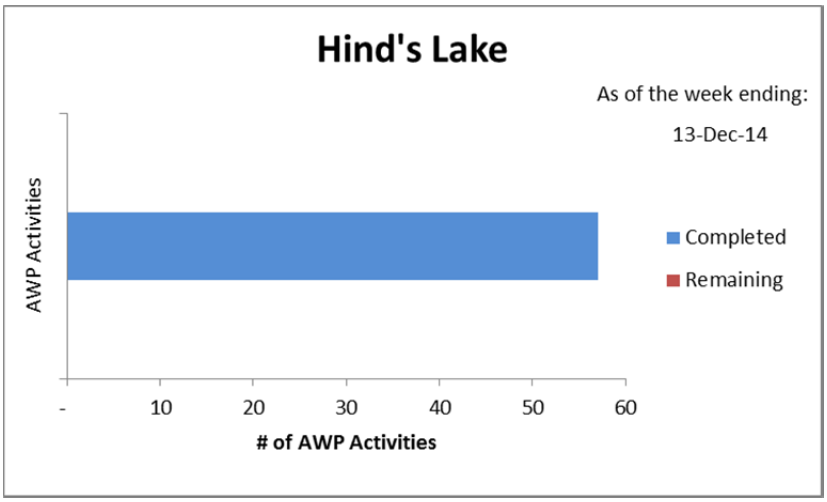
- 72 of 82 planned activities fully completed
- 23 of 24 PMs are complete, CMs are behind schedule
- Overall program completion status is 87%
- Any planned PMs/CMs not completed in December will be completed in January, 2015

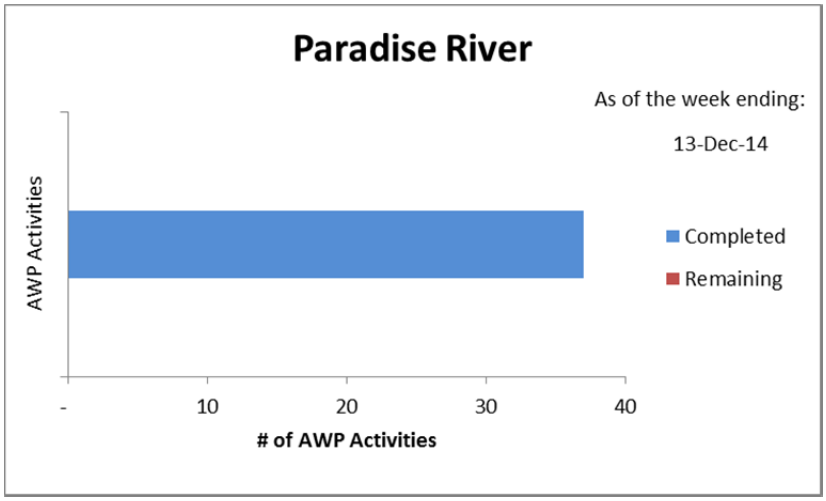
2.3 AWP Status: Hydraulic Units

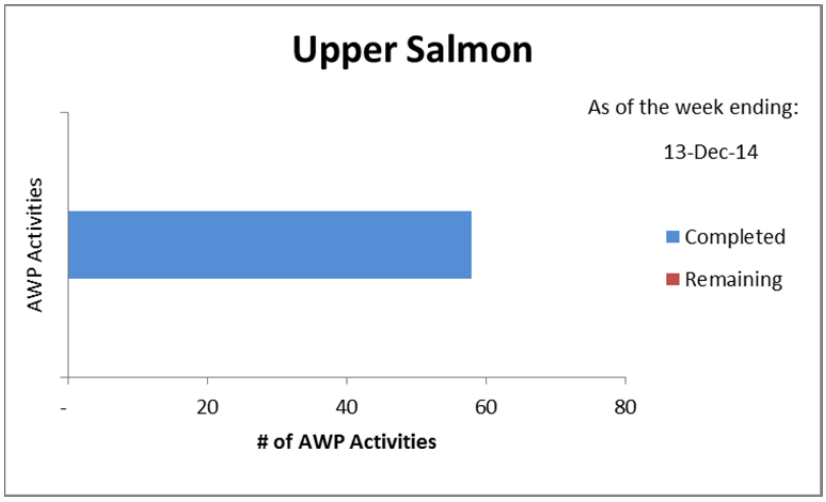
The status of AWP execution at Bay d'Espoir and other hydraulic generation facilities is summarized in the charts below. All planned work has been completed as of the week ending December 13, 2014.

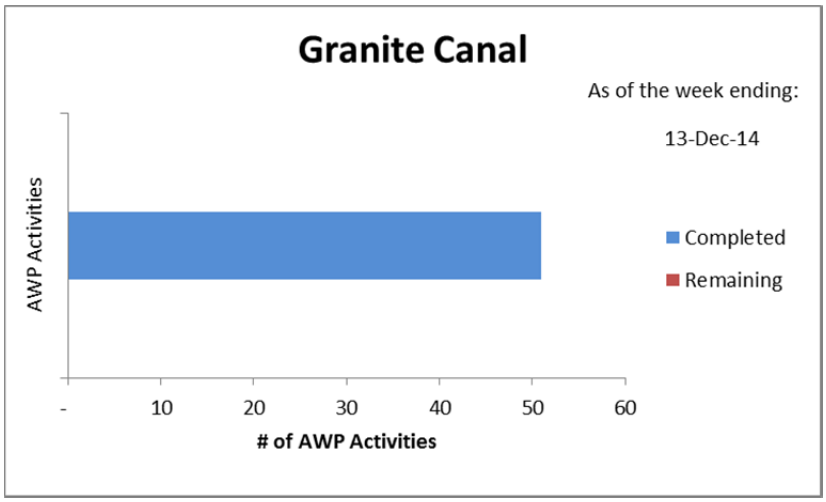



Cat Arm
As of the week ending:
13-Dec-14
AWP Activities
Completed
Remaining
-
20
40
60
80
# of AWP Activities


Hind's Lake
As of the week ending:
13-Dec-14
AWP Activities
Completed
Remaining
-
10
20
30
40
50
60
# of AWP Activities


Paradise River
As of the week ending:
13-Dec-14
AWP Activities
Completed
Remaining
-
10
20
30
40
# of AWP Activities


Upper Salmon
As of the week ending:
13-Dec-14
Completed
Remaining
AWP Activities
-
20
40
60
80
# of AWP Activities


Granite Canal
As of the week ending:
13-Dec-14
Completed
Remaining
AWP Activities
-
10
20
30
40
50
60
# of AWP Activities

3.0 CRITICAL SPARES

As indicated in its update report to the Board on December 1, 2014, Hydro has completed extensive reviews of its critical spares requirements in all three areas of its generation operations: hydraulic, thermal (Holyrood), and the gas turbines in Hardwoods and Stephenville. These reviews have included a detailed analysis of asset criticality and spare parts in reference to several factors, including their impact on generation reliability and replacement part availability.

In many cases, parts/components that have been identified as critical are already in inventory. In some instances, spare critical parts were ordered and placed into inventory while the critical spares reviews were in progress. Hydro has expedited the delivery of the remaining spare components critical for this winter with delivery dates in the near term as discussed below.

Hydro has made good progress in identifying parts as being critical to generation operations. The parts identified are at varying levels of criticality. Hydro's evaluation of critical spares is an ongoing process where consideration is given to: asset condition; level of criticality; parts availability/order lead time; and cost. In some cases, a balanced consideration of these factors may result in a decision to not procure into inventory where the risk to reliability is judged to be low and/or other measures are available to mitigate against generation unavailability.

Hydro's priority is to ensure critical spares readiness going into the 2014/15 winter season. In this context, Hydro's recent focus has been to determine if there are any critical spares which are essential for ensuring generation reliability this coming winter season which are not currently in stock or expected in stock by early winter, or are otherwise readily available. This focus has incorporated a consideration of three key factors:

a) Hydro's expectation regarding the likelihood of component failure over this winter season taking into account the age, condition and performance history of the affected

asset, and Hydro's accumulated knowledge of the performance characteristics of these assets generally;

b) The lead time on ordering a replacement part if required; and,

c) Contingency measures that may be available to mitigate or eliminate any generation availability risk in the event of a component failure.

The following sections provide brief updates on the status of critical spares readiness in Hydro's three main generation areas – the Holyrood Thermal Generating Station; the Gas Turbines at Hardwoods and Stephenville; and Hydro Generation.

3.1 Holyrood Thermal Generating Station

Hydro's comprehensive review of its critical spares plan at Holyrood confirmed that its highest criticality assets include the 4 kV motors which are used at different stages of the operation of its generating units. In particular, this analysis highlighted Forced Draft (FD) fan motors and Boiler Feed pump motors as being highly critical to generation reliability. The failure of a FD fan motor on Unit 3 in late December 2013 and the unavailability of a ready replacement for that part contributed to the duration of the Unit's unavailability in early January 2014.

Hydro's critical spares plan for 4 kV motors was outlined in detail in its response to PUB-NLH-455 as well as in the application to purchase the motors, which was approved on November 27, 2014 in Board Order No. P.U. 46(2014). This plan involves the procurement of four spare 4 kV motors (one FD fan motor and a boiler feed pump motor for each of the three generating units) as well as additional spare parts for these motors to supplement those already in inventory. These spares are currently being manufactured with an expected delivery date of February 2015.

Manufacturing time has been extended from the original quotation due to a supplier shutdown not included in the original quotation. Hydro is working with the supplier to expedite all stages of the manufacturing and delivery process to obtain an earlier delivery. Condition monitoring data from the installed motors does not indicate any impending risks.

Currently, many of the components associated with Holyrood's top one-third most critical assets are in stock. Procurement is in progress for various others, in addition to the 4 kV motors as noted above, with expected delivery dates in December and through the end of January. In a few instances, the lead times on a small number of spares is ten weeks or greater. However, the reliability risks in these instances have been assessed as low given the condition of the assets involved and Hydro's preparedness to make repairs in the unlikely event of a breakdown. The components with lead time for delivery of ten weeks or greater are noted below:

a) Flanged Fisher valve (Units 1 and 2);
b) 4" type ET Class 300 fisher (Unit 3);
c) 2" type ED Class 300 fisher (Unit 3);
d) 2 1/2" flanged ball valve cw/ actuator fisher (Unit 3); and
e) 1/2" ball valve Jamesbury Corporation (Unit 3).

Similar to the situation with both the gas turbines and hydraulic generation, a considerable amount of preventive maintenance, corrective maintenance, and capital work has been completed at Holyrood in 2014 to ensure the winter readiness and reliability of these generation assets. Hydro is confident that this work, and the significant progress made on critical spares readiness in 2014, have placed Holyrood in a strong position from a winter readiness and generation reliability standpoint.

3.2 Gas Turbines

Hydro's 2014 critical spares review identified a number of critical components for the gas turbines at Hardwoods and in Stephenville. Of the parts rated as having high criticality, many are in stock and the remaining parts are ordered with expected delivery dates within the December to mid-January timeframe. Of these components, the auxiliary systems liquid fuel system fuel valve at Stephenville is the one critical spare that is being monitored closely to ensure availability. The fuel valve controller is expected on site by mid-December.

Both the Hardwoods and Stephenville gas turbines have undergone significant upgrade and refurbishment since 2011. As a result, many of the critical components in these generation facilities have recently been inspected and, where necessary, replaced or refurbished. When critical spares readiness for the gas turbines was evaluated in this context, there were no additional components identified as necessary for operations reliability over the coming winter season.

3.3 Hydro Generation

The analysis of spares for the top 25% most critical hydraulic generation assets confirmed most critical spares are currently in stock in Hydro's inventory system. Considering as well the extent of both the maintenance and capital refurbishments or upgrades performed in 2014 related to generation, Hydro is confident of the winter readiness status of its hydraulic generation assets.

Hydro's further analysis of hydraulic critical spares readiness using the criteria noted above has identified two components for which contingency plans have been developed to mitigate against availability risks in the unlikely event of a part failure over the 2014/15 winter season.

The deflector servo for the Cat Arm generating unit has been requiring more frequent repairs to the actuator shaft seals. However, permanent component failure in the near term is not expected based on condition inspection. Hydro is planning to order a spare servomotor in recognition that degradation will continue and replacement will be required in the medium term. Additional seals have been stocked to mitigate availability risk of the deflector servo through the 2014/2015 winter season.

Similarly, condition analysis of bearing coolers for Unit 7 at Bay d'Espoir and the Upper Salmon generating unit indicate failure in the near term is not expected. Based on continued degradation, Hydro will be procuring new coolers to cover the medium term. Repair fittings for these coolers are stocked to mitigate availability risk in the unlikely event that a repair becomes necessary.

4.0 SECURING ECONOMICALLY AVAILABLE INTERRUPTIBLE LOADS

Hydro has been providing regular updates to the Board on its progress with respect to securing economically available capacity assistance. The most recent update was filed as part of the Winter Readiness Status - Generation Assets update on December 1, 2014. Based on discussions with its Island Industrial Customers (IICs), Hydro determined that Corner Brook Pulp and Paper (CBPP) and Vale are the only IICs capable of providing a material quantity of winter capacity assistance. The Board approved Hydro's application for approval of an agreement between Hydro and CBPP for 60 MW of winter capacity assistance on November 28, 2014.

Hydro has tested Vale's standby generation to determine the magnitude of capacity assistance they can provide, and is in the process of finalizing an agreement with Vale for 11 MW of capacity assistance.

Additionally, Hydro and CBPP have identified an opportunity for supplemental capacity assistance for any capacity CBPP has available in excess of the Board-approved 60 MW agreement. This supplemental capacity assistance arrangement would have a compensation structure which would provide a variable payment only (no fixed capacity fee) for capacity assistance provided at Hydro's request.