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March 2, 2015

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

**ATTENTION:** 

Ms. Cheryl Blundon

**Director of Corporate Services & Board Secretary** 

Dear Ms. Blundon:

Re: Newfoundland and Labrador Hydro Combined Applications - Installation of Diesel Units at Holyrood for the Purposes of Black Starting the Generating Units and Supply, and Install 100 MW (Nominal) of Combustion Turbine Generation - Request for Update

Further to the Board's letter of August 1, 2014 regarding the above referenced matter, enclosed is the original plus 12 copies of Hydro's status update for the following project:

• Supply and Installation of a 100 MW Combustion Turbine Generator.

We trust you will find the enclosed update to be in order.

Should you have any questions, please do not hesitate to 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
Fred Winsor – Sierra Club Canada

Thomas Johnson – Consumer Advocate Thomas O'Reilly, QC – Cox & Palmer Danny Dumaresque

# Supply and Installation of a 100 MW Combustion Turbine Generator

Status Update Briefing—Feb 27, 2015





#### **Contents**

- Project Dashboard
- Progress & Schedule Summary
- Cost Summary (S-Curve)
- Risk Analysis
- Project Photos

(Includes only material updated since Feb 13, 2015)



#### **Project Dashboard**

The project is progressing according to plan and in compliance with Safety, Quality, and Cost. Commissioning and function testing are substantially complete. During commissioning unit remains available for dispatch for incremental power generation if required.





#### **Progress Summary**

- 1. Unit capacity added to Hydro reserves as of February 27.
- Steady progress made with successful run of the unit at rated capacity with full operation of the water injection emissions control system and inlet air heating system.
- 3. All commissioning test runs were coordinated with the Energy Control Centre so that the island electrical system could be configured to prevent power interruptions to customers should there be a trip of the unit. No customer supply impacts on any of the test runs to date.



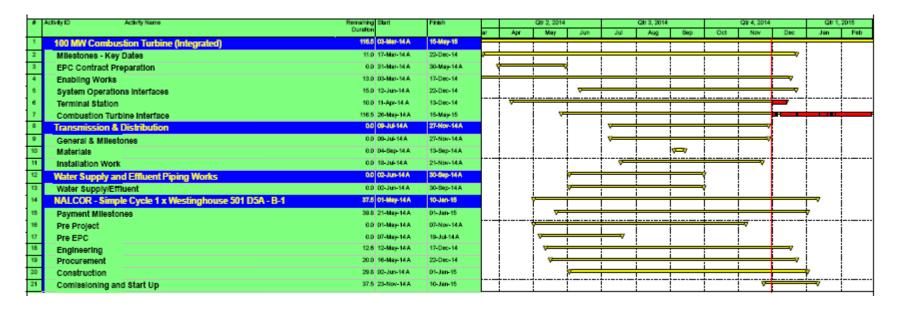
#### Progress Summary (cont'd)

- 3. Nearing completion of the structural steel for the 2nd phase of the building.
- 4. Work on the 2<sup>nd</sup> fuel storage tank is nearing completion.
- General housekeeping and demobilization of construction trailers ongoing around the site.
- 6. On-the-job operator training ongoing.
- 7. Cost S-Curve reflects tracking in compliance with original plan. Refer to Level 2 Summary Schedule on the following page.



#### Level 2 – Summary Schedule

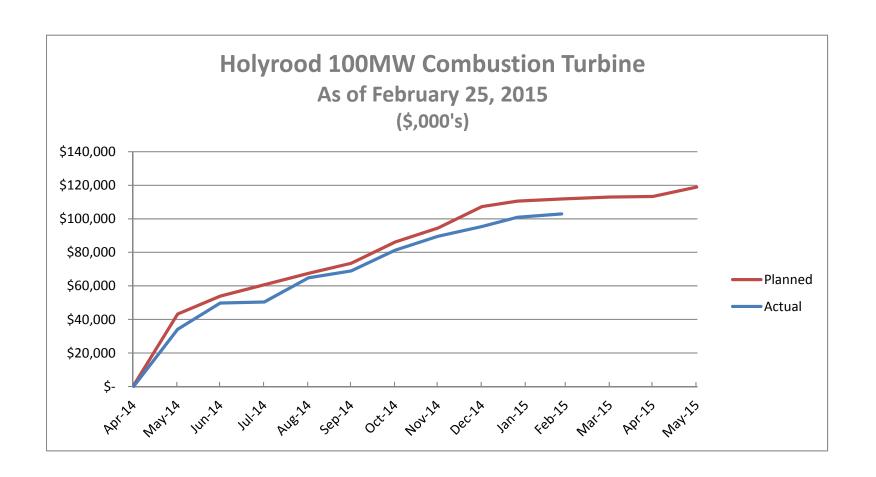
Summary level schedule provided below.



Schedule dashboard is shown yellow, as commissioning and function testing continues on some systems. However, during commissioning unit remains available for dispatch for incremental power generation if required.

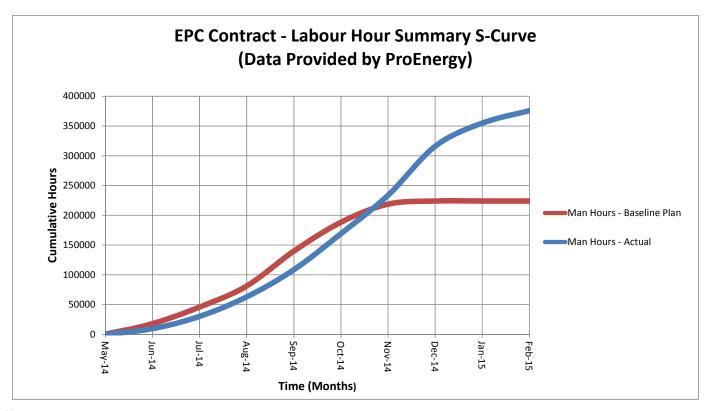


#### Cost Summary – S-Curve





#### **EPC Labour Hour Summary**



Notes:

Actual Progress to Feb 15 from Schedule: 98.80 %

Total Hours to Date: 375,750 with 1 LTI



#### **Risk Analysis**

Two 3<sup>rd</sup> party facilitated risk workshops have been held to date:

June 26<sup>th</sup> – Focus on construction risks

Dec. 19<sup>th</sup> – Focus on energization risks

The resulting risk mitigation plans are being used to manage risk during execution of the project.



**Risk:** Construction activities lead to contact with energized lines leading to safety incident.

**Mitigation:** Relocate lines, power line hazard training for operators, use permit system, prepare lift plans, deenergize lines where possible.

(Feb 27 update – Any work near overhead lines being performed with spotters and is always subject at toolbox talks. Outages on lines taken when required)



**Risk:** Unfamiliarity with new equipment leads to delay in commissioning.

**Mitigation:** Training included in EPC contract; engage operations and commissioning personnel early in the process.

(Feb 27 update – Startup and Commissioning teams engaged and Plant Operator assigned for project and training continues)



**Risk:** Lack of coordination of work with all of the work crews on site leads to safety incident.

**Mitigation:** HSE Plans; Site Orientations; Contractor coordination meetings; toolbox meetings.

(Feb 27 update – Continue to have daily coordination meetings with relevant parties, and specific safety meetings where required)



**Risk:** During the start-up routine, the unit trips which results in customer impact.

Mitigation: System configuration setup to minimize impacts should there be a trip. Corporate Communications engaged and coordination underway with Newfoundland Power on customer updates.

(Feb 27 update – All runs of the unit are coordinated with ECC and system setup to minimize customer impacts for each run)



**Risk:** Lack of isolation plan or incomplete lock-outs leads to safety risk.

**Mitigation:** Isolation procedures are defined and a walk down completed prior to work activity. Boundary isolation approach used. Site stand-down planned prior to energization.

(Feb 27 Update – Continuous management of Lock Out Tag Out (LOTO) system for any ongoing work)



# Project Photos



# Photo 1 – Completing 2<sup>nd</sup> Fuel Tank





# Photo 2 – Completing Structural Steel for Phase 2 of Building





#### Photo 3 – Insulation Pads on Turbine





## Photo 4 – Air Inlet Heating Pipe





# Photo 5 – Building Phase 1





#### Photo 6 – Water Treatment Area





#### **Photo 7 – Water Treatment Area**





### Photo 8 – Rotor Air Cooler Piping

