

October 10, 2014

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 and 12 copies of Hydro's status update for the following project:

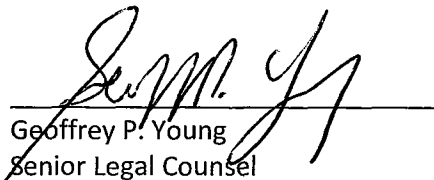
- Supply and Installation of a 100 MW Combustion Turbine Generator.

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 – October 10, 2014

Boundless Energy



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- Risk Analysis
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*(Includes only material updated since September 26, 2014)*

# Project Dashboard

The project is progressing according to plan and in compliance with Safety, Quality, Schedule, and Cost.



# Progress & Schedule Summary

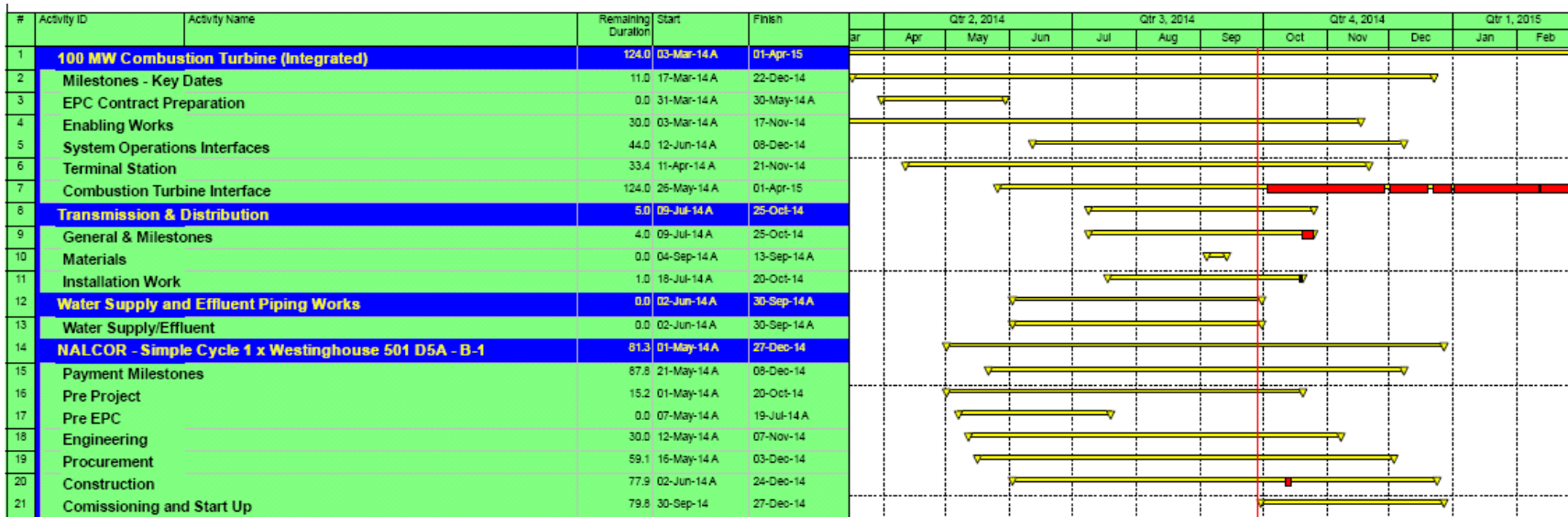
1. Installation of all u/g utilities is nearing completion.
2. Transmission Line construction is nearing completion.
3. Terminal Station tie-in work is proceeding on plan.
4. CTG unit assembly is progressing well.
5. CTG building slab and electrical room is progressing well.

## Progress & Schedule Summary (cont'd)

6. Civil work is progressing to plan.
7. Mechanical work is progressing to plan.
8. Electrical work had late start, but mitigation in place to recover (double shifting/extended work hours)
9. S-Curves reflect tracking in compliance with original plan and EPC contractor is achieving better than planned labour efficiency.
10. Overall schedule is tracking in accordance with plan. Ready for service date December 2014.

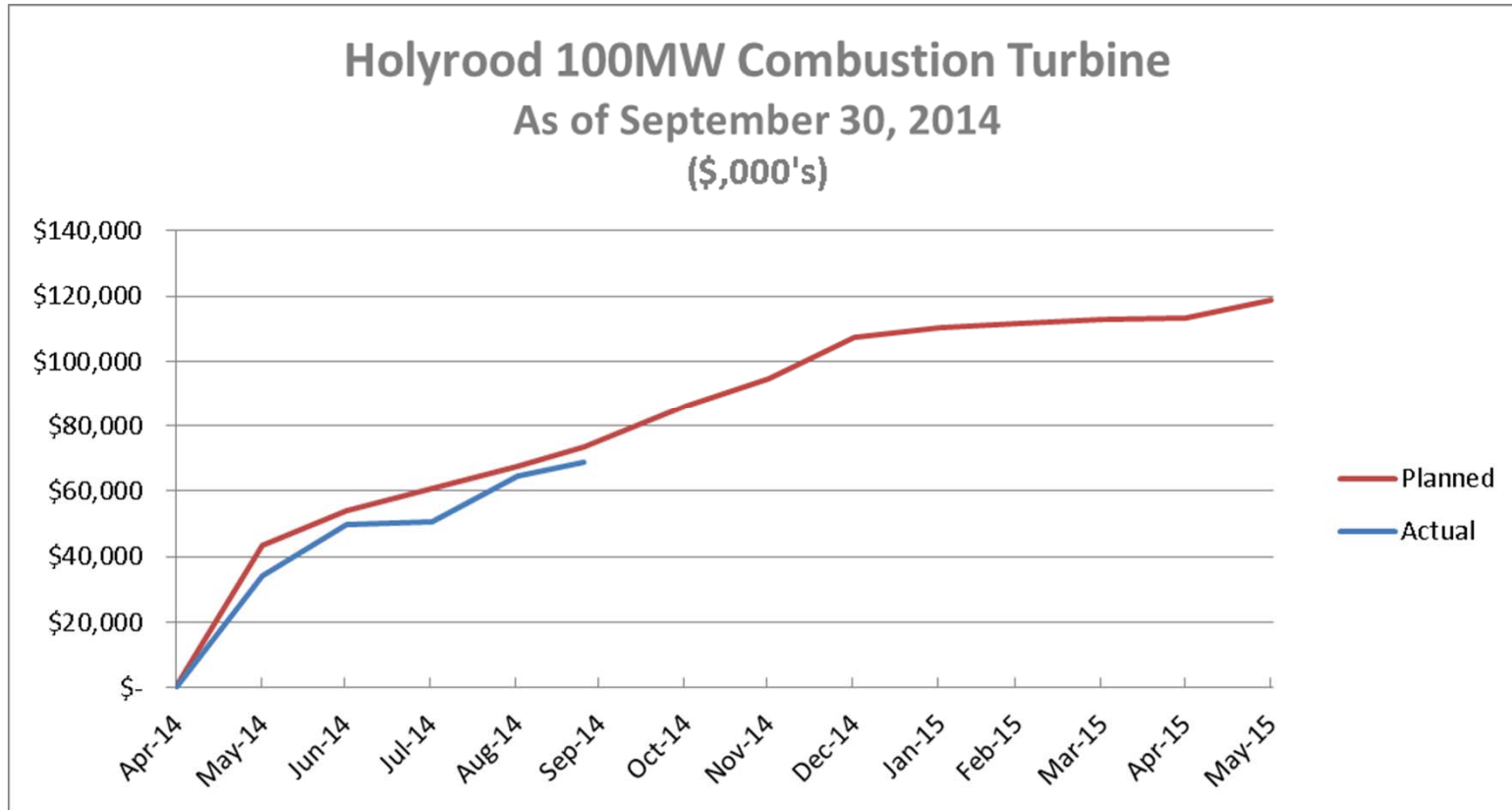
# Level 2 – Summary Schedule

- Summary level schedule provided below.



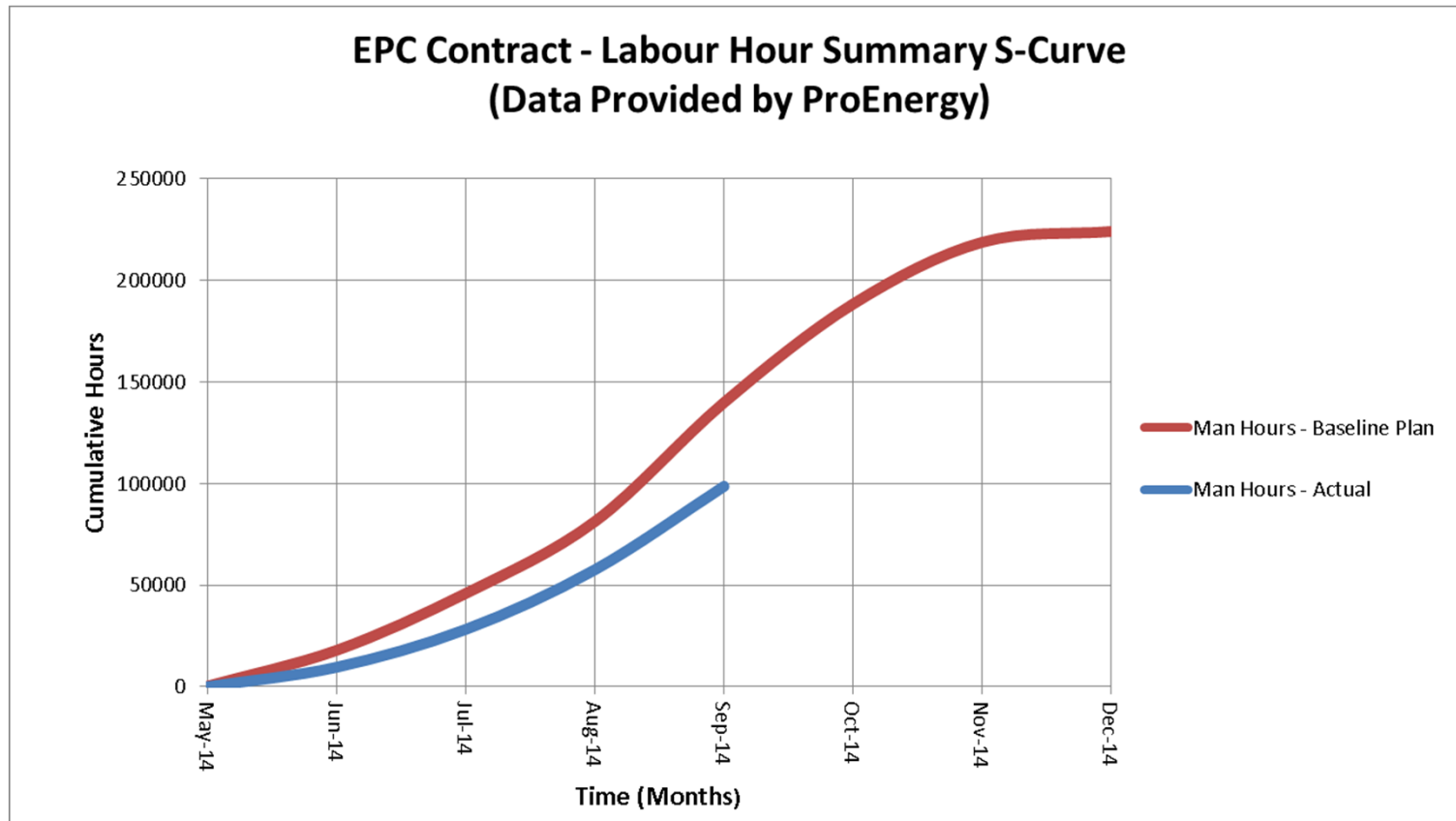
- ‘Combustion turbine interface’ task adjusted as the redundant black start line is not required and can not be connected until the temporary black start diesels are removed from service, which is being planned for 2015.

# Cost Summary – S-Curve





# EPC Labour Hour Summary



**Notes:**

Planned hours to September (Baseline Plan): 62.4%

Actual Progress to September from Schedule: 62.9 %

Actual hours expended to end of September: 39.7%

Schedule Performance Index = 0.99 - **Indicates tracking in accordance with plan**

Cost/Hrs Performance Index = 1.57 - **Indicates better than planned efficiency**

# Risk Analysis

A 3<sup>rd</sup> party facilitated risk workshop was held on June 26<sup>th</sup>.

Risk Register was produced during the workshop. 50+ risks identified.

Risk mitigation plan in place and being used to manage risk during execution of the project.

## Key Risks & Mitigation (cont'd)

**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, de-energize lines where possible.

*(October 9 update – No issues to report this period – Several outages taken to work safely)*

## Key Risks & Mitigation (cont'd)

**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.

*(October 9 update – Operations discussing training and O&M support with ProEnergy)*

## Key Risks & Mitigation (cont'd)

**Risk:** Labour issues at the plant/TRO leads to work disruption and delay in project.

**Mitigation:** Contract terms currently under negotiation; maintain open communications with stakeholders.

*(October 9 – Internal resources assigned to project.  
Contracted resources no longer required.)*

## Key Risks & Mitigation (cont'd)

**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.

*(October 9 update – Continue to have coordination meetings with relevant parties)*

## Key Risks & Mitigation (cont'd)

**Risk:** Aggressive project schedule does not allow for any delay or rework in design – leads to schedule delay.

**Mitigation:** Close coordination between fast-track design and construction teams; regular coordination meetings; field engineering engaged with design team, increase shifts as required to pick up any delays.

## Key Risks & Mitigation (cont'd)

**Risk:** Delay in delivery of equipment and/or materials leads to schedule delay.

**Mitigation:** expediting; order materials as early as possible; identify long lead items early in project; choose appropriate shipping method; identify work around contingency plans.

*(October 9 – Materials continuously arriving on site, and are continuously being expedited, and are arriving on site with no schedule float.)*



## Key Risks & Mitigation (cont'd)

**Risk:** Adverse weather conditions could negatively impact construction progress.

**Mitigation:** Use of temporary enclosures to protect equipment and allow work to proceed during times of adverse weather.

*(October 9 – contractor identifying options for temporary enclosures.)*

# Project Photos

# Photo 1 – Demin Water Tank Area



# Photo 2 – CTG Electrical Package



# Photo 3 – Electrical Room Construction



# Photo 4 – Fuel Line Pipe Supports



# Photo 5 – Aux Transformer (4160/480V)



# Photo 6 – Air Inlet and Exhaust Stack





# Photo 7 – GSU Containment Pipes



# Photo 8 – Site Looking North



