

August 29, 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
Project Updates**

Further to the Board's letter of August 1, 2014 regarding the above referenced matter, enclosed are the originals and 12 copies of Hydro's status updates for the following projects:

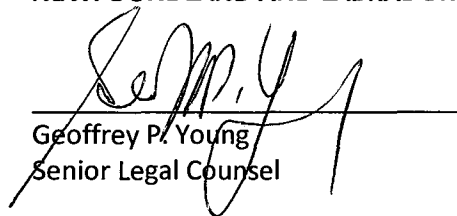
- Sunnyside Replacement Equipment; and
- Western Avalon Terminal Station T5 Tap Changer Replacement.

We trust you will find the enclosed updates 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/cp

cc: Gerard Hayes – Newfoundland Power
Paul Coxworthy – Stewart McKelvey Stirling Scales
ecc: Roberta Frampton Benefiel – Grand Riverkeeper Labrador

Thomas Johnson – Consumer Advocate
Danny Dumaresque

Sunnyside Replacement Equipment

Status Update Briefing– August 29, 2014

Boundless Energy



Contents

- Project Dashboard
- Progress & Schedule Summary
- Contracting Plan
- Risk Analysis
- Project Photos

(Incremental to Information provided Aug 15)

Project Dashboard

PM - Sunnyside Transformer Project
Joe Yurchesyn

Safety

Quality

Schedule

Cost

Progress & Schedule Summary

1. Factory Acceptance Testing has commenced. The period of testing has been extended by ABB to investigate a technical issue observed during one of the tests (Partial Discharge).
2. TRO has isolated all field equipment and safe work permits are in place for the contractor.
3. ICM - Installation Contractor started work.

Progress & Schedule Summary (cont'd)

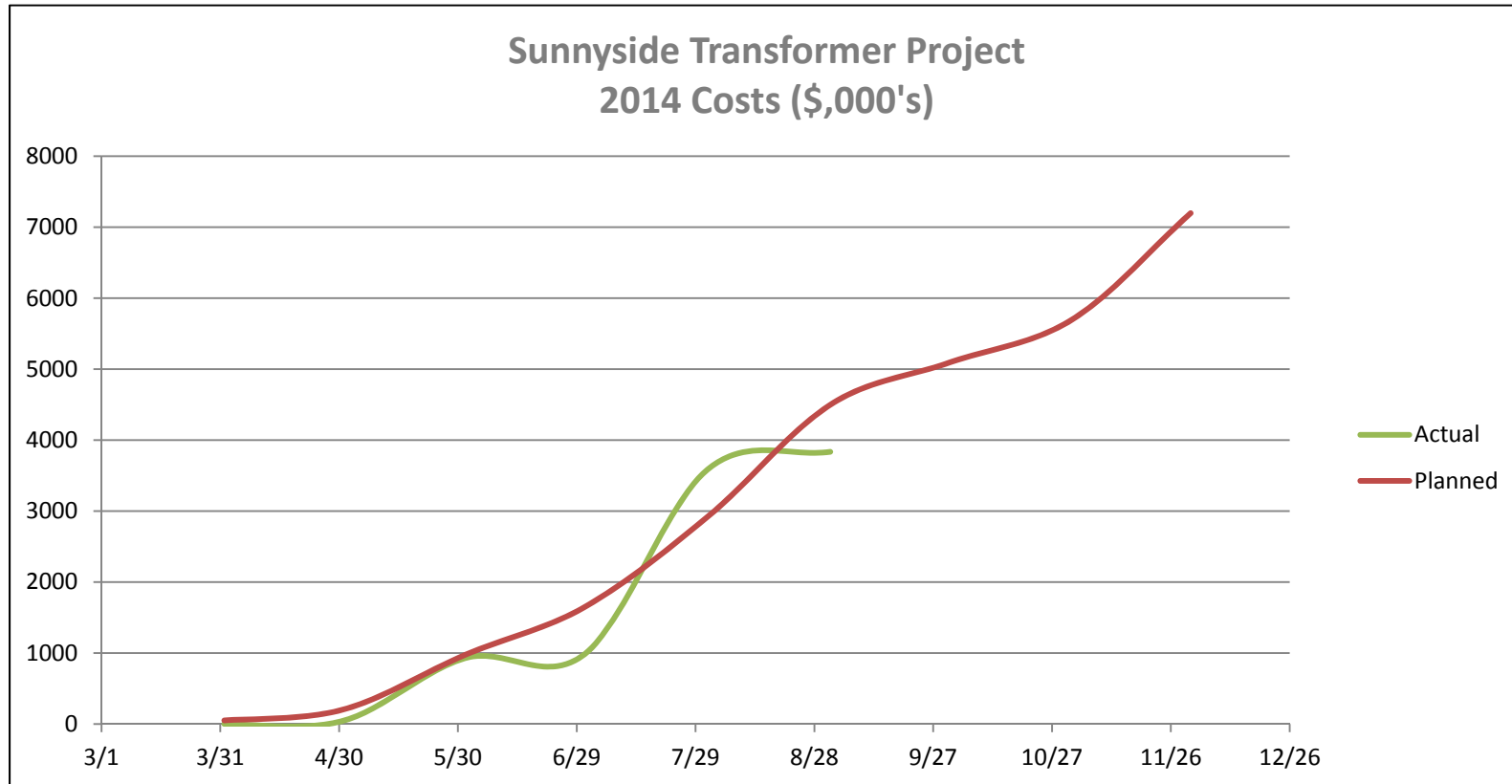
4. 230kV Disconnect (B1T1-1), 138kV Breaker (B2T1) and 230kV Breaker (B1L03) disassembled.
5. Civil Contractor to mobilize to site on September 2.
6. Overall schedule tracking with plan; Ready for Service date by end November 2014 (See attached schedule showing progress to date).

Level 2 - Schedule Summary

| Sunnyside Transformer | | | | Incremental Layout | | | | | | | | | | | | | | | | | | | | | | | | | | | | 28-Aug-14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|---|--------------------|------------|--------------------|----------|---|----|----|----|----|----|----|-----------|----|----|----|----|----|----|-------------|----|----|----|----|----|----|----------------|----|----|----|----|-----------|----|--------------|----|----|--|--|--|--|---------------|--|--|--|--|--|--|---------------|--|--|--|--|--|--|--|--|--|--|--|--|--|
| # | Activity Name | Remaining Duration | Start | Finish | Comments | June 2014 | | | | | | | July 2014 | | | | | | | August 2014 | | | | | | | September 2014 | | | | | | | October 2014 | | | | | | | November 2014 | | | | | | | December 2014 | | | | | | | | | | | | | |
| | | | | | | 01 | 08 | 15 | 22 | 29 | 06 | 13 | 20 | 27 | 03 | 10 | 17 | 24 | 31 | 07 | 14 | 21 | 28 | 05 | 12 | 19 | 26 | 02 | 09 | 16 | 23 | 30 | 07 | 14 | 21 | 28 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Sunnyside Transformer | 77 | 01-May-14A | 21-Nov-14 | | [Gantt bar spanning from May 1 to Nov 21, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | PM Tasks | 0 | 25-Jun-14A | 19-Aug-14A | | [Gantt bar from Jun 25 to Aug 19, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Sunnyside Transformer | 77 | 01-May-14A | 21-Nov-14 | | [Gantt bar spanning from May 1 to Nov 21, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Engineering | 90 | 15-Jun-14A | 14-Nov-14 | | [Gantt bar from Jun 15 to Nov 14, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Procurement - Material | 51 | 01-May-14A | 23-Oct-14 | | [Gantt bar from May 1 to Oct 23, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 230/138 kV Auto Transformer (T1) | 29 | 01-May-14A | 25-Sep-14 | | [Gantt bar from May 1 to Sep 25, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 230 kV Breaker (B1L03) | 0 | 01-May-14A | 01-May-14A | | [Gantt bar from May 1 to May 1, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 230 kV Breaker (B1T1) | 43 | 01-May-14A | 23-Oct-14 | | [Gantt bar from May 1 to Oct 23, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | 138 kV Breaker (B2T1) | 43 | 15-May-14A | 23-Oct-14 | | [Gantt bar from May 15 to Oct 23, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 230 kV Disconnect (B1T1-1) | 16 | 24-Jun-14A | 15-Sep-14 | | [Gantt bar from Jun 24 to Sep 15, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Station Post Insulators | 37 | 15-Jun-14A | 14-Oct-14 | | [Gantt bar from Jun 15 to Oct 14, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Station Service Transformer | 24 | 30-Jun-14A | 20-Sep-14 | | [Gantt bar from Jun 30 to Sep 20, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | Station Service Transfer Switch | 6 | 25-Jul-14A | 01-Sep-14 | | [Gantt bar from Jul 25 to Sep 1, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | HV Risers & Connections | 21 | 21-Jul-14A | 23-Sep-14 | | [Gantt bar from Jul 21 to Sep 23, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | Power & Control Cables | 0 | 25-Jun-14A | 23-Aug-14A | | [Gantt bar from Jun 25 to Aug 23, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | Transformer Protection Panel | 0 | 21-Jul-14A | 14-Aug-14A | | [Gantt bar from Jul 21 to Aug 14, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | Transformer Protection Relays | 0 | 25-Jun-14A | 23-Aug-14A | | [Gantt bar from Jun 25 to Aug 23, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | Procurement - Install | 0 | 02-Jun-14A | 13-Aug-14A | | [Gantt bar from Jun 2 to Aug 13, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | Construction - Equipment Removals | 77 | 14-Aug-14A | 21-Nov-14 | | [Gantt bar from Aug 14 to Nov 21, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | Construction - Foundations Removals/Install | 35 | 02-Sep-14 | 11-Oct-14 | | [Gantt bar from Sep 2 to Oct 11, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | Electrical Construction | 45 | 12-Sep-14 | 04-Nov-14 | | [Gantt bar from Sep 12 to Nov 4, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | ABB Schedule T1 | 22 | 26-Sep-14 | 21-Oct-14 | | [Gantt bar from Sep 26 to Oct 21, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | 230/138 kV Auto Transformer (T1) | 6 | 26-Sep-14 | 03-Oct-14 | | [Gantt bar from Sep 26 to Oct 3, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | 230 kV Breaker (B1L03) | 11 | 17-Sep-14 | 29-Sep-14 | | [Gantt bar from Sep 17 to Sep 29, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | 138 kV Breaker (B2T1) | 11 | 23-Oct-14 | 04-Nov-14 | | [Gantt bar from Oct 23 to Nov 4, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | 230 kV Disconnect (B1T1-1) | 6 | 20-Sep-14 | 27-Sep-14 | | [Gantt bar from Sep 20 to Sep 27, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | Station Post Insulators | 2 | 14-Oct-14 | 16-Oct-14 | | [Gantt bar from Oct 14 to Oct 16, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | Station Service Transformer | 1 | 09-Oct-14 | 10-Oct-14 | | [Gantt bar from Oct 9 to Oct 10, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | Station Service Transfer Switch | 10 | 15-Sep-14 | 26-Sep-14 | | [Gantt bar from Sep 15 to Sep 26, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | Transformer Protection Panel & Relays | 11 | 12-Sep-14 | 24-Sep-14 | | [Gantt bar from Sep 12 to Sep 24, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | ElectP&C/Comms. Commissioning | 42 | 27-Sep-14 | 15-Nov-14 | | [Gantt bar from Sep 27 to Nov 15, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | Breaker B1L03 | 9 | 29-Sep-14 | 08-Oct-14 | | [Gantt bar from Sep 29 to Oct 8, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | 230 kV Disconnect B1T1-1 | 2 | 27-Sep-14 | 30-Sep-14 | | [Gantt bar from Sep 27 to Sep 30, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 34 | Breaker B2T1 | 7 | 03-Oct-14 | 11-Nov-14 | | [Gantt bar from Oct 3 to Nov 11, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | Transformer T1 | 27 | 16-Oct-14 | 15-Nov-14 | | [Gantt bar from Oct 16 to Nov 15, 2014] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Level 2 - Schedule S Curve

(Preliminary – Project Accounting in Process of Set-Up)



Note: Forecast Final Expenditures (FFE) tracking with compliance with original budget. Actual Costs reflects contractual commitments for major equipment and install contracts.

Contracting Plan

| Item | Contract Title | Scope of Work | Contractor | Scheduled Start Date | Scheduled Finish Date | Manufacture/ Construction Status |
|------|-------------------------------------|--|---|----------------------|-----------------------|-------------------------------------|
| 1 | T1 Transformer | T1 Transformer supply to PAD | ABB | 19-Jun | 20-Sep | Ongoing |
| 2 | B1L03 230 kV Breaker | Breaker supply | Nalcor Stores | 1-May | | Stored |
| 3 | B1T1-1 230 kV Disconnect | Disconnect supply (except insulators) | Pro-Energy | | 15-Sep | Ongoing |
| 4 | B1T1-1 230 kV Disconnect Insulators | Disconnect Insulators (Use stock and replace) | Nalcor Stores | 1-May | 15-Sep | Ongoing; Stock replace Oct 22 |
| 5 | B1T1 230 kV Breaker | Breaker supply | TBD | | Summer 2015 | Not Started; Breaker order |
| 6 | B2T1 138 kV Breaker | Breaker supply | Siemens | 23-May | 22-Oct | Ongoing |
| 7 | Installation Contract | Removal of existing T1, P&C work, B1L03, B1T1-1, B2T1, other equipment, civil works and fdns; Installation of new pad; Connection of new transformer, including: cables, panels, connections, commissioning | Industrial Commercial Maintenance Limited | 18-Aug | 15-Nov | On-Site Aug 18 |
| 8 | Station service Transformer | Stn Service Transformer supply | | 4-Jul | 20-Sep | Ongoing |
| 9 | Station service Transfer Switch | Transfer switch supply | TBD | 1-Aug | 11-Sep | Tendered |
| 10 | HV Risers & Connectors | Risers and Connectors supply | TBD | 25-Jul | 19-Sep | Tendered |
| 11 | Power & Control Cables | Cables supply | | 30-Jun | 22-Aug | Ongoing |
| 12 | Transformer Protection Panel | Panel supply | | 25-Jul | 14-Aug | Tendered |
| 13 | Transformer Protection Relays | Relay supply | | 30-Jun | 22-Aug | Ongoing |

Risk Analysis

Third Party Facilitated Risk Workshop held July 23 and Actions Review August 7.

50+ risks and tasks identified.

Risk Register used to manage risk during Project Execution.

Risk Analysis – Example of Issues (cont'd)

- T1 Delivery – Timing, Logistics, Damage – ABB logistics done, spare bushing being considered.
- B1T1-1 230 kV Disconnect – September 15 delivery
 - Expedite and monitor;
- B1L03 230 kV Breaker in Stores – Storage
 - Inspect and monitor

Risk Analysis – Examples of Issues (cont'd)

- Long Lead Miscellaneous Items – missed or delayed – Checking list and ongoing status reviews.
- T1 (Other Equipment) Failure – Infant failure, Transport/Install damage – FAT Test, transport assessment.
- Site hydrocarbon in foundations soil.
 - Inspections have showed that this is unlikely an issue, remove if required.

Risk Analysis – Examples of Issues (cont'd)

- Outage requirements.
 - Coordinate outages with other projects.

Project Photos

Transformer Status – Aug 29, 2014

- **Factory Acceptance Testing – commenced**
- **ABB investigating technical issue observed during one of the tests (Partial Discharge).**
- **Delivery – September 26**

Photo 1 – Assembled Transformer T1



Photo 2 – 138kV Breaker (B2T1) Removal



Photo 3 – 230kV Disconnect B1T1-1 Removal



