

July 25, 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: The Board's Investigation and Hearing into Supply Issues and Power Outages  
on the Island Interconnection System**

In accordance with the Board's Interim Report dated May 15, 2014 with respect to the above noted matter please find enclosed the original plus 12 copies of Hydro's:

- Updated Integrated Action Plan;
- 100 MW Combustion Turbine Status Briefing; and
- SSD T1 Replacement Status Briefing.

Hydro's Integrated Action Plan (IAP) has been streamlined in an effort to improve our tracking of related items in the IAP, while at the same time making our reporting format as meaningful as possible for the Board. The following modifications have been made with these objectives in mind:

- a) Actions which are the same as, or highly related to, another action in the IAP have been consolidated into a single action statement. This will not only eliminate unnecessary duplication within the IAP, but will also improve both Hydro's and the Board's line of sight to the key underlying actions. All IAP actions have been accounted for in this consolidation, except for two items which were deleted because they did not state substantive actions (AM4 and AM6).
- b) All action item descriptions have been reviewed and revised as necessary, without changing the intent of any action item, to ensure that the required deliverable(s) is clear.
- c) Actions which have previously referenced the submission of reports and plans to the Board (e.g., by June 15<sup>th</sup>) have been re-stated in reference to the specific actions contained in the reports and plans submitted to the Board on June 2 and June 16, 2014.

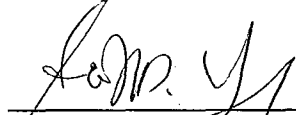
- d) The IAP actions which correspond with the Key Priority Actions indicated in the Board's Interim Report (Section 8.1) are highlighted for easy reference at the beginning of each section of the IAP.

We hope to make further refinements to our reporting to the Board prior to the next IAP update, for example, by indicating progress relative to plan in relation to critical 2014 activities.

Should you have any questions, please 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  
Sheryl Nisenbaum – Praxair Canada Inc.  
ecc: Roberta Frampton Benefiel – Grand Riverkeeper Labrador

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

# SSD T1 Replacement

Status Briefing– July 23 2014

Boundless Energy



# Contents

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

# Project Dashboard

**PM - Sunnyside Transformer Project**  
**Joe Yurchesyn**

Safety

Quality

Schedule

Cost

# Progress & Schedule Summary

1. Project Manager Joe Yurcheson in place
2. T1 Auto-Transformer Contract ABB in place; Delivery Sep 20
3. B1L03 230 kV Breaker in stores; In Service Sep 30
4. B1T1-1 230 kV Disconnect Contract Pro-Energy in place; Delivery Sep 15. Existing insulator use (New delivery for stock replacement Oct 15)

# Progress & Schedule Summary

5. B2T1 138 kV Breaker Contract – Siemens in place; Delivery Oct 22
6. B1T1 230 kV Breaker order & Pad in 2014; Installation in 2015
7. Installation Contract RFP Responses – Mon Jul 28
8. Environmental Check – Hydrocarbons in soil in area of foundations

# Progress & Schedule Summary

9. Risk Review undertaken Jul 23 (Final report Aug 8)
10. Stn Service Transformer ordered; Delivery Sep 20
11. Tenders/Orders for miscellaneous long lead items in progress (Stn Service Transfer Switch, HV Riser, Connectors, Power and Control Cabling, Relays)



# Progress & Schedule Summary

12. Commissioning Preliminary Scheduling (as part of larger effort) initiated
13. T1 Transformer: Pre-Tank Inspection Aug 1; FAT Aug 15-20; Delivered Sep 20
14. Overall Schedule tracking with plan; Ready for Service date by end Nov 2014 (See attached schedule showing progress to date)

# Level 2 - Schedule Summary

See attached full detail schedule for more information on specific tasks

#	Activity Name	Original Duration	Start	Finish	Comments	July 2014				August 2014				September 2014				October 2014				November 2014				December 2014							
						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	<b>Sunnyside Transformer</b>	176	01-May-14A	21-Nov-14		[Gantt bar spanning from May 1 to Nov 21, 2014]																											
2	<b>Project Milestones</b>	0				[Gantt bar at 0 duration]																											
3	<b>PM Tasks</b>	31	25-Jun-14A	12-Aug-14		[Gantt bar from Jun 25 to Aug 12, 2014]																											
4	<b>Sunnyside Transformer</b>	176	01-May-14A	21-Nov-14		[Gantt bar spanning from May 1 to Nov 21, 2014]																											
5	Engineering	95	16-Jun-14A	14-Nov-14		[Gantt bar from Jun 16 to Nov 14, 2014]																											
6	Procurement - Material	144	01-May-14A	22-Oct-14		[Gantt bar from May 1 to Oct 22, 2014]																											
7	230/138 kV Auto Transformer (T1)	137	01-May-14A	20-Sep-14		[Gantt bar from May 1 to Sep 20, 2014]																											
8	230 kV Breaker (B1L03)	1	01-May-14A	01-May-14		[Gantt bar at 1 day duration]																											
9	230 kV Breaker (B1T1)	120	01-May-14A	22-Oct-14		[Gantt bar from May 1 to Oct 22, 2014]																											
10	138 kV Breaker (B2T1)	109	16-May-14A	22-Oct-14		[Gantt bar from May 16 to Oct 22, 2014]																											
11	230 kV Disconnect (B1T1-1)	60	24-Jun-14A	15-Sep-14		[Gantt bar from Jun 24 to Sep 15, 2014]																											
12	Station Post Insulators	87	16-Jun-14A	14-Oct-14		[Gantt bar from Jun 16 to Oct 14, 2014]																											
13	Station Service Transformer	72	30-Jun-14A	20-Sep-14		[Gantt bar from Jun 30 to Sep 20, 2014]																											
14	Station Service Transfer Switch	34	28-Jul-14	11-Sep-14		[Gantt bar from Jul 28 to Sep 11, 2014]																											
15	HV Risers & Connectors	45	21-Jul-14	19-Sep-14		[Gantt bar from Jul 21 to Sep 19, 2014]																											
16	Power & Control Cables	45	25-Jun-14A	22-Aug-14		[Gantt bar from Jun 25 to Aug 22, 2014]																											
17	Transformer Protection Panel	19	21-Jul-14	14-Aug-14		[Gantt bar from Jul 21 to Aug 14, 2014]																											
18	Transformer Protection Relays	56	25-Jun-14A	22-Aug-14		[Gantt bar from Jun 25 to Aug 22, 2014]																											
19	Procurement - Install	34	02-Jun-14A	11-Aug-14		[Gantt bar from Jun 2 to Aug 11, 2014]																											
20	Construction - Equipment Removals	86	14-Aug-14	21-Nov-14		[Gantt bar from Aug 14 to Nov 21, 2014]																											
21	Construction - Foundations Removals/Install	39	21-Aug-14	06-Oct-14		[Gantt bar from Aug 21 to Oct 6, 2014]																											
22	Construction - Installation	0				[Gantt bar at 0 duration]																											
23	<b>Electrical Construction</b>	75	08-Aug-14	04-Nov-14		[Gantt bar from Aug 8 to Nov 4, 2014]																											
24	ABB Schedule T1	22	20-Sep-14	15-Oct-14		[Gantt bar from Sep 20 to Oct 15, 2014]																											
25	230/138 kV Auto Transformer (T1)	6	19-Sep-14	26-Sep-14		[Gantt bar from Sep 19 to Sep 26, 2014]																											
26	230 kV Breaker (B1L03)	11	05-Sep-14	17-Sep-14		[Gantt bar from Sep 5 to Sep 17, 2014]																											
27	138 kV Breaker (B2T1)	11	22-Oct-14	04-Nov-14		[Gantt bar from Oct 22 to Nov 4, 2014]																											
28	230 kV Disconnect (B1T1-1)	6	15-Sep-14	22-Sep-14		[Gantt bar from Sep 15 to Sep 22, 2014]																											
29	Station Post Insulators	2	14-Oct-14	16-Oct-14		[Gantt bar from Oct 14 to Oct 16, 2014]																											
30	Station Service Transformer	1	03-Oct-14	04-Oct-14		[Gantt bar from Oct 3 to Oct 4, 2014]																											
31	Station Service Transfer Switch	6	11-Sep-14	18-Sep-14		[Gantt bar from Sep 11 to Sep 18, 2014]																											
32	Transformer Protection Panel & Relays	27	08-Aug-14	09-Sep-14		[Gantt bar from Aug 8 to Sep 9, 2014]																											
33	Comms	0				[Gantt bar at 0 duration]																											
34	<b>Elect/P&amp;C/Comms. Commissioning</b>	51	17-Sep-14	15-Nov-14		[Gantt bar from Sep 17 to Nov 15, 2014]																											
35	Breaker B1L03	9	17-Sep-14	27-Sep-14		[Gantt bar from Sep 17 to Sep 27, 2014]																											
36	230 kV Disconnect B1T1-1	2	22-Sep-14	24-Sep-14		[Gantt bar from Sep 22 to Sep 24, 2014]																											
37	Breaker B2T1	7	03-Nov-14	11-Nov-14		[Gantt bar from Nov 3 to Nov 11, 2014]																											
38	Transformer T1	27	16-Oct-14	15-Nov-14		[Gantt bar from Oct 16 to Nov 15, 2014]																											
39	Comms	0				[Gantt bar at 0 duration]																											

# 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, BIT!-1, B2T1, other equipment, civil works and fdns; Installation of new pad; Connection of new transformer, including: cables, panels, connections, commissioning	TBD	Early August	15-Nov	Tenders due Jul 28
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. Fifty+ risks and tasks identified. Assignments week Jul 28. Final report Aug 8.

Risk Register produced during workshop  
(Available Aug 8)

Risk Register used to manage risk during Project Execution.

# Risk Analysis – Example of Issues

- RFP for Construction – Qualified Bidders
  - Tenders due Jul 28, several bidders likely
- T1 Delivery – Timing, Logistics, Damage
  - Expedite and monitor; logistics study request; vendor spares
- B1T1-1 230 kV Disconnect – 15 Sep delivery
  - Expedite and monitor;
- B1L03 230 kV Breaker in Stores – Storage
  - Inspect and monitor

# Risk Analysis – Examples of Issues

- Site hydrocarbon in soil
  - Inspections to identify and removal
- Asbestos, Lead, PCB issues
  - Inspections; Procedure checks; Contracts
- Outage requirements
  - Lift bus/wires as required to allow access without outages
  - Co-ordinate outages with other projects

# Project Photos

## Transformer Status – Jul 24, 2014

- RV Coils are in the oven.
- Tank: Segments 2 and 3 are completed, not attached to base yet, and segments 1 and 2 will be completed Jul 25.

# Photo 1 – Existing T1





# Photo 2 – Coils Ready for Assembly (Jul 24)



# Photo 3 – Core Segments (Jul 24)



# Photo 4 – LV/HV Coils at Oven (Jul 24)





# Photo 5 – Core on Stacking Table (Jul 23)

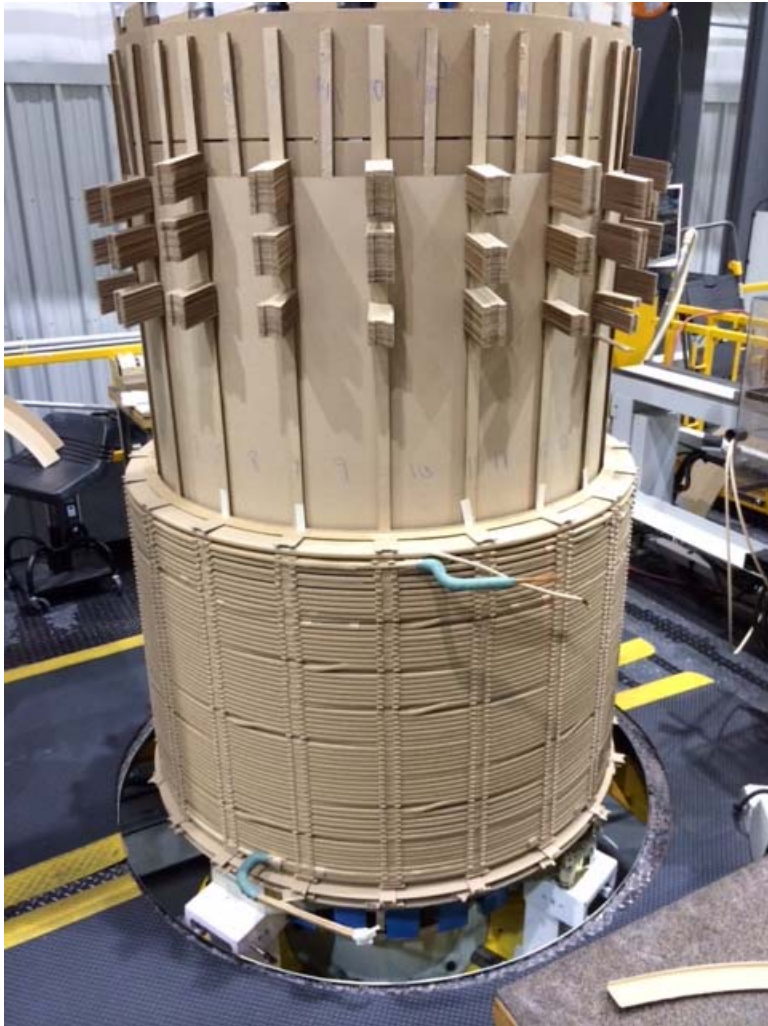


# Photo 6 – T1 RV Winding A, B (Pre Jul 23)

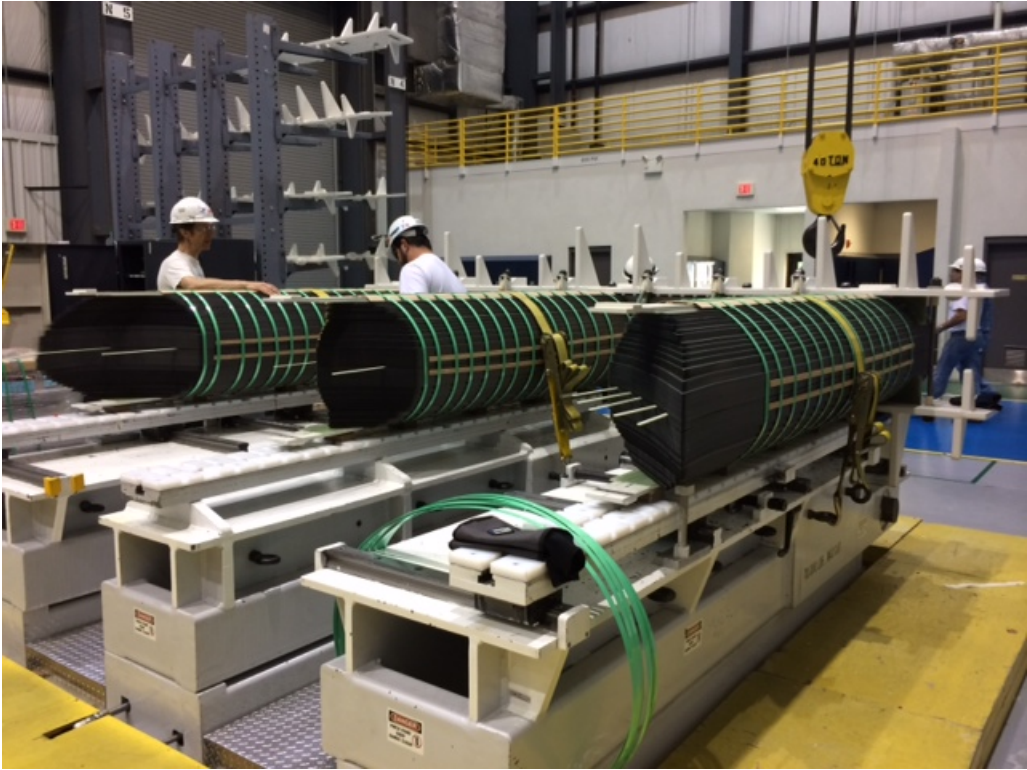
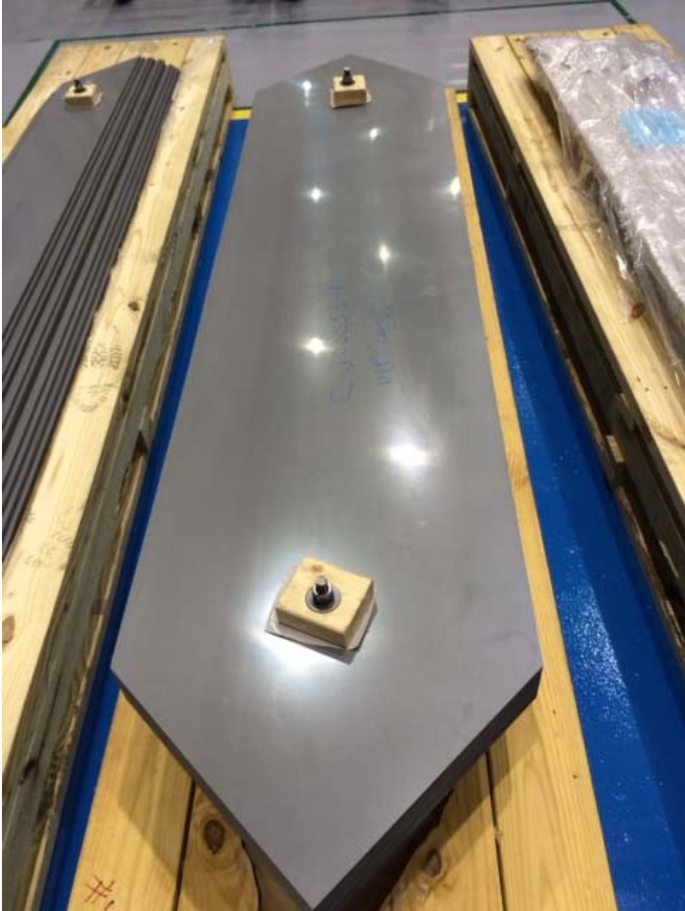




# Photo 7 – Winding HV B, LV C (Pre Jul 23)



# Photo 8 – T1 Core Steel; Core on Stacking Table (Pre Jul 23)





# Photo 9 – T1 Tank Cover (Pre Jul 23)





