

August 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
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



Tracey L. Pennell
Legal Counsel

TLP/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 15, 2014

Boundless Energy



Contents

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

(Incremental to Information provided July 30)

Project Dashboard

PM - Sunnyside Transformer Project
Joe Yurchesyn

Safety

Quality

Schedule

Cost

Progress & Schedule Summary

1. T1 Transformer Pre-Tank Inspection by Tensor Resources Aug 7; Factory Acceptance Tests Aug 18-22; Delivery Sep 20
2. T1 Delivery Logistics Planning – Aug 6 on site and route review with ABB/transporter
3. Installation Contract Award August 14 to Industrial Commercial Maintenance Limited – Mobilize August 18 for existing equipment removal and site preparation

Progress & Schedule Summary

4. TRO raised Bus Aug 14-15 to allow safe access for existing T1 removal
5. Risk Review Actions assessment completed Aug 8
6. Overall Schedule tracking with plan; Ready for Service date by end Nov 2014 (See attached schedule showing progress to date)

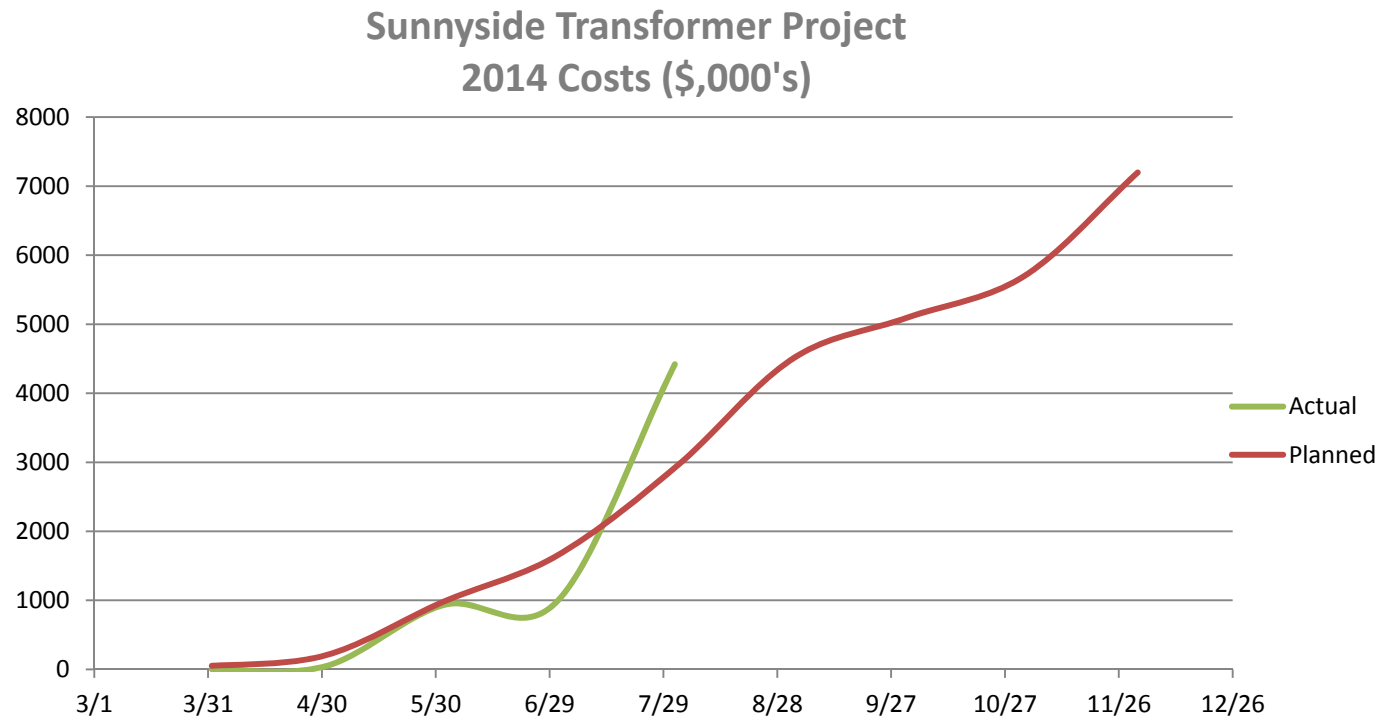
Level 2 - Schedule Summary

See attached full detail schedule for more information on specific tasks

#	Activity Name	Remaining Duration	Start	Finish	June 2014			July 2014				August 2014				September 2014				October 2014				November 2014				December 2014				
					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
1	Sunnyside Transformer	88	01-May-14A	21-Nov-14	[Gantt bar]																											
2	PM Tasks	6	25-Jun-14A	19-Aug-14	[Gantt bar]																											
3	Sunnyside Transformer	88	01-May-14A	21-Nov-14	[Gantt bar]																											
4	Engineering	69	16-Jun-14A	14-Nov-14	[Gantt bar]																											
5	Procurement- Material	62	01-May-14A	22-Oct-14	[Gantt bar]																											
6	230/138 kV Auto Transformer (T1)	35	01-May-14A	20-Sep-14	[Gantt bar]																											
7	230 kV Breaker (B1L03)	0	01-May-14A	01-May-14A	[Gantt bar]																											
8	230 kV Breaker (B1L02)	52	01-May-14A	22-Oct-14	[Gantt bar]																											
9	138 kV Breaker (B2T1)	52	16-May-14A	22-Oct-14	[Gantt bar]																											
10	230 kV Disconnect (B1T1)	25	24-Jun-14A	15-Sep-14	[Gantt bar]																											
11	Station Post Insulators	46	16-Jun-14A	14-Oct-14	[Gantt bar]																											
12	Station Service Transformer	35	30-Jun-14A	20-Sep-14	[Gantt bar]																											
13	Station Service Transfer Switch	15	28-Jul-14A	01-Sep-14	[Gantt bar]																											
14	HV Risers & Connectors	30	21-Jul-14A	22-Sep-14	[Gantt bar]																											
15	Power & Control Cables	9	25-Jun-14A	22-Aug-14	[Gantt bar]																											
16	Transformer Protection Panel	3	21-Jul-14A	14-Aug-14	[Gantt bar]																											
17	Transformer Protection Relays	9	25-Jun-14A	22-Aug-14	[Gantt bar]																											
18	Procurement- Install	1	02-Jun-14A	12-Aug-14	[Gantt bar]																											
19	Prepare Tender Specification for Instal	0	02-Jun-14A	27-Jun-14A	[Gantt bar]																											
20	Tender Period	0	30-Jun-14A	12-Aug-14	[Gantt bar]																											
21	Site Meeting	0	09-Jul-14A	09-Jul-14A	[Gantt bar]																											
22	Review & Award Tender	1	29-Jul-14A	12-Aug-14	[Gantt bar]																											
23	Construction - Equipment Removals	86	14-Aug-14	21-Nov-14	[Gantt bar]																											
24	Construction - Foundations Removals/Install	39	21-Aug-14	06-Oct-14	[Gantt bar]																											
25	Electrical Construction	67	18-Aug-14	04-Nov-14	[Gantt bar]																											
26	ABE Schedule T1	22	20-Sep-14	15-Oct-14	[Gantt bar]																											
27	230/138 kV Auto Transformer (T1)	6	22-Sep-14	27-Sep-14	[Gantt bar]																											
28	230 kV Breaker (B1L03)	11	05-Sep-14	17-Sep-14	[Gantt bar]																											
29	138 kV Breaker (B2T1)	11	22-Oct-14	04-Nov-14	[Gantt bar]																											
30	230 kV Disconnect(B1T1-1)	6	15-Sep-14	22-Sep-14	[Gantt bar]																											
31	Station Post Insulators	2	14-Oct-14	16-Oct-14	[Gantt bar]																											
32	Station Service Transformer	1	03-Oct-14	04-Oct-14	[Gantt bar]																											
33	Station Service Transfer Switch	10	15-Sep-14	26-Sep-14	[Gantt bar]																											
34	Transformer Protection Panel & Relays	20	18-Aug-14	10-Sep-14	[Gantt bar]																											
35	Elect/P&C/Comms. Commissioning	51	17-Sep-14	15-Nov-14	[Gantt bar]																											
36	Breaker B1L03	9	17-Sep-14	27-Sep-14	[Gantt bar]																											
37	230 kV Disconnect B1T1-1	2	22-Sep-14	24-Sep-14	[Gantt bar]																											
38	Breaker B2T1	7	03-Nov-14	11-Nov-14	[Gantt bar]																											
39	Transformer T1	27	16-Oct-14	15-Nov-14	[Gantt bar]																											

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 Aug 1 reflects contractual commitments for major equipment and install contracts to Aug 15.

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 Aug 7.

Fifty+ risks and tasks identified.

Risk Register used to manage risk during Project Execution.

Risk Analysis – Example of Issues

- TRO Bus raise Aug 14/15 – reduces complications and time for T1 removal
- T1 Delivery – Timing, Logistics, Damage – ABB logistics done, spare bushing being considered
- 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

- 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 showed unlikely an issue, remove if required

Risk Analysis – Examples of Issues

- Outage requirements
 - Lift bus/wires as required to allow access without outages
 - Co-ordinate outages with other projects

Project Photos

Transformer Status – Aug 12, 2014

- Pre-Tank Inspection – Aug 7
- Factory Acceptance Testing – Aug 18-22
- Delivery – Sep 20

Photo 1 – Assembled Transformer T1



Photo 2 – Assembled Transformer T1



Photo 3 – Assembled Transformer



Photo 4– Assembled Transformer T1



Photo 5 – Assembled Transformer T1





Sunnyside Transformer

Updated: 12-Aug-14

#	Activity Name	Remaining Duration	Start	Finish	Comments	Timeline																											
						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
1	Sunnyside Transformer	88	01-May-14 A	21-Nov-14		[Summary bar from May to Nov]																											
2	PM Tasks	6	25-Jun-14 A	19-Aug-14		[Summary bar from Jun to Aug]																											
3	Determine Requirement of Oil Containment S	0	25-Jun-14 A	01-Jul-14 A		[Actual Work bar]																											
4	Devlop Project Scope Statement	0	25-Jun-14 A	12-Aug-14		[Actual Work bar]																											
5	Risk Workshop	0	23-Jul-14 A	13-Aug-14		[Actual Work bar]																											
6	Prepare Safety Assessment & Safety Plan	6	12-Aug-14*	19-Aug-14	Contractor	[Remaining Work bar]																											
7	Sunnyside Transformer	88	01-May-14 A	21-Nov-14		[Summary bar from May to Nov]																											
8	Engineering	69	16-Jun-14 A	14-Nov-14		[Summary bar from Jun to Nov]																											
9	Civil	36	16-Jun-14 A	30-Sep-14		[Summary bar from Jun to Sep]																											
10	Engineering - Civil	36	16-Jun-14 A	30-Sep-14		[Actual Work bar]																											
11	P&C	69	16-Jun-14 A	14-Nov-14		[Summary bar from Jun to Nov]																											
12	Engineering - P&C	69	16-Jun-14 A	14-Nov-14		[Actual Work bar]																											
13	Design Drawings	10	08-Jul-14 A	25-Aug-14		[Actual Work bar]																											
14	Perform P&C Prep - Isolation plan	5	17-Jul-14 A	18-Aug-14	TRO	[Actual Work bar]																											
15	Relay Settings	5	12-Aug-14*	18-Aug-14		[Actual Work bar]																											
16	Electrical	69	16-Jun-14 A	14-Nov-14		[Summary bar from Jun to Nov]																											
17	Engineering - Electrical	69	16-Jun-14 A	14-Nov-14		[Actual Work bar]																											
18	Communications	9	21-Jul-14 A	22-Aug-14		[Summary bar from Jul to Aug]																											
19	Engineering - Communications	9	21-Jul-14 A	22-Aug-14		[Actual Work bar]																											
20	Physical Drawings	36	16-Jun-14 A	30-Sep-14		[Summary bar from Jun to Sep]																											
21	Engineering - Physical Drawings	36	16-Jun-14 A	30-Sep-14		[Actual Work bar]																											
22	Procurement - Material	62	01-May-14 A	22-Oct-14		[Summary bar from May to Oct]																											
23	230/138 kV Auto Transformer (T1)	35	01-May-14 A	20-Sep-14		[Summary bar from May to Sep]																											
24	Prepare Tender Specification	0	01-May-14 A	14-May-14 A		[Actual Work bar]																											
25	Tender Period	0	15-May-14 A	05-Jun-14 A		[Actual Work bar]																											
26	Review & Award Tender	0	06-Jun-14 A	19-Jun-14 A		[Actual Work bar]																											
27	T1 Delivery on Pad	35	20-Jun-14 A	20-Sep-14		[Actual Work bar]																											
28	Pre-Tank Inspection	1	12-Aug-14*	12-Aug-14		[Actual Work bar]																											
29	FAT	5	15-Aug-14*	21-Aug-14		[Actual Work bar]																											
30	230 kV Breaker (B1L03)	0	01-May-14 A	01-May-14 A		[Actual Work bar]																											
31	Delivery (in stores)	0	01-May-14 A	01-May-14 A		[Actual Work bar]																											
32	230 kV Breaker (B1L02)	52	01-May-14 A	22-Oct-14		[Summary bar from May to Oct]																											
33	Prepare Tender Specification	0	01-May-14 A	01-May-14 A		[Actual Work bar]																											
34	Tender Period	0	02-May-14 A	02-May-14 A		[Actual Work bar]																											
35	Review & Award Tender	0	05-May-14 A	30-May-14 A		[Actual Work bar]																											
36	Delivery/Install	52	02-Jun-14 A	22-Oct-14		[Actual Work bar]																											
37	FAT	5	29-Sep-14*	03-Oct-14		[Actual Work bar]																											
38	138 kV Breaker (B2T1)	52	16-May-14 A	22-Oct-14		[Summary bar from May to Oct]																											
39	Prepare & Issue PO	0	16-May-14 A	23-May-14 A		[Actual Work bar]																											
40	Delivery	52	26-May-14 A	22-Oct-14		[Actual Work bar]																											
41	FAT (date not confirmed)	5	22-Sep-14*	26-Sep-14		[Actual Work bar]																											
42	230 kV Disconnect (B1T1)	25	24-Jun-14 A	15-Sep-14		[Summary bar from Jun to Sep]																											
43	Prepare & Issue PO	0	24-Jun-14 A	25-Jun-14 A		[Actual Work bar]																											
44	Delivery	25	26-Jun-14 A	15-Sep-14		[Actual Work bar]																											

█ Actual Work ◆ Milestone
█ Remaining Work ◀ Summary
█ Critical Remaining Work

Sunnyside Transformer

Updated: 12-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
45	Station Post Insulators	46	16-Jun-14 A	14-Oct-14		[Summary bar from June 16 to Oct 14]																											
46	Prepare & Issue PO	0	16-Jun-14 A	20-Jun-14 A		[Blue bar from Jun 16 to Jun 20]																											
47	Delivery	46	24-Jun-14 A	14-Oct-14		[Green bar from Jun 24 to Oct 14] Delivery																											
48	Station Service Transformer	35	30-Jun-14 A	20-Sep-14		[Summary bar from Jun 30 to Sep 20]																											
49	Prepare & Issue PO	0	30-Jun-14 A	03-Jul-14 A		[Blue bar from Jun 30 to Jul 03]																											
50	Delivery	35	04-Jul-14 A	20-Sep-14		[Green bar from Jul 04 to Sep 20] Delivery																											
51	Station Service Transfer Switch	15	28-Jul-14 A	01-Sep-14		[Summary bar from Jul 28 to Sep 01]																											
52	Prepare & Issue PO	0	28-Jul-14 A	31-Jul-14 A		[Blue bar from Jul 28 to Jul 31]																											
53	Delivery	15	12-Aug-14	01-Sep-14		[Green bar from Aug 12 to Sep 01] Delivery																											
54	HV Risers & Connectors	30	21-Jul-14 A	22-Sep-14		[Summary bar from Jul 21 to Sep 22]																											
55	Prepare & Issue PO	0	21-Jul-14 A	25-Jul-14 A		[Blue bar from Jul 21 to Jul 25]																											
56	Delivery	30	28-Jul-14 A	22-Sep-14		[Green bar from Jul 28 to Sep 22] Delivery																											
57	Power & Control Cables	9	25-Jun-14 A	22-Aug-14		[Summary bar from Jun 25 to Aug 22]																											
58	Prepare & Issue PO	0	25-Jun-14 A	27-Jun-14 A		[Blue bar from Jun 25 to Jun 27]																											
59	Delivery	9	30-Jun-14 A	22-Aug-14		[Green bar from Jun 30 to Aug 22] Delivery																											
60	Transformer Protection Panel	3	21-Jul-14 A	14-Aug-14		[Summary bar from Jul 21 to Aug 14]																											
61	Prepare & Issue PO	0	21-Jul-14 A	24-Jul-14 A		[Blue bar from Jul 21 to Jul 24]																											
62	Delivery	3	25-Jul-14 A	14-Aug-14		[Green bar from Jul 25 to Aug 14] Delivery																											
63	Transformer Protection Relays	9	25-Jun-14 A	22-Aug-14		[Summary bar from Jun 25 to Aug 22]																											
64	Prepare & Issue PO	0	25-Jun-14 A	27-Jun-14 A		[Blue bar from Jun 25 to Jun 27]																											
65	Delivery	9	30-Jun-14 A	22-Aug-14		[Green bar from Jun 30 to Aug 22] Delivery																											
66	Procurement - Install	1	02-Jun-14 A	12-Aug-14		[Summary bar from Jun 02 to Aug 12]																											
67	Prepare Tender Specification for Install	0	02-Jun-14 A	27-Jun-14 A		[Blue bar from Jun 02 to Jun 27]																											
68	Tender Period	0	30-Jun-14 A	12-Aug-14		[Blue bar from Jun 30 to Aug 12] Tender Period																											
69	Site Meeting	0	09-Jul-14 A	09-Jul-14 A		[Blue bar at Jul 09]																											
70	Review & Award Tender	1	29-Jul-14 A	12-Aug-14		[Blue bar from Jul 29 to Aug 12] Review & Award Tender																											
71	Construction - Equipment Removals	86	14-Aug-14	21-Nov-14		[Summary bar from Aug 14 to Nov 21]																											
72	LOTO	86	14-Aug-14	21-Nov-14		[Summary bar from Aug 14 to Nov 21]																											
73	Isolate Work Zone	80	14-Aug-14	14-Nov-14		[Summary bar from Aug 14 to Nov 14]																											
74	Outage	80	14-Aug-14*	14-Nov-14		[Red bar from Aug 14 to Nov 14] Outage																											
75	Disconnect HV Risers	2	15-Aug-14*	16-Aug-14		[Red bar from Aug 15 to Aug 16] Disconnect HV Risers																											
76	Disconnect, Cap and Remove Airlines	2	18-Aug-14*	19-Aug-14		[Red bar from Aug 18 to Aug 19] Disconnect, Cap and Remove Airlines																											
77	Disconnect Power & Control Circuits	3	20-Aug-14*	22-Aug-14		[Red bar from Aug 20 to Aug 22] Disconnect Power & Control Circuits																											
78	De-Isolate Work Zone	5	15-Nov-14	21-Nov-14		[Summary bar from Nov 15 to Nov 21]																											
79	Connect HV Risers	2	15-Nov-14	18-Nov-14		[Red bar from Nov 15 to Nov 18] Connect HV Risers																											
80	Connect Power & Control Circuits	3	18-Nov-14	21-Nov-14		[Red bar from Nov 18 to Nov 21] Connect Power & Control Circuits																											
81	230 kV Tower Removal	1	14-Aug-14	14-Aug-14		[Summary bar at Aug 14]																											
82	Un-Erect 230 kV, Bus Support Structure (3	1	14-Aug-14	14-Aug-14		[Blue bar at Aug 14] Un-Erect 230 kV, Bus Support Structure (3) and Store on Site																											
83	230/138 kV Auto Transformer (T1)	15	18-Aug-14	03-Sep-14		[Summary bar from Aug 18 to Sep 03]																											
84	Remove HV Risers	1	18-Aug-14	18-Aug-14		[Blue bar at Aug 18] Remove HV Risers																											
85	Remove Control & Power Wiring	1	25-Aug-14	25-Aug-14		[Blue bar at Aug 25] Remove Control & Power Wiring																											
86	Disassemble Transformer	5	26-Aug-14	30-Aug-14		[Red bar from Aug 26 to Aug 30] Disassemble Transformer																											
87	Lift Transformer & Prepare for Transport	2	01-Sep-14	02-Sep-14		[Red bar from Sep 01 to Sep 02] Lift Transformer & Prepare for Transport																											
88	Remove T1 from Site	1	03-Sep-14	03-Sep-14		[Blue bar at Sep 03] Remove T1 from Site																											
89	Possible 138 kV Bus Outage (DELETE TH	1	03-Sep-14*	03-Sep-14		[Blue bar at Sep 03] Possible 138 kV Bus Outage (DELETE THISACTIVITY?)																											

█ Actual Work ◆ ◆ Milestone
█ Remaining Work ── Summary
█ Critical Remaining Work

#	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				
90	230 kV Breaker (B1L03)	5	16-Aug-14	21-Aug-14																																				
91	Outage	1	16-Aug-14*	16-Aug-14																																				
92	Remove HV Risers	1	16-Aug-14	16-Aug-14																																				
93	Remove Power & Control Cables	2	18-Aug-14	19-Aug-14																																				
94	Remove B1L03 Breaker c/w Post CT's & S	2	19-Aug-14	21-Aug-14																																				
95	138 kV Breaker (B2T1)	5	16-Aug-14	21-Aug-14																																				
96	Remove HV Risers and Remove Comp Air	1	16-Aug-14*	16-Aug-14																																				
97	Remove Power & Control Cables	2	18-Aug-14	19-Aug-14																																				
98	Remove B2T1 Breaker c/w Post CT's & S	2	19-Aug-14	21-Aug-14																																				
99	230 kV Disconnect (B1T1-1)	6	16-Aug-14	22-Aug-14																																				
100	Remove HV Risers	1	16-Aug-14*	16-Aug-14																																				
101	Possible Sunnyside Station Outage	1	16-Aug-14*	16-Aug-14																																				
102	Remove Power & Control Cables	2	19-Aug-14	20-Aug-14																																				
103	Remove B1T1-1 Disconnect Switch	2	21-Aug-14	22-Aug-14																																				
104	Station Post Insulators	1	16-Aug-14	16-Aug-14																																				
105	Remove HV Risers	1	16-Aug-14*	16-Aug-14																																				
106	Station Service Transformer	1	25-Aug-14	26-Aug-14																																				
107	Remove Power Cables	1	25-Aug-14	25-Aug-14																																				
108	Remove Station Service Transformer on T1	1	25-Aug-14	26-Aug-14																																				
109	Station Service Transfer Switch	2	03-Sep-14	04-Sep-14																																				
110	Remove Power Cables to T1	1	03-Sep-14	03-Sep-14																																				
111	Remove Power Cables to T4	1	03-Sep-14	03-Sep-14																																				
112	Remove Station Service Transfer Switch	1	04-Sep-14	04-Sep-14																																				
113	Remove Cables Between Transfer Switch	1	04-Sep-14	04-Sep-14																																				
114	Transformer Protection Panel & Relays	5	26-Aug-14	30-Aug-14																																				
115	Remove Control Wiring from Relays	2	26-Aug-14	27-Aug-14																																				
116	Remove Protection Relays in Control Buildi	3	28-Aug-14	30-Aug-14																																				
117	Construction - Foundations Removals	39	21-Aug-14	06-Oct-14																																				
118	230/138 kV Auto Transformer (T1)	15	04-Sep-14	20-Sep-14																																				
119	Remove Foundation T1	4	04-Sep-14	08-Sep-14																																				
120	Install Cable Raceways to T1 Transformer	3	09-Sep-14	11-Sep-14																																				
121	Install New Foundation T1	4	09-Sep-14	12-Sep-14																																				
122	Concrete Cure	7	13-Sep-14	20-Sep-14																																				
123	230 kV Breaker (B1L03)	13	21-Aug-14	05-Sep-14																																				
124	Remove Foundation B1L03	1	21-Aug-14	22-Aug-14																																				
125	Install Foundation B1L03 Including Associa	5	22-Aug-14	28-Aug-14																																				
126	Concrete Cure	7	28-Aug-14	05-Sep-14																																				
127	138 kV Breaker (B2T1)	13	21-Aug-14	04-Sep-14																																				
128	Remove Foundation B2T1	1	21-Aug-14	21-Aug-14																																				
129	Install Foundation B2T1 (1) Including Assoc	5	22-Aug-14	27-Aug-14																																				
130	Concrete Cure	7	28-Aug-14	04-Sep-14																																				
131	230 kV Disconnect (B1T1-1)	13	23-Aug-14	06-Sep-14																																				
132	Remove Foundation B1T1-1	1	23-Aug-14	23-Aug-14																																				
133	Install Foundation B1T1-1 Including Associ	5	23-Aug-14	29-Aug-14																																				
134	Concrete Cure	7	29-Aug-14	06-Sep-14																																				

█ Actual Work ◆ Milestone
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Sunnyside Transformer

Updated: 12-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
135	Station Post Insulators	13	23-Aug-14	08-Sep-14																																
136	Remove Foundation Bus Support Foundati	1	23-Aug-14	25-Aug-14																																
137	Install Foundations Bus Support Including /	5	25-Aug-14	30-Aug-14																																
138	Concrete Cure	7	30-Aug-14	08-Sep-14																																
139	230 kV Breaker (B1T1)	12	08-Sep-14	22-Sep-14																																
140	Install Foundation B1T1 Including Associat	5	08-Sep-14	13-Sep-14																																
141	Concrete Cure	7	13-Sep-14	22-Sep-14																																
142	Station Service Transformer	1	04-Oct-14	06-Oct-14																																
143	Install Cable Raceways to 25 kV, Sta. Serv	1	04-Oct-14	06-Oct-14																																
144	Station Service Transfer Switch	1	10-Sep-14	10-Sep-14																																
145	Remove Foundation Station Service Trans	1	10-Sep-14	10-Sep-14																																
146	Electrical Construction	67	18-Aug-14	04-Nov-14																																
147	ABB Schedule T1	22	20-Sep-14	15-Oct-14																																
148	Transformer Delivered to Site Outage Reql	1	20-Sep-14	20-Sep-14																																
149	Assemble 230/138 kV Transformer & Statio	10	23-Sep-14	03-Oct-14																																
150	Place Transformer on Vacuum	1	07-Oct-14	08-Oct-14																																
151	Vacuum Fill Transformer	1	08-Oct-14	09-Oct-14																																
152	Commission Test Transformer	4	09-Oct-14	14-Oct-14																																
153	Transformer Ready for Handover to Nalcor	1	14-Oct-14	15-Oct-14																																
154	230/138 kV Auto Transformer (T1)	6	22-Sep-14	27-Sep-14																																
155	Install Cables	2	22-Sep-14	23-Sep-14																																
156	Megger & Terminate Power & Control Wirin	1	24-Sep-14	24-Sep-14																																
157	Megger & Terminate Power & Control Wirin	1	25-Sep-14	25-Sep-14																																
158	Assign/Change Annunciator Windows	1	26-Sep-14	26-Sep-14																																
159	Make RTU Changes	1	27-Sep-14	27-Sep-14																																
160	230 kV Breaker (B1L03)	11	05-Sep-14	17-Sep-14																																
161	Install Breaker B1L03 & Ground	3	05-Sep-14	09-Sep-14																																
162	Install Cables to B1L03, Megger & Terminat	4	09-Sep-14	13-Sep-14																																
163	Install Trip Coil Monitoring Protection Relay	2	13-Sep-14	16-Sep-14																																
164	Primary Equipment Commission Breaker B1	3	13-Sep-14	17-Sep-14																																
165	Assign/Change Annunciator Windows	1	16-Sep-14	17-Sep-14																																
166	Make RTU Changes	1	17-Sep-14	17-Sep-14																																
167	138 kV Breaker (B2T1)	11	22-Oct-14	04-Nov-14																																
168	Install Breaker B2T1 and Ground	3	22-Oct-14	25-Oct-14																																
169	Install Cables to B2T1 Megger & Terminate	4	25-Oct-14	30-Oct-14																																
170	Install Trip Coil Monitoring Protection Relay	2	30-Oct-14	01-Nov-14																																
171	Primary Equipment Commission Switch B2T	3	30-Oct-14	03-Nov-14																																
172	Assign/Change Annunciator Windows	1	01-Nov-14	03-Nov-14																																
173	Make RTU Changes	1	03-Nov-14	04-Nov-14																																
174	230 kV Disconnect (B1T1-1)	6	15-Sep-14	22-Sep-14																																
175	Install Disconnect B1T1-1 and Ground	3	15-Sep-14	18-Sep-14																																
176	Install Cables to B1T1-1 Megger & Termina	2	18-Sep-14	20-Sep-14																																
177	Primary Equipment Commission Switch B1T	1	20-Sep-14	22-Sep-14																																
178	Station Post Insulators	2	14-Oct-14	16-Oct-14																																
179	Re-Erect 230 kV Bus Insulator Support Stru	1	14-Oct-14	15-Oct-14																																

█ Actual Work ◆ Milestone
█ Remaining Work ▬ Summary
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Sunnyside Transformer

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#	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																		
180	Install Bus Work and/or Risers	1	15-Oct-14	16-Oct-14		█ Install Bus Work and/or Risers																																																
181	Station Service Transformer	1	03-Oct-14	04-Oct-14		▼																																																
182	Mount Sta. Serv. Transformer on T1	1	03-Oct-14	04-Oct-14		█ Mount Sta. Serv. Transformer on T1																																																
183	Station Service Transfer Switch	10	15-Sep-14	26-Sep-14		█ Install AC Power Transfer Switch in Relay Building																																																
184	Install AC Power Transfer Switch in Relay B	1	15-Sep-14	16-Sep-14		█ Install & Terminate New Cables to T1																																																
185	Install & Terminate New Cables to T1	2	20-Sep-14	23-Sep-14		█ Install & Terminate New Cables to T4																																																
186	Install & Terminate New Cables to T4	2	23-Sep-14	25-Sep-14		█ Install and Terminate New Cables Between Transfer Switch & Existing AC Dist. F																																																
187	Install and Terminate New Cables Between	1	25-Sep-14	26-Sep-14		█ Relay Bench Testing																																																
188	Transformer Protection Panel & Relays	20	18-Aug-14	10-Sep-14		█ Install Protection Panel																																																
189	Relay Bench Testing	3	18-Aug-14	21-Aug-14		█ Install Protection Relays																																																
190	Install Protection Panel	2	01-Sep-14	02-Sep-14		█ Terminate Protection Wiring																																																
191	Install Protection Relays	2	03-Sep-14	04-Sep-14		█ Make Applicable "No Outage" Wire Terminations on Cable Ends Opposite to Breaker &																																																
192	Terminate Protection Wiring	5	05-Sep-14	10-Sep-14		█ Start - TL203 Nodes/Line Outage																																																
193	Elect/P&C/Comms. Commissioning	51	17-Sep-14	15-Nov-14		█ Make Applicable Wire Terminations on Cables Ends Opposite to Breaker & Commis																																																
194	Breaker B1L03	9	17-Sep-14	27-Sep-14		█ End - TL203 Node/Line Outage																																																
195	Make Applicable "No Outage" Wire Terminations on Cable Ends Opposite to Breaker & Commission P&C Connections to Breaker	2	17-Sep-14	19-Sep-14		█ Start - First B1 Bus Outage																																																
196	Start - TL203 Nodes/Line Outage	1	19-Sep-14	20-Sep-14		█ Make Applicable Wire Terminations on Cable Ends Opposite to Breaker & Commis																																																
197	Make Applicable Wire Terminations on Cables Ends Opposite to Breaker & Commission P&C Connections for TL203	1	20-Sep-14	22-Sep-14		█ End - First B1 Bus Outage																																																
198	End - TL203 Node/Line Outage	1	22-Sep-14	23-Sep-14		█ Install HV Leads to Breaker B1L03																																																
199	Start - First B1 Bus Outage	1	23-Sep-14	24-Sep-14		█ "Hydro" Accepts Breaker B1L03 for "Energization"																																																
200	Make Applicable Wire Terminations on Cable Ends Opposite to Breaker & Commission P&C Connections for B1 Bus Prot	1	23-Sep-14	24-Sep-14		█ Energize Breaker B1L03 & Close in Parallel with Breaker L03L06																																																
201	End - First B1 Bus Outage	1	23-Sep-14	24-Sep-14		█ Release For Service																																																
202	Install HV Leads to Breaker B1L03	1	24-Sep-14	25-Sep-14		█ Commission P&C Connections Including pts Checks with ECC																																																
203	"Hydro" Accepts Breaker B1L03 for "Energization"	1	25-Sep-14	26-Sep-14		█ Release For Service																																																
204	Energize Breaker B1L03 & Close in Parallel	1	26-Sep-14	27-Sep-14		█ Make Applicable Wire Terminations on Cable Ends Opposite to Breaker & Commission P&C Connections																																																
205	Release For Service	1	26-Sep-14	27-Sep-14		█ Make Applicable T1 Prot. Wire Terminations on Cable Ends Opposite to Breaker																																																
206	230 kV Disconnect B1T1-1	2	22-Sep-14	24-Sep-14		█ Start - B2 Bus Outage																																																
207	Commission P&C Connections Including pts Checks with ECC	1	22-Sep-14	23-Sep-14		█ Make Applicable Wire Terminations on Cable Ends Opposite to Breaker & Commission P&C Connections for B1 Bus Prot																																																
208	Release For Service	1	23-Sep-14	24-Sep-14		█ Install HV Leads Between Breaker B2T1 & S																																																
209	Breaker B2T1	7	03-Nov-14	11-Nov-14		█ End - B2 Bus Outage																																																
210	Make Applicable Wire Terminations on Cable Ends Opposite to Breaker & Commission P&C Connections	1	03-Nov-14	04-Nov-14		█ Hydro Accepts B2T1 for Energization																																																
211	Make Applicable T1 Prot. Wire Terminations on Cable Ends Opposite to Breaker	1	04-Nov-14	05-Nov-14		█ Energize & De-Energize Breaker B2T1																																																
212	Start - B2 Bus Outage	1	05-Nov-14	06-Nov-14		█ Install HV Leads Between Breaker B2T1 & S																																																
213	Make Applicable Wire Terminations on Cable Ends Opposite to Breaker & Commission P&C Connections for B1 Bus Prot	1	06-Nov-14	07-Nov-14		█ End - B2 Bus Outage																																																
214	Install HV Leads Between Breaker B2T1 & S	1	07-Nov-14	07-Nov-14		█ Hydro Accepts B2T1 for Energization																																																
215	End - B2 Bus Outage	1	07-Nov-14	08-Nov-14		█ Energize & De-Energize Breaker B2T1																																																
216	Hydro Accepts B2T1 for Energization	1	08-Nov-14	10-Nov-14		█ Install HV Leads Between Breaker B2T1 & S																																																
217	Energize & De-Energize Breaker B2T1	1	10-Nov-14	11-Nov-14		█ End - B2 Bus Outage																																																
218	Install HV Leads Between Breaker B2T1 & S	1	11-Nov-14	11-Nov-14		█ Hydro Accepts B2T1 for Energization																																																

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Sunnyside Transformer

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#	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
219	Transformer T1	27	16-Oct-14	15-Nov-14																													
220	Make Wire Terminations on Cable Ends Op	1	16-Oct-14*	16-Oct-14																													
221	Commission T1 Transf. Prot. & All Other Ap	3	17-Oct-14	20-Oct-14																													
222	Start - Second B1 Bus Outage	1	21-Oct-14	21-Oct-14																													
223	Make Wire Terminations on Cable Ends Op	1	22-Oct-14	22-Oct-14																													
224	Install HV Leads Between Transformer T1 &	1	23-Oct-14	23-Oct-14																													
225	End - Second B1 Bus Outage (prob delete r	1	24-Oct-14	24-Oct-14																													
226	Energize Switch B1T1-1 (B1 Bus Side)	1	10-Nov-14	11-Nov-14																													
227	Hydro Accepts T1 for Energization	1	11-Nov-14	12-Nov-14																													
228	Handover Breaker B2T1 to Hydro Operatio	1	12-Nov-14	13-Nov-14																													
229	Energize Transforer T1 by Closing Breaker	1	13-Nov-14	14-Nov-14																													
230	Handover Transformer T1 To Hydro Operat	1	14-Nov-14	15-Nov-14																													

- █ Make Wire Terminations on Cable Ends Opposite to Transform
- █ Commission T1 Transf. Prot. & All Other Applicable P&C Co
- █ Start - Second B1 Bus Outage
- █ Make Wire Terminations on Cable Ends Opposite to Trans
- █ Install HV Leads Between Transformer T1 & Disconnect
- █ End - Second B1 Bus Outage (prob delete need for secc
- █ Energize Switch B1T1-1 (B1 Bus Side)
- █ Hydro Accepts T1 for Energization
- █ Handover Breaker B2T1 to Hydro Oper
- █ Energize Transforer T1 by Closing Bre
- █ Handover Transformer T1 To Hydro C

Actual Work
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