Sunnyside Replacement Equipment

Status Update Briefing-August 29, 2014





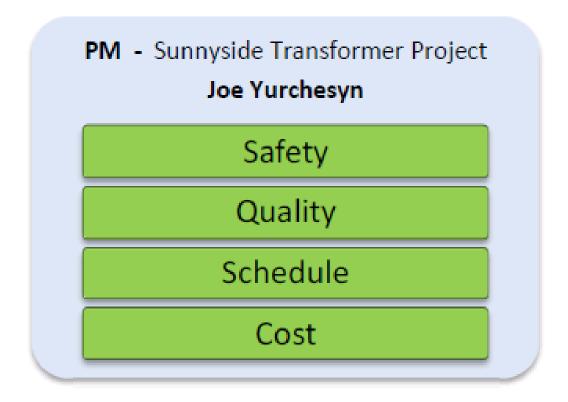
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(Incremental to Information provided Aug 15)



Project Dashboard





Progress & Schedule Summary

- 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).



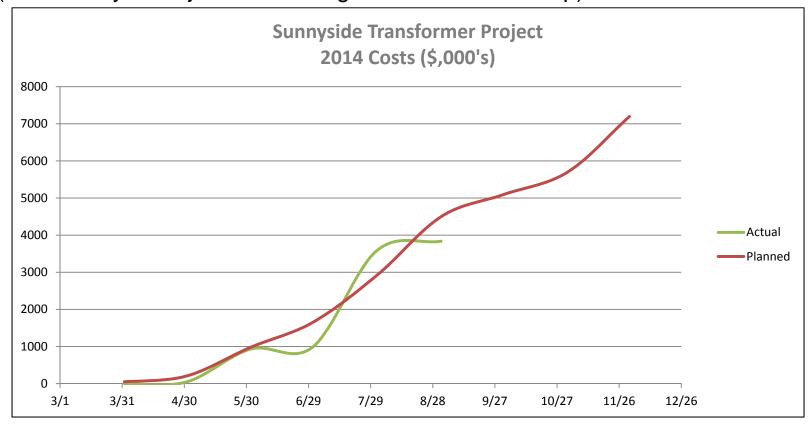
Level 2 - Schedule Summary

Sunnyside Transformer										2	28-Au
			Incremental Layout								
AdMityName	Remaining Start Duration	Finish Comments	June 2014	July 2014	August 20		September 2014	October 2014	November 2014	Decembe	
Sunnyaide Transformer	77 01-May-14A	21-Nov-14	01 08 15 22 3	29 06 13 20	27 03 10 17	24	31 W 14 21	28 06 12 19 2	6 02 09 16 23	30 07 1	4 2
	0 25-Jun-14A	19-Aug-14A			<u> </u>		İ	į	į į		
PM Tasks		The state of the s	·		,			i	!		
Sunnyside Transformer	77 01-May-14A	21-Nov-14									
Engineering	60 16-Jun-14A	14-Nov-14			_			·	 -		
Procurement - Material	51 01-May-14A	22-001-14						 -	<u> </u>		
230/138 KV Auto Transformer (T1)	29 01-May-14A	26-Sep-14						i	i i		
230 M/ Breaker (B1L03)	0 01-May-14A	01-May-14 A	l i		i		i	i	i i		
230 W Breaker (B1T1)	43 01-May-14A	22-001-14			1			_	į į		
138 W Breaker (B2T1)	43 16 May 14 A	23-Oct-14			•						
230 M/ Disconnect (B1T1-1)	16 24-Jun-14A	15-Sep-14			<u> </u>	.		i	.ii		
Seation Pose Insulators	37 16-Jun-14A	14-001-14	-		•				ŢŢ		
Station Service Transformer	24 30 Jun 14A	20-Sep-14	*		+	_		į	!!!		
Station Service Transfer Switch	6 28-Jul-14-A	01-Sep-14		•	-		7	!	!!!		
HV Risers & Connectors	21 21-Jul-14 A	22-Sep-14	1	_	+	_					
Power 8 Control Cables	0 25-Jun-14A	22Aug-14A			+	7		!	!!!		
Transformer Projection Panel	0 21-Jul 14 A	14-Aug-14A				 -		<u> </u>	†		,
Transformer Projection Relays	0 25-Jun-14A	22Aug-14A				7					
Procurement - Install	0 02-Jun-14A	12Aug-14A									
Construction - Equipment Removals	77 14-Aug-14A	21-Nov-14			-						
Construction - Foundations Removals/Install	35 02-Sep-14	11-Oct-14			i				i		
Electrical Construction	45 12-Sep-14	04-Nov-14			-†			 	+-		
ABB Schedule T1	22 26-Sep-14	21-Oct-14					-				
230/138 kV Auto Transformer (T1)	6 26-Sep-14	02-Oct-14			1		-	•			
230 kV Breaker (B1L03)	11 17-Sep-14	29-Sep-14			ļ		_	r!	!!!		
138 kV Breaker (B2T1)	11 22-Oct-14	04-Nov-14	1		1			-	-		
230 kV Disconnect (B1T1-1)	6 20 Sep-14	27-Sep-14			-†			†	†		
Station Post Insulators	2 14 Oct 14	16-Oct-14			i			-	i i		
Station Service Transformer	1 09-Oct-14	10-Oct-14	1		i			₩	1		
Station Service Transfer Switch	10 15-Sep-14	26-Sep-14			į			İ	, ,		
Transformer Protection Panel & Relays	11 12-Sep-14	24-Sep-14			i			i	į i		
Elect/P&C/Comms. Commissioning	42 27-Sep-14	15 Nov-14			-†	┪		†	+ -		
Breaker B1L03	9 29-Sep-14	08-Oct-14			!		,	!			
230 kV Disconnect B1T1-1	2 27-Sep-14	30-Sep-14						•	1		
Breaker B2T1	7 03 Nov-14	11-Nov-14			!			1	1		
Transformer T1	27 16 Oct 14	15-Nov-14									
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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	Disconnnect 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, B!T!-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

<u>Transformer Status – Aug 29, 2014</u>

- 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







