Integrated Project Schedule (IPS) Monthly Schedule and Progress Analysis

Cut off Date: 25 Nov 2015





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Corinne Russell
McInnes Cooper
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(Attached PDF)

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(Attached PDFs)



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Intergrated Project Schedule (IPS)

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Current IPS Structure

LCP Project

- 1) LTA Labrador Transmission Assests
- 2) LITL Labrador island Transmission Link
- 3) MFG Muskrat Falls
- 4) Telecom Systems logic under review
- 5) Start-Up sequence

Nalcor Operations

- 6) Breaker Upgrades
- 7) System Protection and Control Upgrades
- 8) Energy Control center Upgrades
- 9) TL 267 and associated switchyard modifications

Transition to Operations Team

- 10) RFI Ready for Integration
- 11) RFO Ready for Operation
- 12) BTPO Build the Production Organization

Maritime Link

13) Maritime Link – level of detail established and updated



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1.0 Overall Summary Overall Analysis – Information page 1 of 4

1) Target Milestones

* Target Milestone Overall = LTA Ready for Power Transmission (Power Available) = 04 July 2017

Tracking Milestone = 18 May 2017 forecast date (no change this month)

* Target Milestone Overall=LITL-1st Power Transfer Lab to Nfld = 9 Sep 2017 (Tracking Milestone)

53 day delay from last month due to delay in Converter completion see page 18

* Target Milestone Overall = MFGen First Power from Muskrat Falls = (**On hold**, see below for details)

Tracking Milestone removed pending resolution of CH0007 remediation of schedule

NOTE: A tracking milestone simply indicates this month forecast completion date.

2) Overall Engineering/Construction/Commissioning Progress

Period Planned Progress: 2.7% Cumulative Planned Progress: 47.2%

Period Forecast Progress 2.7%

Period Earned Progress: 1.9% Cumulative Earned Progress: 39.6%



1.0 Overall Summary Overall Analysis – Information page 2 of 4

1) Target Milestone

Target Milestone Overall = LTA Ready for Power Transmission (Power Available) = 04 July 2017

Tracking Milestone = 18 May 2017 forecast date (no change from last month)

NOTE: A tracking milestone simply indicates this month forecast completion date.

2) Overall Engineering/Construction/Commissioning Progress

Period Planned Progress: 3.2% Cumulative Planned Progress: 60.9%

Period Forecast Progress 3.2%

Period Earned Progress: 6.2% Cumulative Earned Progress: 66.5%

3) Critical Path: : no change from last month

• CF Switchyard continues to be on critical path to LTA Power Available forecast for May 2017.

4) Switchyards: no change from last month

• No change to completion date of static commissioning for either switchyard (CF, MF).

5) 315kV HVac Lines CF-MF: no change from last month

• HVac Seg 1/2 - line construction/stringing progressing with no change this month to HVac Seg 1/2 final inspection date which is end of line construction.

6) 735kV HVac CF Interconnection (Bus Extension): no change from last month

• CF 735kV -bus extension - TL construction start (foundations) not planned until June 2016.



1.0 Overall Summary Overall Analysis – Information page of 4

LITL

1) Target Milestone

• Target Milestone Overall=LITL-1st Power Transfer Lab to Nfld = 9 Sep 2017 (Tracking Milestone)

Delay 53 days from last month due to delay in Converter completion (See page 18)

• Target Milestone Overall=LITL-Ready for Sustainable Power Transfer Labrador to Newfoundland= 11 Nov 2017

Now delayed to 14 Nov 2017 - Change from last month

NOTE: A tracking milestone simply indicates this month forecast completion date.

2) Overall Engineering/Construction/Commissioning Progress

Period Planned Progress: 3.4% Cumulative Planned Progress: 35.2%

Period Forecast Progress 3.4%

Period Earned Progress: 1.7% Cumulative Earned Progress: 32.5%

3) Critical Path: Change from last month

- MF Converter is driving the LITL critical path.
- MF Converter is delayed 73 days while SOP Converter is delayed 49 days.
- The Start-up sequence is impacted by these delays resulting in a 53 day delay to "1st power transfer".

4) SOBI Crossing

- Land cable installation continues at Shoal Cove and Forteau Point
- Arrival of cable laying vessel forecast for June 2016

5) HVdc Line

- HVdc Lab Seg 1/2 = no change this month to final inspection dates
- HVdc Nfld Seg 3/4/5 = no change this month to final inspection dates

6) Converters / Switchyards / Sych Cond

- Converters: MF is delayed 73 days while SOP is delayed 49 days driven by forecasted ac filter design and procurement.
- Switchyards: Work progressing with no delay on completion date of static commissioning.
- Sych Cond: Delays to completion of static comm. for Unit 2 = 21 days and Unit 3 = 23 days due to geotechnical conditions in foundation construction. Not on critical path to 1st power transfer.

7) SOP Transmission Line Rebuilds

• Work continues with reliance on outages. (see pages 21 and 41)

8) Transition Compounds / Grounding (Electrode) Stations

- Grounding stations civil/structures work to resume Apr 2016. progressing with no delay on completion date of static commissioning.
- · Transition compounds progressing with forecast 52 day earlier completion date of static commissioning

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1.0 Overall Summary Overall Analysis – Information page 4 of 4 Mar 29, 2018 09:10

1) Target Milestone

Target Milestone: MFGen 1st power from Muskrat Falls = (On hold)

2) Overall Engineering/Construction/Commissioning Progress

Period Planned Progress: 1.9% Cumulative Planned Progress: 54.7%

Period Forecast Progress: 1.9%

Period Earned Progress: 1.1% Cumulative Earned Progress: 39.6%

3) Critical Path(s):

- Diversion River Closure (priority 1a) see page 14
- On schedule for start on 6 July 2016
- Diversion Winter Headpond El. 25m (priority 1b) see page 15
- On schedule for start on 26 Oct 2016
- Diversion Impoundment Full Supply Level El. 39m (priority 1c) see page 16
- (On hold, see below for details)

4) Reservoir Clearing:

- Labour transferred to ROW clearing in LITL, forecast for restart in July 2016 with completion in Dec 2016.

5) North Spur:

- Work progressing with all milestones forecast to be achievable.

6) Spillway

- Spillway: work is progressing for priority p1a- River Closure. Progress behind current plan while commercial discussions are ongoing. Schedule has been modified to achive diversion until contractor's plans have been approved.

7) Transition Dams/North & South Dams

- Work began on Upstream Cofferdam (5) Groins 1&2 to EL 17m (2015 scope) CH0009.

8) Powerhouse:

- A review of the C1 (Muskrat Falls Generation) work plan is underway, and implementation of an updated C1 schedule will remain on hold pending acceptance of agreed actions and mitigations plan.
- Work progressing on all areas. Removal of ICS (Integrated Cover System) continues.



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1.0 Overall Summary = Target Milestone

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4)	Ir	ntegrated F	2018 00:1 Project Sc	ohedule				LCP Project Co	ontrol	
↑ naicor	-		•						15	
e n e r g y LOWER CHURCHUL PROJECT		030 IPS Ta	rget Milesto	ones				Jpdated: 25-N		
Activity Name		Start	Delta-Last Month Start	Finish	Delta-Last Month Finish	2014 Q1 Q2 Q3 Q4	2015 Q1 Q2 Q3 Q	2016	2017	2018 201 Q1 Q2 Q3 Q4 Q1
Lower Churchill Project General			month Start		MOIIII I IIII SII	Q1 Q2 Q3 Q4	:	1		41 42 43 44 41
LCP Overall										
Target MIL=Overall-LCP Project Phase 1 - Project Sanction			0d	17-Dec-12 A	0d					
Target MIL=Overall-MFG Bulk Excavation - Construction Start		13-Jan-13 A	0d	17-Dec-12-A	0d	 	÷	+		+
Target MIL=Overall-LiTL-EA Release		21-Jun-13 A	0d		0d					
Target MIL=Overall-LITL-SOBI Cable Systems - Ready			0d	11-Oct-16	Od			11-Oct-16 🕏		
Target MIL= Overall-LTA-Ready for Power Transmission (Power Available)			0d	04-Jul-17	0d		÷	0	4-Jul-17 🕏	+
Target MIL=Overall-LITL-1st Power Transfer Labrador to Newfoundland - Trackin	g Forecast	09-Sep-17	-53d	0474127	-53d				Sep-17, ▽ ◆	
Target MIL=Overall-LITL-Ready for Sustainable Power Transfer Labrador to Newf	-	50 00p 21	-4d	14-Nov-17	-4d				14-Nov-17 🕏	
Target MIL=Overall-Muskrat Falls Powerhouse - First Power from Muskrat Falls			0d	10-Dec-17	Od	·····		r	10-Dec-17	•
Target MIL=Overall-LCP Phase 1 - READY FOR SYSTEM INTEGRATION TEST (Final)			0d	27-Mar-18	0d				27-Mar	-18 🕏
Target MIL=Overall-Muskrat Falls Powerhouse - Full Power from Muskrat Falls			0d	06-Apr-18	0d	1]	06-Ap	: Y
Target MIL=Overall-LCP Phase 1 - Comm Certificate Issued (Integration Test Comp	nlete)		0d	01-Jun-18	0d	U	nder re	view -	01-	lun-18 🛊
Target MIL=Overall-LCP Phase 1 - Date Certain	,		0d	28-Feb-19	Od					28-Feb-19
LTA				20 102 20					<u> </u>	"
		15 Aug 13 A	Od		Od		÷			
Target MIL= LTA-Hvac Transmission Line - Right of Way (ROW) Clearing - Start		15-Aug-13 A	Od Od	12.0 - 15				12-Oct-16 🕏		
Target MIL= LTA-Hvac Transmission Line - Construction Complete			10.00	12-Oct-16	Od			01-Mar-	17 •	
Target MIL= LTA-Muskrat Falls Switchyard - Ready to Energize (Initial)			0d	01-Mar-17	0d		ļ	01-Mar-		
Target MIL= LTA-Churchill Falls Switchyard - Ready to Energize (Initial)			Od Od	01-Mar-17	Od Od				ay-17 🕏	
Target MIL= LTA-Ready for Power Transmission (Power Available) - Tracking Fore	ecast		Va	18-May-17	Va			10-141	ay-1, ∀	
ить										
Target MIL= LITL-SOBI Landfall Protection (HDD) - Start		19-Nov-13 A	0d		0d	l				
Target MIL= LITL-HVdc Transmission Line Right of Way (ROW) Clearing - Start		16-Jun-14 A	0d		0d	14 A, 💠				
Target MIL= LITL-SOBI Landfall Protection (HDD) - Complete			0d	20-Oct-14 A	Od	0-Oct-14 A 🕏	ļ			
Target MIL= LITL-SOBI Cable Systems - Ready for Power Transmission			0d	11-Oct-16	Od			11-Oct-16 🕏		
Target MIL= LITL-Soldiers Pond Synchronous Condensor - Testing 1/2/3 Complete			-23d	08-Jul-17	-23d			1	Jul-17 📌	
Target MIL= LITL-Soldiers Pond Switchyard & Convertor Station (Stand Alone	Testing)		-49d	03-Aug-17	-49d		<u>.</u>		Aug-17 _▽ ◆	
Target MIL= LITL-Muskrat Falls Switchyard & Convertor Station - (Stand Alone Te	esting)		-70d	25-Aug-17	-70d			i i	Aug-17 🗸 🕈	
Target MIL= LITL-HVdc Transmission Line Construction - Complete and Connected	d		-46d	01-Sep-17	-46d			0:	1-Sep-17 _▽ •	
Target MIL= LITL-Ready for Sustainable Power Transfer Labrador to Newfoundla	nd-Tracking Forecast		-53d	14-Nov-17	-53d		<u>:</u>		14-Nov-17 _▽ •	<u> </u>
MF Gen										
Target MIL= MFG-MF Access Road - Ready for Use		30-Nov-12 A	0d		0d					
Target MIL= MFG-North Spur Stabilization Works - Start		14-Mar-15 A	0d		Od	14-Mar-15 A	>			
Target MIL= MFG-Powerhouse Crane - Commissioned			-28d	15-Feb-16	-28d		15-Feb-1	6 ∀*		
Target MIL= MFG-South Dam - Construction Start		18-Apr-16	0d		Od		18-Ap	r-16, 🕏	1	
Target MIL= MFG-River Diversion (priority 1a- River closure) - Complete			0d	05-Aug-16	Od			05-Aug-16 🕏		
Target MIL= MFG-North Spur - Ready for Winter Headpond (EL 25m)(priority 1b-	winter head pond esta		0d	15-Sep-16	Od		-	15-Sep-16 🕏	11	nder
Target MIL= MFG-South Dam - Construction Complete			0d	31-Oct-16	Od			31-Oct-16 🕏		: :
Target MIL= MFG-Reservoir Clearing - Complete			0d	16-Dec-16	0d			16-Dec-16	<u>∜re</u>	eview
◆ Milestone-Current		Page 1 of 2	I	Project: IPS Curr	ent curz1					
		-		,						
▼ Milestone - Last Month				Layout = 030 IPS	Target Milest	ones Filter = T	ASK filter: ips	Target Mileston	es.	

Project Stewardship: IPS Monthly Schedule & Progress Analysis

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1.0 Overall Summary = Target Milestone

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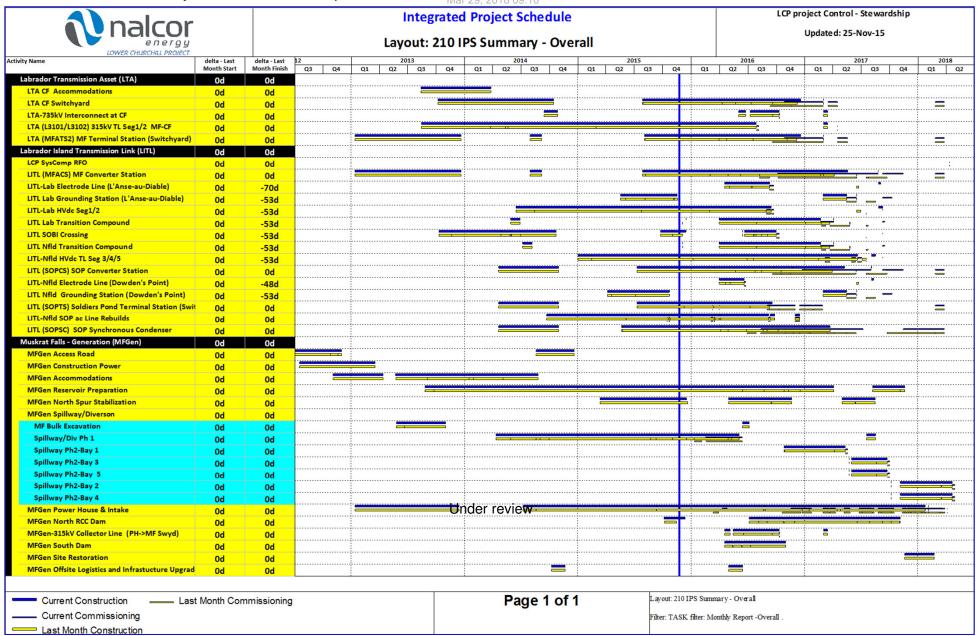
nalcor	In	tegrated I	Project Sch	redule		LCP Project Control						
Compaction in the control of the con		030 IPS Ta	rget Mileston	es			Update	d: 25-Nov-15				
Activity Name		Start	Delta-Last Month Start	Finish	Delta-Last Month Finish	2014 2015 Q1 Q2 Q3 Q4 Q1 Q2 Q3		2016 2017	2018 20			
Target MIL= MFG-Powerhouse - Unit 1 Ready to Turn			0d	04-Jul-17	Od	41 42 45 47 41 42 4	/ 47 41 4	04:Jul-17 🕏	41 42 45 47 4			
Target MIL= MFG-North Spur Stabilization Works - Complete			0d	15-Aug-17	0d			15-Aug-17 🕏				
Target MIL= MFG-North Dam (RCC/CVC) - Complete			0d	03-Nov-17	0d			03-Nov-17 🕏				
Target MIL= MFG-Reservoir Impoundment EL39m (priority 1c- Impoundment to	Full Service Level) - Con		Od	19-Nov-17	0d	i :		19-Nov-17 🕏	· · · · · · · · · · · · · · · · · · ·			
Target MIL= MFG-Muskrat Falls Powerhouse - Unit 1 Ready for Operation			Od	10-Dec-17	0d			10-Dec-17 🕏				
Target MIL= MFG-Muskrat Falls Powerhouse - First Power			Od	10-Dec-17	0d		1	10-Dec-17 🕏				
Target MIL= MFG-Muskrat Falls Powerhouse - Unit 2 Ready for Operation			Od	30-Dec-17	Od			30-Dec-17	;			
Target MIL= MFG-Muskrat Falls Powerhouse - Unit 3 Ready for Operation			Od	25-Feb-18	Od			25-Feb-18	\$ 🕏			
Target MIL= MFG-Muskrat Falls Powerhouse - Unit 4 Ready for Operation			0d	06-Apr-18	Od			06-Apr-	18 🕏			
Target MIL= MFG-Muskrat Falls Powerhouse - Full Power			Od	06-Apr-18	0d	/		06-Apr-	18 🕏			

Under review

•	◆ Milestone-Current	Page 2 of 2	Project: IPS Current curz1
▽	▼ Milestone - Last Month		Layout = 030 IPS Target Milestones Filter = TASK filter: ipsTarget Milestones.



1.0 Overall Summary = Overall Summary Schedule - Actual and forecast dates with no baseline



Project Stewardship: IPS Monthly Schedule & Progress Analysis

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1.0 Overall Summary = Overall 6 Month Look Ahead

nalcor energy LOWER CHURCHILL PROJECT		Integrated Project Schedule TASK filter: 6 month look ahead - Summary.									ject Contro Jpdated: 2!	ol - Stewards 5-Nov-15	hip
	a - Last Month Start	0	201		D	len.		- h		2016		84	Lun
Labrador Transmission Asset (LTA)	Od	Oct	Nov	<u> </u>	Dec	Jan	F	eb	Mar	Apr		May	Jun
LTA CF Switchyard	0d					:	;	-		+ +	_		
LTA (L3101/L3102) 315kV TL Seg1/2 MF-	0d						-	-		<u> </u>	-		
LTA (MFATS2) MF Terminal Station (Swit	0d					:	-	-		:	-		
Labrador Island Transmission Link (LITL)	0d												
LCP Telecoms-Lab										<u> </u>	_		
LCP Telecoms-Nfld			_										
LITL (MFACS) MF Converter Station	0d						+	 		:	_		
LITL-Lab Electrode Line (L'Anse-au-Diable	0d										=		
LITL-Lab HVdc Seg1/2	0d		-			:	+				_		
LITL Lab Transition Compound	-11d				· '						_		
LITL SOBI Crossing	0d				1								
LITL Nfld Transition Compound	0d				5						_		
LITL-Nfld HVdc TL Seg 3/4/5	0d										=		
LITL (SOPCS) SOP Converter Station	0d		-			:				<u> </u>			
LITL-Nfld Electrode Line (Dowden's Point	0d										_		
LITL (SOPTS) Soldiers Pond Terminal Stati	0d		:			:	+		•	-	=		
LITL-Nfld SOP ac Line Rebuilds	0d	=							3 383	Ö	_		
LITL (SOPSC) SOP Synchronous Condense	0d										_		
Muskrat Falls - Generation (MFGen)	0d												
MFGen Reservoir Preparation	0d					<u> </u>							
MFGen North Spur Stabilization	0d		-										
MFGen Spillway/Diverson	0d							",	и				
MFGen Power House & Intake	0d		:			Under rev	/iew			:			
MFGen North RCC Dam	0d		-										
MFGen-315kV Collector Line (PH->MF SV	0d									:			
MFGen South Dam	0d											=	

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1.0 Overall Summary = Overall Engineering/Construction/Commissioning Progress Curve

Overall progress curve will return when Muskrat Falls Generation review complete



1.0 Overall Summary = Overall Engineering/Construction/Commissioning Progress Table Mar 29, 2018 09:10

		LCP -	Overall	2015	Nov								
			T٢	is Report	ting Period				Next Month				
	Weight		Pe	riod %		C	umulative 9	6 *2	Forecast %				
	Factor %	Plan *1	Forecast	Earned	Var-Forecast	Plan	Earned	Variance	Period %				
	Α	В	B1	С	C-B1	E	F	F-E	G				
Labrador Transmission Asset (LTA)	11.1%	3.2%	3.2%	6.2%	3.0%	60.9%	66.5%	5.6%	4.4%				
Labrador Island Transmission Link (LITL)	or Island Transmission Link (LITL) 42.2% 3.4% 3.4% 1.7% -1.7% 35.2% 32.5% -2.7%												
Muskrat Falls Generation (MFGen)	46.7%	1.9%	1.9%	1.1%	-0.8%	54.7%	39.6%	-15.1%	0.2%				
LCP-Overall	100.0%	2.7%	2.7%	1.9%	-0.8%	47.2%	39.6%	-7.6%	1.8%				
			La	st Report	ing Period								
	Weight		Pe	riod %			Cumulative	%					
	Factor %	Plan		Earned		Plan	Earned						
	Α	В		С		E	F						
Labrador Transmission Asset (LTA)	11.1%	3.3%		5.2%		57.6%	60.3%						
Labrador Island Transmission Link (LITL)	42.2%	2.8%		2.0%		31.9%	30.8%						
Muskrat Falls Generation (MFGen)	46.7%	2.0%		1.8%		52.7%	38.5%						
LCP-Overall	100.0%	2.5%		2.2%		44.5%	37.7%						

^{*1} Plan represents Sep 2015 rebaseline for LTA/LITL and partial MFG. Remaining MFG uses June 2014 baseline



^{*2} MFG cumulative planned progress uses June 2014 baseline until MFG update available

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1.0 Overall Summary Float Watch: C1: Diversion - River Closure priority P1a

			<u>Mar 29, 2018 0</u>				LCP Project Controls - Stewardship Process				
nalcor	Float	•	ted Project S : Diversion -		ıre		Updated: 25-Nov-15				
LOWER CHURCHILL PROJECT		tjcp ips y Float	Start	Delta last month Start	Finish	Delta last month Finish	2015 2016				
Muskrat Falls - Generation (MFGen)		attatvala		Date		Date					
MFGen Reservoir Preparation											
KD=MFG Reservoir-River Diversion - Start # (price	rity 1a- River closure)	Div	06-Jul-16	0d		Od '	-River Diversion - Start # (priority 1a- River closure) 🤻				
KD=MFG Reservoir-River Diversion - Complete #	(priority 1a- River closure)	Div		0d	05-Aug-16	0d	River Diversion - Complete # (priority 1a- River closure)				
MFGen Spillway/Diverson											
MFG-SpilDiv1 Civil: Ph1 Structures - Center Trans (priority 1a river closure)	dam & slab for Elect Bldg **	Div	20-Aug-14 A	0d	13-Jan-16	-28d					
MFG-SpilDiv1 Civil: Ph1 Structures - Separation w	vall ** (priority 1a river closure)	Div	01-Oct-14 A	0d	13-Dec-15	-28d					
MFG-SpilDiv1 Civil: Ph1 Structures - Discharge ch closure)	annel ** (priority 1a river	Div	23-Aug-15 A	0d	02-Jan-16	-28d					
MFG-SpilDiv1 Install: Hydro-Mech Spillway (D/S sriver closure)	toplog guides) **(priority 1a	Div	09-Sep-15 A	0d	09-Feb-16	-28d					
MFG-SpilDiv1 Civil: Ph1 Structures - Upstream Te	mp bridge & access ramp CH000!	Div	06-Oct-15 A	0d	03-Jun-16	0d					
MFG-SpilDiv1 Install: Hydro-Mech Spillway (U/S S ** (priority 1a river closure)	Stoplogs/gate guides/hoists/etc)	Div	25-Nov-15*	-24d	04-Jun-16	-24d					
MFG-SpilDiv1 Install: Hydro-Mech Spillway (Elect closure)	rical Bldg) **(priority 1a river	Div	27-Jan-16	-28d	28-May-16	-28d	<u> </u>				
MFG-SpilDiv1 Completions: Hydro-Mech (static/o	dynamic-gates/etc) ** (priority	Div	14-Mar-16	-24d	14-Jun-16	Od					
KD=MFG Spillway Phase I - Ready for River Closur River closure)	e (Diversion)**(priority 1a-	Div		0d	14-Jun-16	Od 1	r Closure (Diversion)**(priority 1a- River closure)				
KD=MFG Reservoir-End of Spring Flood (June 15)	2016)	Div	15-Jun-16*	0d		0d	NFG Reservoir-End of Spring Flood (June 15 2016) 🕏				
MFG-SpilDiv1: Civil Works:Cofferdams 1 & 2 Rem	oved**	Div	15-Jun-16	0d	06-Jul-16	0d	\ <u>\</u>				
KD=MFG-SpilDiv1: Cofferdams 1 & 2 - Removed*	*	Div		0d	06-Jul-16	0d	KD=MFG-SpilDiv1: Cofferdams 1 & 2 - Removed**				
MFGen North RCC Dam											
MFG-North Dam: Upstream Cofferdam (5) Groins CH0009	1&2 to EL 17m (2015 scope)	Div	06-Oct-15 A	0d	12-Dec-15	-28d					
MFG-North Dam: Upstream Cofferdam (5) Groins	192 to El 17m (2016 scope) **	Div	06-Jul-16	0d	05-Aug-16	Od	F=				

Project Stewardship: IPS Monthly Schedule & Progress Analysis

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1.0 Overall Summary Float Watch: C1: Diversion- Winter Head Pond (25m) Priority P1b

		Inte		oject Sched	ule			LCF	Proiec	t Contro	ls - Stew	ardship Pro	cess
nalcor	51:		•	Vinter Head		m			,		d: 25-No	•	
LOWER CHURCHILL PROJECT Activity Name		tjcp ips y Float analysis	Start	Delta last month Start Date	Finish	Delta last month Finish Date		May	Jun	2016 Jul	Aug	Sep (Oct Nov
HeadPond													
MFGen Reservoir Preparation													
MFG-Reservoir :Upstream & Downstream- Log Boom pond establishment)	s # (priority 1b- winter head	HeadPond	15-Jun-16	Od	23-Aug-16	Od			-				
MFG Reservoir - Ready for Winter Headpond (EL 25m pond establishment)) # (priority 1b- winter head	HeadPond		Od	25-Oct-16	Od	adpond (EL 2	25m) # (pr	ority 1b	- winter l	nead pond	establishme	nt) 📆
KD=MFG Reservoir-Ready for Winter Headpond (EL 2 head pond establishment)	5m) # (priority 1b- winter	HeadPond		Od	25-Oct-16	Od	adpond (EL 2	25m) # (pr	ority 1b	- winter l	nead pond	establishme	nt) 🥳
MFG Reservoir - Winter Head Pond (EL 25m) # (priori establishment)	ty 1b- winter head pond	HeadPond	26-Oct-16	Od	09-Nov-16	Od							
KD=MFG Reservoir-Winter Headpond (EL 25m) - Cor head pond establishment)	mplete # (priority 1b- winter	HeadPond		Od	09-Nov-16	Od	(EL 25m) -	Complete	# (priori	ty 1b- wir	nter head p	ond establis	hment) 📆
MFGen North Spur Stabilization													
MFG-North Spur: 2016 Scope for Winter Head Pond head pond establishment)	EL 25m (priority 1b- winter	HeadPond	01-May-16*	0d	15-Sep-16	0d	=					T	
KD=MFG North Spur - Ready for Winter Headpond (head pond establishment)	EL 25m) (priority 1b- winter	HeadPond		Od	15-Sep-16	Od	25m) (priori	ty 1b- win	ter head	d pond es	tablishmer	t) ^L	
MFGen Power House & Intake													
MFG-PH Powerhouse: Install Intake Channel Cofferda winter head pond establishment)	m (9) EL 26m(priority 1b-	HeadPond	09-Oct-15 A	0d	25-Oct-16	Od							
MFGen North RCC Dam													
MFG-North Dam: Upstream Cofferdam(5) to EL 26		HeadPond	05-Aug-16	0d	25-Oct-16	0d				ľ			
MFG-North Dam: Downstream Cofferdam(6) EL 9m -	Install	HeadPond	05-Aug-16	0d	02-Sep-16	Od				ŀ			
KD=MFG North Dam - Upstream Cofferdam(5) Comp	lete to EL 26m	HeadPond		0d	25-Oct-16	0d	D=MFG Nor	th Dam - l	pstrean	n Cofferd	m(5) Com	olete to EL 26	im' '
Diversion													
MFGen Reservoir Preparation													
KD=MFG Reservoir-River Diversion - Complete # (price	ority 1a- River closure)	Div		0d	05-Aug-16	0d	Complete #	(priority	a- River	closure)	8		
MFGen Spillway/Diverson													
KD=MFG Reservoir-End of Spring Flood (June 15 201	6)	Div	15-Jun-16*	0d		0d	g Flood (Jun	e 15 2016)	3				
MFG-SpilDiv1: Civil Works:Cofferdams 1 & 2 Removed	**	Div	15-Jun-16	0d	06-Jul-16	Od				₫			
KD=MFG-SpilDiv1: Cofferdams 1 & 2 - Removed**		Div		0d	06-Jul-16	0d	offerdams 1	& 2 - Rem	oved**	3			
MFGen North RCC Dam													
MFG-North Dam: Upstream Cofferdam (5) Groins 1&2	? to EL 17m (2016 scope) **	Div	06-Jul-16	0d	05-Aug-16	0d			L,				
◆ ◆ Current Key Dates —— Last Month Activities				Page 1 of	1	Project: IPS C	Current curz1						
○ Current Activities ○ Last Month Key Dates						Layout = 511 Analysis - Winte			Head Por	nd 25m F	ilter = TASI	(filter: ips Mi	G Float

Project Stewardship: IPS Monthly Schedule & Progress Analysis

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1.0 Overall Summary Float Watch: C1: Diversion - Impoundment (39m) Priority P1c

nalcor			In	tegrated	Project Schedule LG	CP Project Controls - Stewardship Process
energy LOWER CHURCHILL PROJECT			512 IF	S Float V	Vatch - Impound 39m	Updated: 25-Nov-15
ctivity Name	Float analysis	Start	Finish	Delta last month Finish Date	2016 Q2 Q3 Q4 Q1 Q2	2017 2018 Q3 Q4 Q1
Lower Churchill Project General						
Target Milestones						
Target MIL= MFG-Reservoir Impoundment EL39m (priority 1c- Impoundment to Full Service Level) - Complete	Impound		19-Nov-17	0d	Target MIL= MFG-Reservoir Impoundment EL39m(priority 1c- Impour	ndment to Full Service Level) - Complete 🍍
Muskrat Falls - Generation (MFGen)						
MFGen Reservoir Preparation						
KD=MFG Reservoir: Resevoir Clearing - Complete	Impound		16-Dec-16	0d	KD=MFG Reservoir: Resevoir Clearing - Complete 💍	
MFG-Reservoir :Upstream - Log Booms #(priority 1c- impoundment to Full Service Level)	Impound	07-Aug-17	05-Nov-17	0d		
MFG Reservoir-Ready to Impound to FSL (EL 39m) # (priority 1c- impoundment to Full Service Level)	Impound		05-Nov-17	0d	MFG Reservoir-Ready to Impound to FSL (EL 39m) # (priority 1c	- impoundment to Full Service Level)
MFG Reservoir -Impoundment to FSL (EL 39m) # (priority 1c- impoundment to Full Service Level)	Impound	06-Nov-17	19-Nov-17	0d		
KD=MFG Reservoir -Impoundment - to FSL (EL 39m) - Complete # (priority 1c- impoundment to Full Service Level)	Impound		19-Nov-17	0d	KD=MFG Reservoir -Impoundment - to FSL (EL 39m) - Complete # (priority	y 1c- impoundment to Full Service Level)
MFGen North Spur Stabilization						
MFG-North Spur: 2017 Scope for Impoundment EL 39m (El 39m) (pri ority 1c- impoundment to Full Service Level)	Impound	01-May-17*	12-Jun-17	0d	=	₹
KD=MFG North Spur - Ready for Impoundment (El 39m) (priority 1c- impoundment to Full Service Level)	Impound		12-Jun-17	0d	North Spur - Ready for Impoundment (El 39m) (priority 1c- impoundment to Full Service Leve	31) 3
MFG-North Spur: 2017 Scope not required for Impoundment EL 39m	Impound	13-Jun-17	15-Aug-17	0d		-
KD=MFG North Spur Works - Complete	Impound		15-Aug-17	0d	KD=MFG North Spur V	Norks - Complete 🕏
MFGen Spillway/Diverson						
MFG-SpilDiv2 Place temporary Stoplogs and Dewater Bay 1	Impound	26-Oct-16	26-Oct-16	0d	Н .	
MFG-SpilDiv2 Civil Works: Rollway 1	Impound	28-Oct-16	06-Apr-17	0d		
MFG-SpilDiv2 Install: Permanent Stoplogs/Gate Guides Gate 1	Impound	07-Apr-17	11-May-17	0d	\ 	
MFG-SpilDiv2 Completions: Spillway Gates Bay 1 - Dry Test (Static)	Impound	12-May-17	19-May-17	0d	→	
MFG-SpilDiv2 Place temporary Stoplogs and Dewater Bay 3	Impound	23-May-17	23-May-17	0d		
MFG-SpilDiv2 Civil Works: Rollway 3	Impound	31-May-17*	19-Aug-17	0d		
KD=MFG Reservoir-End of Spring Flood (June 15 2017)	Impound	15-Jun-17*		0d	KD=MFG Reservoir-End of Spring Flood (June 15 20)	17) 💲
MFG-SpilDiv1 Civil: Ph1 Structures - Removal Of Upstream Temp bridge and ramp	Impound	19-Jul-17*	17-Aug-17	0d		
MFG-SpilDiv2 Install: Permanent Stoplogs/Gate Guides Rollway 3 - Phase 2		20-Aug-17	23-Sep-17	0d		T
MFG-SpilDiv2 Completions: Spillway Gates Bay 3 - Dry Test (static)	Impound	24-Sep-17	01-Oct-17	0d		
MFG-SpilDiv2 Completions: Spillway gates Rollway 5 - Dry test (static)	Impound	24-Sep-17	01-Oct-17	0d		₹
MFG-SpilDiv2 Place temporary Stoplogs and Dewater Bay 2	Impound	05-Oct-17	05-Oct-17	0d		<u></u>
MFG-SpilDiv2 Place temporary Stoplogs and Dewater Bay 4	Impound	05-Oct-17	05-Oct-17	0d		<u> </u>
MFGen Power House & Intake	Innovered	20 1 17	27 Aug 47	0.1		
MFG-PH Install: Hydro-mech Intake (incl Dry Test) Unit 4	Impound	30-Jan-17	27-Aug-17	0d		
MFGen North RCC Dam						_
MFG-North Dam Earth: Foundation Preparation	Impound	26-Oct-16	01-Jun-17	0d		-
MFG-North Dam: RCC Construction (including Riverside RCC(10) removal)		19-Jun-17	01-Oct-17	0d		
MFG-North Dam: CVC Construction Current Key Dates Last Month Activities	Impound	18-Aug-17	03-Nov-17	0d	Page 1 of 1 Project: IPS Current curz 1	' === '
Current Activities Last Month Key Dates						und 39m Filter = TASK filter: ips MFG Float Analysis

Project Stewardship: IPS Monthly Schedule & Progress Analysis

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1.0 Overall Summary Float Watch: C3-C4 – 1st Power Transfer Lab Nfld

Alphalcor		Integrated	d Project Sc	hedule			L	.CP project Co	ntrols -	Stewardship
l laicul energy	Lavou	ıt: 515 IPS Floa	nt Watch-1st F	Power Lab - Nf	ld			Update	ed: 25-N	lov-15
LOWER CHURCHILL PROJECT Activity Name	•	Start	Variance	Finish	Variance	Feb Mar	Apr May	Z017 Jun Jul	Δυσ	Sep Oct Nov [
LCP Overall			-Last Month		-Last Month	reb Iviai	Apr Iviay	Juli Juli	Aug	Sep Oct NOV
Target MIL=Overall-LITL-1st Power Transfer Labra Tracking Forecast	ador to Newfoundland -	09-Sep-17	-53d		-53d			•		
LITL										
DynCm-3: LITL: Nfld REACTIVE SUPPORT (from SO	P Sync Cond)		-21d	08-Jun-17	-21d		0	<u> </u>	:	
DynCm-3: LITL: SOP & MF CONVERTER STANDALO COMPLETED	ONE TESTING & HVdc LINK	09-Sep-17	-53d		-53d			•		.
LITL-SP Synch Cond										
DynCm-6-Nfld ac: 9b SOP SyncCond #2: dynamic t	esting	27-Apr-17	-21d	08-Jun-17	-21d					
LITL-HVdc NFLD Seg3 SOBI										
LITL-dcNfSeg3: Conductor/OPGW Install		15-Mar-16*	139d	07-Mar-17	0d					
LITL-dcNfSeg3: Installation Final Inspection Nfld (static)	08-Mar-17	0d	21-Mar-17	0d	=			,	
LITL-dcNfSeg3: Connection to Nfld TransCmp (Sla	ick Span>)	04-Aug-17	-31d	17-Aug-17	-31d				-	
DynCm-3: LITL: LITL-dcNfSeg3: Post Installation Fi Connection	nal Inspection & Slack Span		-31d	17-Aug-17	-31d			•	l -4	
LITL MF Converter										
LITL-MFConvert: Static Commissioning		06-Oct-16	1d	24-Aug-17	-70d				7	
LITL-MF Conveter: OTN Communication Establish Transition Compound	ed - MFConverter <-> Lab			28-Apr-17			•			
DynCm-3: LITL: LITL-MFConvert: Static Commissio	oning Complete		-70d	24-Aug-17	-70d			•	7	
DynCm-3: LITL: 7a p1- MF Converter: STATION ST	AND ALONE TESTING	25-Aug-17	-70d	25-Aug-17	-70d			1	냭.	
DynCm-3: LITL: 7a p2- MF Converter: HVdc LINK E	NERGIZATION	09-Sep-17	-53d	15-Sep-17	-53d			-		
LITL SP Converter										
LITL-SOPConvert: Static Commissioning		23-Dec-16	-94d	02-Aug-17	-49d					
DynCm-3: LITL: LITL-SOP Convert: Static Commissi	ioning Complete		-49d	02-Aug-17	-49d			•	7	
DynCm-3: LITL: 8a p1 SOP Converter: STATION ST	ANDALONE TESTING	03-Aug-17	-49d	03-Aug-17	-49d			1	-1	
DynCm-3: LITL: 8a p2 SOP Converter: HVdc LINK E	NERIZATION	09-Sep-17	-53d	15-Sep-17	-53d			_		4-
LITL-HVdc NFLD Seg5 SP										
LITL-dcNfSeg5: Conductor/OPGW Install		15-Feb-17	0d	19-Jun-17	0d			 _,		
LITL-dcNfSeg5: Installation Final Inspection Nfld	(static)	20-Jun-17	0d	03-Jul-17	0d			-		
Milestone current		Page 1 of 1		Layout = 5		Project: IPS Cu ch-1st Power L		printed: 13-0 r = TASK filter: ip		- 1st power Lab to Nfld.

Project Stewardship: IPS Monthly Schedule & Progress Analysis

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1.0 Overall Summary Float Watch: C3 Conveters

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Integrated Project Schedule LCP project Controls - Stewardship Updated: 25-Nov-15 Layout: 540 IPS Float Watch - Converter_1 **Activity Name** Start Finish Variance - Last Month Finish C3 float-converter-MF f Civil/Structures LITL-MFConvert: Building Foundation/Erect/Outfit 28-Jul-15 A 18-Oct-16 -172d LITL-MFConvert: Foundation Outdoor 07-Aug-15 A 22-Aug-16 36d g Installation LITL-MFConvert: Valve Hall & Control Bldg Install Equipment 02-Mar-16 19-May-17 -66d LITL-MFConvert: Outdoor Install ac equipment 29-Jul-16 02-May-17 -27d LITL-MFConvert: Install Converter transformers 08-Aug-16 17-Feb-17 14d LITL-MFConvert: Outdoor Install dc equipment 29-Aug-16 24-Apr-17 -62d LITL-MFConvert: Gantry available for HVdc Seg1 TL & Lab 25-Aug-17 25-Aug-17 -70d Electrode TL j Completions LITL-MFConvert: Static Commissioning 06-Oct-16 24-Aug-17 -70d C3 float-converter-SOP f Civil/Structures LITL-SOP Convert: Building Foundation/Erect/Outfit 10-Jul-15 A 22-Sep-16 -97d LITL-SOP Convert: Outdoor Foundation 10-Jul-15 A 62d 06-Sep-16 g Installation LITL-SPConvert: Outdoor Install ac equipment 14-Mar-16 10-Apr-17 -34d LITL-SPConvert: Valve Hall/Control Bldg Install Equipment 18-Jul-16 05-May-17 -45d LITL-SPConvert: Outdoor Install dc equipment 17-Nov-16 24-Apr-17 -55d LITL-SPConvert: Converter Transformers Install 23-Nov-16 09-May-17 -41d LITL-SOPConvert: Gantry available for HVdc Seg5 TL & Nfld 03-Aug-17 03-Aug-17 -49d Electr TL Completions LITL-SOPConvert: Static Commissioning 23-Dec-16 02-Aug-17 -49d Project: IPS Current curz1 printed: 14-Dec-15 Page 1 of 1 ◆ Milestone current Activity Last Month

Project Stewardship: IPS Monthly Schedule & Progress Analysis

Activity current

Milestone Last Month

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Layout = 540 IPS Float Watch - Converter_1 Filter = TASK filter: ipsC3 float - Converters.

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1.0 Overall Summary Float Watch: C3 – Switchyards

Integrated Project Schedule LCP project Controls - Stewardship Updated: 25-Nov-15 Layout: 550 IPS Float Watch - Switchyards Activity Name tjcp ips T C3 float -Variance - Last Jul Aug Sep Oct Nov Dec Feb Mar Apr May Jun Month finish date Labrador Transmission Asset (LTA) C3 float swyds CF LTA CF Switchyard LTA-CF Swyd: Static Commissioning Switchyard General C3 float swyds CF 26-Oct-16 01-Mar-17 0d wyd: Static Commissioning Switchyard General DvnCm-1-Lab ac: LTA-CF Swvd: Static Commission DynCm-1-Lab ac: LTA-CF Swyd: Static Commissioning C3 float swyds CF 01-Mar-17 Od LTA-CF Swyd: Gantry Available for 735kV TL Connection C3 float swyds CF 02-Mar-17 LTA-CF Swyd: Gantry Available for 735kV TL Connection 02-Mar-17 0d DynCm-1-Lab ac: 1p1 CF switchyard ext and 735kV: ENERGIZATION DynCm-1-Lab ac: 1p1 CF switchyard ext and 735kV: ENERGIZATION C3 float swyds CF 17-Mar-17 05-Apr-17 DynCm-1-Lab ac: 2p1 new CF switchyard: ENERGIZATION DynCm-1-Lab ac: 2p1 new CF switchyard: ENERGIZATION C3 float swyds CF 17-Mar-17 16-Apr-17 LTA-735kV Interconnect at CF ITA 735kV CF: Post Installation Final Inspection (static) C3 float swyds CF 11-Oct-16 12-Oct-16 OΗ Post Installation Final Inspection (static) LTA 735kV CF: Connection to New CF Swyd (Slack Span) C3 float swyds CF 03-Mar-17 16-Mar-17 LTA 735kV CF: Connection to New CF Swyd (Slack Span) Od DynCm-1-Lab ac: LTA 735kV CF: Post Installation Final Inspection & Slack Span C3 float swyds CF 16-Mar-17 0d DynCm-1-Lab ac: LTA 735kV CF: Post Installation Final Inspection & Slack Spa C3 float swyds RFO LTA (L3101/L3102) 315kV TL Seg1/2 MF-CF on (static) 📒 LTA-ac Seg1/2: Post Installation Final Inspection (static) C3 float swyds RFO 30-Jul-16 05-Aug-16 Od DynCm-1-Lab ac: LTA-ac Seg1/2: Post Installation Final Inspection & Slack Span 7 DynCm-1-Lab ac: LTA-ac Seg1/2: Post Installation Final Inspection & Slack Span C3 float swyds RFO 16-Mar-17 Ωd DynCm-1-Lab ac: 3 TL CF to MF 315kv Line: ENERGIZED C3 float swyds RFO Οd DynCm-1-Lab ac: 3 TL CF to MF 315kv Line: ENERGIZED 17-Apr-17 LTA (MFATS2) MF Terminal Station (Switchyard) DynCm-1-Lab ac: LTA POWER AVAILABLE 18-May-17 DynCm-1-Lab ac: LTA POWER AVAILABLE C3 float swyds RFO C3 float swyds MF LTA (MFATS2) MF Terminal Station (Switchyard) LTA-MF Swyd: Static Commissioning C3 float swyds MF 26-Oct-16 01-Mar-17 LTA-MF Swyd: Static Commissioning DynCm-1-Lab ac: LTA-MF Swyd: Static Commissioning C3 float swyds MF DynCm-1-Lab ac: LTA-MF Swyd: Static Commissioning 01-Mar-17 DynCm-1-Lab ac: 4 p1 MF swyd: ENERGIZATION C3 float swyds MF 17-Apr-17 18-May-17 0d DynCm-1-Lab ac: 4 p1 MF swyd: ENERGIZATION Labrador Island Transmission Link (LITL) C3 float swyds RFO LITL (SOPTS) Soldiers Pond Terminal Station (Switchyard) DynCm-6: LITL: Nfld ac: POWER AVAILABLE AT SOP DynCm-6: LITL: Nfld ac: POWER AVAILABLE AT SOP C3 float swyds RFO 28-Jan-17 LITL-Nfld SOP ac Line Rebuilds DynCm-4: Nalcor: 10 HVac Lines TL201/TL266/TL217/TL265/TL268/TL242 Connected ti C3 float swyds RFO 16-Dec-16 0d L201/TL266/TL217/TL265/TL268/TL242 Connected to SOP Switchyard C3 float swyds SOP LITL (SOPTS) Soldiers Pond Terminal Station (Switchyard) DynCm-6: LITL: Nfld ac: TL217/TL265 Ready to Tie into SOP Swyd C3 float swyds SOP 10-Mar-16 DynCm-6: LITL: Nfld ac: TL201 Ready to Tie into SOP Swyd C3 float swyds SOP 10-Mar-16 DynCm-6: LITL: Nfld ac: TL268/TL242 Ready to Tie into SOP Swyd C3 float swyds SOP 01-Apr-16 Od LITL-SOP Swyd: Static Commissioning C3 float swyds SOP 30-Nov-16 Οd d: Static Commissioning 02-Sep-16 DynCm-6-Nfld ac: LITL-SOP Swyd: Static Commissioning Complete C3 float swyds SOP 30-Nov-16 0d cm-6-Nfld ac: LITL-SOP Swyd: Static Commissioning Complete 📆 DynCm-6: LITL: Nfld ac: TL266 Ready to Tie into SOP Swyd C3 float swyds SOP 15-Dec-16 DynCm-6: LITL: Nfld ac: TL266 Ready to Tie into SOP Swyd: 8 DynCm-6-Nfld ac: 11 p1 SOP Switchyard: ENERGIZATION C3 float swyds SOP 0d DynCm-6-Nfld ac: 11 p1 SOP Switchyard: ENERGIZATION DynCm-6: Nfld ac: 10 TL into SOP: ENERGIZED 8 DynCm-6: Nfld ac: 10 TL into SOP: ENERGIZED C3 float swyds SOP 0d DynCm-6-Nfld ac: 11 p3 SOP Switchyard: MAX AVAILABLE LOADING C3 float swyds SOP 26-Feb-18 27-Mar-18 LITL (SOPSC) SOP Synchronous Condenser DvnCm-6-Nfld ac: LITL-SOP SvnCd: Static Commissioning Unit 1 Complete C3 float swyds SOP 15-Mar-17 0d DynCm-6-Nfld ac: LITL-SOP SynCd: Static Commissioning Unit 1 Complete DynCm-6-Nfld ac: 9a SOP SyncCond #1: dynamic testing DynCm-6-Nfld ac: 9a SOP SyncCond #1: dynamic testing C3 float swyds SOP 16-Mar-17 04-May-17 Page 1 of 1 Project: IPS Current curz1... printed: 13-Dec-15 Milestone current - Activity Last Month Activity current Layout = 550 IPS Float Watch - Switchyards Filter = TASK filter: ips C3 float - Switchyards. Milestone Last Month

Project Stewardship: IPS Monthly Schedule & Progress Analysis Nov 2015

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1.0 Overall Summary Float Watch: C4 – transmission Lines Cooper

LCP project Controls - Stewardship Integrated Project Schedule Updated: 25-Nov-15 Layout: 570 IPS Float Watch - Transmission lines Activity Name Finish Delta Last Month 15 Jul | A | Sep | Oct | N | Dec | Jan | Feb | M | Apr | M | Jun | Jul | A | Sep | Oct | N | Dec | Jan | Feb | M | Apr | M | Jun | Jul | A | Sep MFGen-315kV Collector Line (PH->MF Swvd) n-315 PH-SY TL: Post Installation Final Inspection (static) MFGen-315 PH-SY TL: Post Installation Final Inspection (static) 11-Oct-16 12-Oct-16 MFGen-315 PH-SY TL: Connection to PH (Slack Span) MFGen-315 PH-SY TL: Connection to PH (Slack Span) 03-Mar-17 16-Mar-17 0d MFGen-315 PH-SY TL: Connection to MF Swyd (Slack Span) = MFGen-315 PH-SY TL: Connection to MF Swyd (Slack Span) 16-Mar-17 0d 03-Mar-17 LTA-735kV Interconnect at CF LTA 735kV CF: Post Installation Final Inspection (static) LTA 735kV CF: Post Installation Final Inspection (static) 11-Oct-16 12-Oct-16 0d LTA 735kV CF: Connection to Existing CF Swyd (Slack Span) LTA 735kV CF: Connection to Existing CF Swyd (Slack Span) 03-Mar-17 16-Mar-17 0d LTA 735kV CF: Connection to New CF Swyd (Slack Span) = LTA 735kV CF: Connection to New CF Swyd (Slack Span) 03-Mar-17 16-Mar-17 0d LTA (L3101/L3102) 315kV TL Seg1/2 MF-CF g1/2: Post Installation Final Inspection (static) LTA-ac Seg1/2: Post Installation Final Inspection (static) 30-Jul-16 05-Aug-16 0d LTA-ac Seg1/2: Connection to MF & CF Switchyard (Slack Span) 0d LTA-ac Seg1/2: Connection to MF & CF Switchyard (Slack Span) 03-Mar-17 16-Mar-17 LITL-Lab Electrode Line (L'Anse-au-Diable) tion Final Inspection (static) (from HVdc TL to E Site) LITL Lab Electr. TL: Post installation Final Inspection (static) (from HVdc 10-Sep-16 23-Sep-16 0d TL to E Site) LITL Lab Electr. TL: Connection to MF Conveter/Grounding Site (slack span>) LITL Lab Electr. TL: Connection to MF Conveter/Grounding Site (slack 26-Aug-17 01-Sep-17 -70d span>) LITL-Lab HVdc Seg1/2 /Electr TL: Post Installation Final Inspection (static) LITL-dcLabSeg2/Electr TL: Post Installation Final Inspection (static) 31-Aug-16 13-Sep-16 0d 1/Electr TL: Post Installation Final Inspection (static) LITL-dcLabSeg1/Electr TL: Post Installation Final Inspection (static) 0d 16-Sep-16 22-Sep-16 abSeg1/Electr TL: HVdc Seg 1 & Electrode TL Connection to MF Converter (Slack Span>) LITL-dcLabSeg1/Electr TL: HVdc Seg 1 & Electrode TL Connection to MF 26-Aug-17 08-Sep-17 -70d Converter (Slack Span>) LITL-dcLabSeg2/Electr TL: Connection to Lab TransCmp (Slack Span>) LITL-dcLabSeg2/Electr TL: Connection to Lab TransCmp (Slack Span>) 26-Aug-17 08-Sep-17 -70d LITL-Nfld HVdc TL Seg 3/4/5 LITL-dcNfSeg3: Installation Final Inspection Nfld (static) LITL-dcNfSeg3: Installation Final Inspection Nfld (static) 08-Mar-17 21-Mar-17 0d LITL-dcNfSeg4: Installation Final Inspection Nfld (static) LITL-dcNfSeg4: Installation Final Inspection Nfld (static) 0d 01-Jun-17 14-Jun-17 LITL-dcNfSeg5: Installation Final Inspection Nfld (static) LITL-dcNfSeg5: Installation Final Inspection Nfld (static) 20-Jun-17 03-Jul-17 0d LITL-dcNfSeg3: Connection to Nfld TransCmp (Slack Span>) -31d LITL-dcNfSeg3: Connection to Nfld TransCmp (Slack Span>) 04-Aug-17 17-Aug-17 LITL-dcNfSeg5: Connection to SP Converter (Slack Span>) LITL-dcNfSeg5: Connection to SP Converter (Slack Span>) 04-Aug-17 17-Aug-17 -31d LITL-Nfld Electrode Line (Dowden's Point) : Post installation Final Inspection (static) LITL Nfld Electr. TL: Post installation Final Inspection (static) 20-Jun-16 24-Jun-16 0d LITL Nfld Electr. TL: Connection to Grounding Site (slack span>) LITL Nfld Electr. TL: Connection to Grounding Site (slack span>) 04-Aug-17 10-Aug-17 -48d Page 1 of 1 Project: IPS Current curz1... printed: 13-Dec-15 Milestone current Activity Last Month Activity current Layout = 570 IPS Float Watch - Transmission lines Filter = TASK filter: ipsC4 float old. Milestone Last Month

Project Stewardship: IPS Monthly Schedule & Progress Analysis Nov 2015 1 20 of 43
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1.0 Overall Summary Float Watch: C4 - Line Rebuilds Soldiers Pond Area

Integrated Project Schedule LCP project Controls - Stewardship Updated: 25-Nov-15 Layout: 580 IPS Float Watch - TL Re-builds SOP t Remaining work only **Activity Name** Delta Last Month Star **TL201** LITL-Nfld ac TL Line Rebuilds: TL201 Install: Slack span tie-in SOP swyd, remove temp taps/salvage 01-Dec-16 15-Dec-16 0d existing lines LITL-Nfld ac TL Line Rebuilds Completions: Line Final Inspections- TL201 (static) 09-Dec-16 0d 15-Dec-16 0d **TL266 TL266** LITL-Nfld ac TL Line Rebuilds:TL266 Install: Towers, Anchors, framing, stringing & salvaging existing lines 01-Apr-16* 0d 05-Aug-16 0d LITL-Nfld ac TL Line Rebuilds: TL266 Install: Slack span tie-in SOP swyd, remove temp taps/salvage 0d 15-Dec-16 01-Dec-16 0dLITL-Nfld ac TL Line Rebuilds Completions: Line Final Inspections-TL266 (static) 11-Dec-16 0d 15-Dec-16 0d TL217/TL265 LITL-Nfld ac TL Line Rebuilds: TL217/TL265 Install: Tower foundations/assembly/erection/stringing 20-Oct-15 A 05-Mar-16 0d LITL-Nfld ac TL Line Rebuilds Completions: Interim Inspections- TL217/TL265 (static) 06-Mar-16 0d 10-Mar-16 0d LITL-Nfld ac TL Line Rebuilds: Install: TL217/TL265 Interim Connection 11-Mar-16 0d 20-Mar-16 0d LITL-Nfld ac TL Line Rebuilds: TL217/TL265 Install: Slack span tie-in SOP swyd, remove temp 01-Dec-16 0d 14-Dec-16 0d taps/salvage existing lines LITL-Nfld ac TL Line Rebuilds Completions: Final Inspections- TL217/TL265 (static) 01-Dec-16 14-Dec-16 0d TL268/TL242 TL268/TL242 LITL-Nfld ac TL Line Rebuilds: TL268/TL242 Install: Tower foundations/assembly/erection/stringing 25-Oct-15 A 0d 15-Mar-16 0d LITL-Nfld ac TL Line Rebuilds Completions: Line Interim Inspections- TL268/TL242 (static) 16-Mar-16 0d 17-Mar-16 0d LITL-Nfld ac TL Line Rebuilds: TL268/TL242 Install: Interim Connection 18-Mar-16 0d 01-Apr-16 0d LITL-Nfld ac TL Line Rebuilds Completions: Line Final Inspections- TL268/TL242 (static) 01-Dec-16 05-Dec-16 0d LITL-Nfld ac TL Line Rebuilds: TL268/TL242 Install: Slack span tie-in SOP swyd, remove temp 01-Dec-16 15-Dec-16 0d taps/salvage existing lines TL204 (Grand Falls Windsor) TL204 (Grand Falls Windsor) LITL-Nfld ac TL Line Rebuilds: TL204 (Grand Falls/W) Install: Tower 05-Apr-16* 0d 06-Sep-16 0d foundations/assembly/erection/stringing LITL-Nfld ac TL Line Rebuilds Completions: Line Final Inspections- TL204 (Grand Falls/Windsor) (static) 07-Sep-16 0d 11-Sep-16 0d LITL-Nfld ac TL Line Rebuilds: TL204 (Grand Falls/W) Install: Tie-in 0d 12-Sep-16 25-Sep-16 0d Project: IPS Current curz 1... printed: 13-Dec-15 Page 1 of 1 Milestone current - Activity Last Month

Project Stewardship: IPS Monthly Schedule & Progress Analysis

Activity current

Milestone Last Month

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Layout = 580 IPS Float Watch - TL Re-builds SOP t Filter = TASK filter: ips TL rebuilds around SOP Terminal Station.

2.0 Labrador Transmission Asset (LTA) LTA Analysis – Observations

1) Target Milestone

Target Milestone Overall = LTA Ready for Power Transmission (Power Available) = 04 July 2017

Tracking Milestone = 18 May 2017 forecast date (no change from last month)

NOTE: A tracking milestone simply indicates this month forecast completion date.

2) Overall Engineering/Construction/Commissioning Progress

Period Planned Progress: 3.2% Cumulative Planned Progress: 60.9%

Period Forecast Progress 3.2%

Period Earned Progress: 6.2% Cumulative Earned Progress: 66.5%

3) Critical Path: : no change from last month

• CF Switchyard continues to be on critical path to LTA Power Available forecast for May 2017.

4) Switchyards: no change from last month

• No change to completion date of static commissioning for either switchyard (CF, MF).

5) 315kV HVac Lines CF-MF: no change from last month

• HVac Seg 1/2 - line construction/stringing progressing with no change this month to HVac Seg 1/2 final inspection date which is end of line construction.

6) 735kV HVac CF Interconnection (Bus Extension): no change from last month

• CF 735kV -bus extension - TL construction start (foundations) not planned until June 2016.



2.0 Labrador Transmission Asset (LTA)

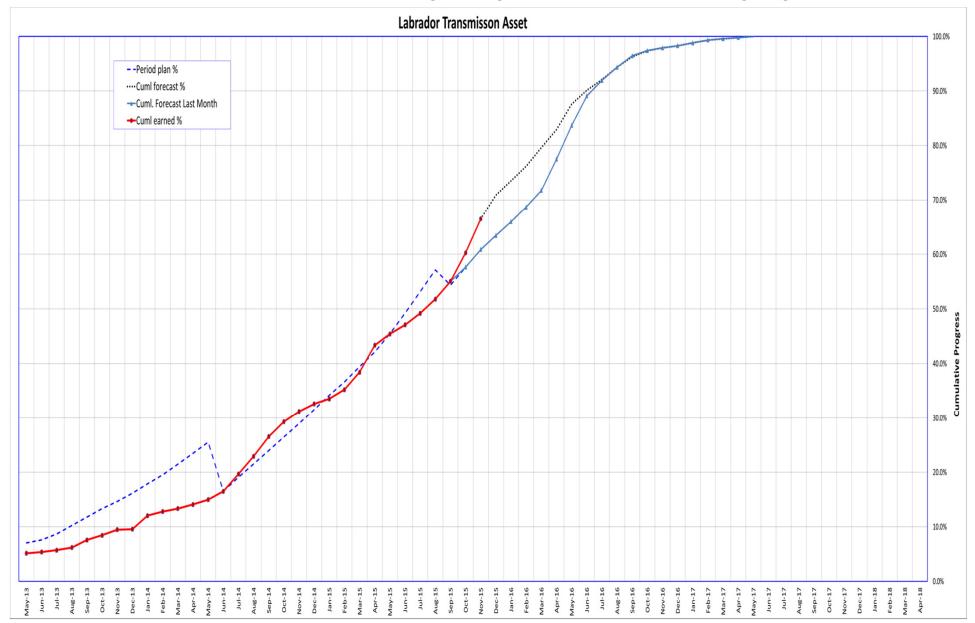
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nalcor		ed Project Scl					L	P project	Control - Ste	wardship Pro	ocess
energy	Layout: 22	20 IPS Summa	ry - LTA					U	odated: 25-No	ov-15	
Activity Name		delta - Last Month Start	delta - Last Month Finish	03 04	2013	20:		2015	2016 4 Q1 Q2 Q3 Q4	2017	2018
Labrador Transmission As	set (LTA)	0d	0d	45 4.	4- 4- 4- 4	. 42 42	45 4.	42 42 43 4	. 42 42 43 4	42 42 43 4	42 42 1
LTA CF Accommodations		0d	0d							<u> </u>	
LTA-CF Camp		0d	0d		=						
LTA CF Switchyard		0d	0d								
LTA-CF Swyd EXT		0d	0d							:	
LTA-CF Switchyard		0d	0d		=		=	=		<u>=</u> =	=
LTA-735kV Interconnect at	CF	0d	0d								
LTA-735kV ac Intercon CF		0d	0d				=			•	
LTA (L3101/L3102) 315kV 1	TL Seg1/2 MF-CF	0d	0d								
LTA (L3101/L3102) 315kV	TL Segment 1/2	0d	0d		_					• ;	
LTA (MFATS2) MF Termina	Station (Switchyard)	0d	0d								
LTA-MF Switchyard		0d	0d			=	=	_	:	= =	=
Current Constructi Last Month Commis	sioni	Pag	e 1 of 1		Layout: 220	O IPS Summ	nary - LT	'A Filter: T.	ASK filter: Monthly	y Report -LTA.	
Current Commissioning Last Month Constructi		J									



2.0 Labrador Transmission Asset (LTA) - LTA Engineering/Construction/Commissioning Progress Curve



Project Stewardship: IPS Monthly Schedule & Progress Analysis

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2.0 Labrador Transmission Asset (LTA) - Engineering Construction/Commissioning Progress Table

LTA	Progres	SS	Table	2015	Nov				
				This Re	porting f	Perio	d		
	Weight			Period %				Cumulative %	6
	Factor %		Plan	Earned	Variance		Plan	Earned	Variance
	Α		В	С	C-B		E	F	F-E
LTA CF Accommodations	1.1%		0.0%	0.0%	0.0%		100.0%	100.0%	0.0%
LTA HVac Transmission Line Seg1/2 - MF to CF	56.0%		2.9%	5.5%	2.6%		76.0%	81.4%	5.4%
LTA Churchill Falls Switchyard	20.9%		2.7%	10.7%	8.0%		34.2%	45.9%	11.7%
LTA Muskrat Falls Switchyard	14.0%		7.1%	6.5%	-0.6%		20.9%	22.2%	1.3%
LTA Misc	8.0%		0.3%	0.0%	-0.3%		89.5%	89.2%	-0.3%
LTA TOTAL	100.0%		3.2%	6.2%	3.0%		60.9%	66.5%	5.6%
				Last Re	eporting Pe	eriod			
	Weight			Period %			Cı	umulative	%
	Factor %		Plan	Earned	Variance		Plan	Earned	Variance
	Α		В	С	С-В		E	F	F-E
LTA CF Accommodations	1.1%		0.0%	0.0%	0.0%		100.0%	100.0%	0.0%
LTA HVac Transmission Line Seg1/2 - MF to CF	56.0%		3.1%	6.2%	3.1%		73.1%	75.9%	2.8%
LTA Churchill Falls Switchyard	20.9%		4.4%	7.2%	2.8%		31.5%	35.2%	3.7%
LTA Muskrat Falls Switchyard	14.0%		4.5%	1.7%	-2.8%		13.8%	15.7%	1.9%
LTA Misc	8.0%		0.0%	0.0%	0.0%		89.2%	89.2%	0.0%
LTA TOTAL	100.0%		3.3%	5.2%	1.9%		57.7%	60.3%	2.6%





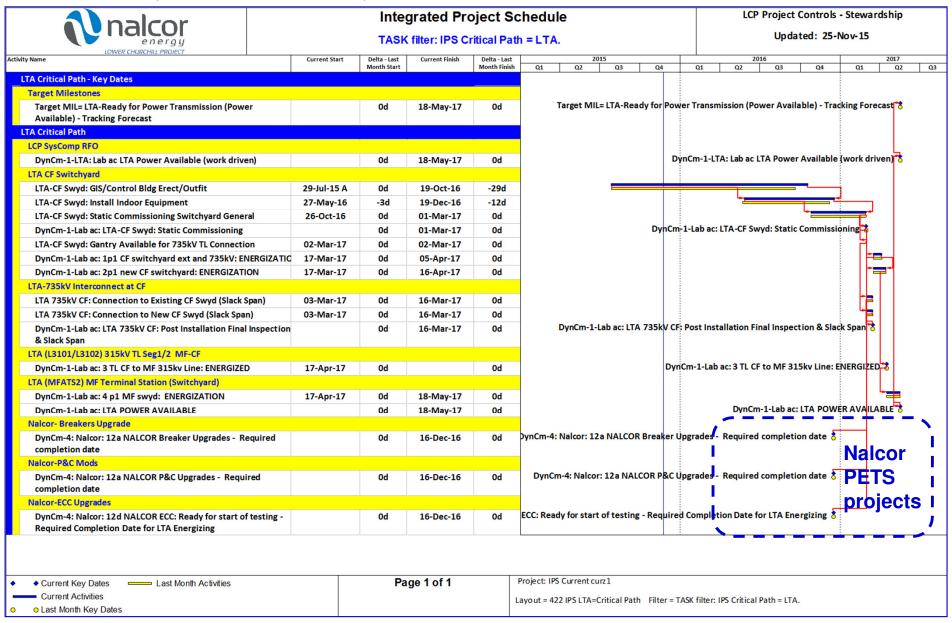
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2.0 Labrador Transmission Asset (LTA)

MLTA Critical Path

NOTE: For complete Critical / Subcritical path schedule see attachment



Project Stewardship: IPS Monthly Schedule & Progress Analysis

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3.0 Labrador Island Transmission Link (LITL) McIng Too Analysis – Observations

1) Target Milestone

• Target Milestone Overall=LITL-1st Power Transfer Lab to Nfld = 9 Sep 2017 (Tracking Milestone)

Delay 53 days from last month due to delay in Converter completion (See page 18)

• Target Milestone Overall=LITL-Ready for Sustainable Power Transfer Labrador to Newfoundland= 11 Nov 2017

Now delayed to 14 Nov 2017 - Change from last month

NOTE: A tracking milestone simply indicates this month forecast completion date.

2) Overall Engineering/Construction/Commissioning Progress

Period Planned Progress: 3.4% Cumulative Planned Progress: 35.2%

Period Forecast Progress 3.4%

Period Earned Progress: 1.7% Cumulative Earned Progress: 32.5%

3) Critical Path: Change from last month

- MF Converter is driving the LITL critical path .
- MF Converter is delayed 73 days while SOP Converter is delayed 49 days .
- The Start-up sequence is impacted by these delays resulting in a 53 day delay to "1st power transfer".

4) SOBI Crossing

- · Land cable installation continues at Shoal Cove and Forteau Point
- Arrival of cable laying vessel forecast for June 2016

5) HVdc Line

- HVdc Lab Seg 1/2 = no change this month to final inspection dates
- HVdc Nfld Seg 3/4/5 = no change this month to final inspection dates

6) Converters / Switchyards / Sych Cond

- Converters: MF is delayed 73 days while SOP is delayed 49 days driven by forecasted ac filter design and procurement.
- Switchyards: Work progressing with no delay on completion date of static commissioning.
- Sych Cond: Delays to completion of static comm. for Unit 2 = 21 days and Unit 3 = 23 days due to geotechnical conditions in foundation construction. Not on critical path to 1st power transfer.

7) SOP Transmission Line Rebuilds

Work continues with reliance on outages. (see pages 21 and 41)

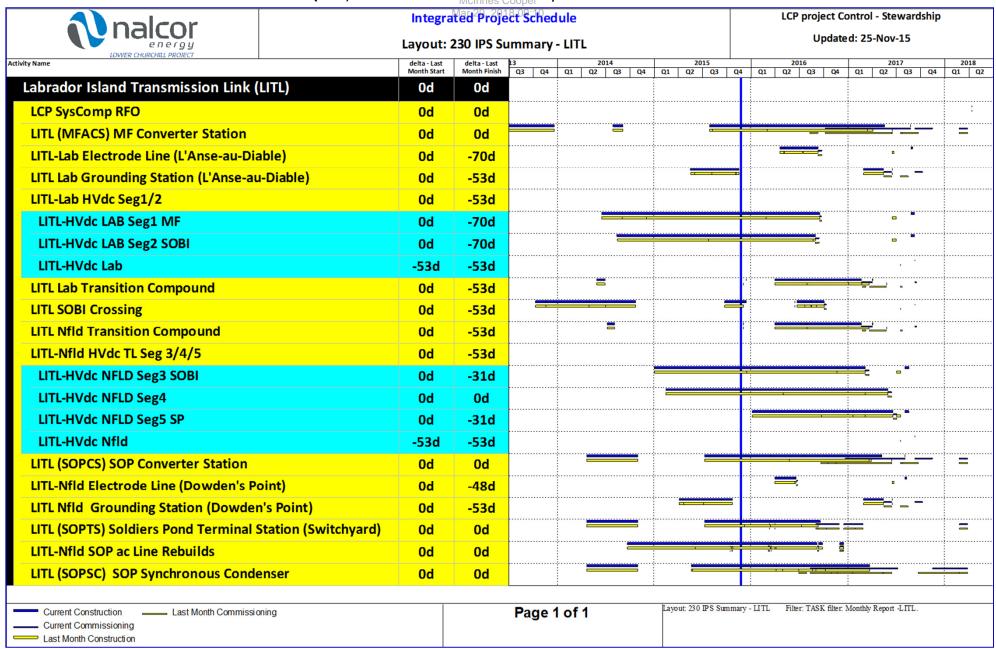
8) Transition Compounds / Grounding (Electrode) Stations

- Grounding stations civil/structures work to resume Apr 2016. progressing with no delay on completion date of static commissioning.
- · Transition compounds progressing with forecast 52 day earlier completion date of static commissioning



3.0 Labrador Island Transmission Link (LITL)

LITL Summary Schedule



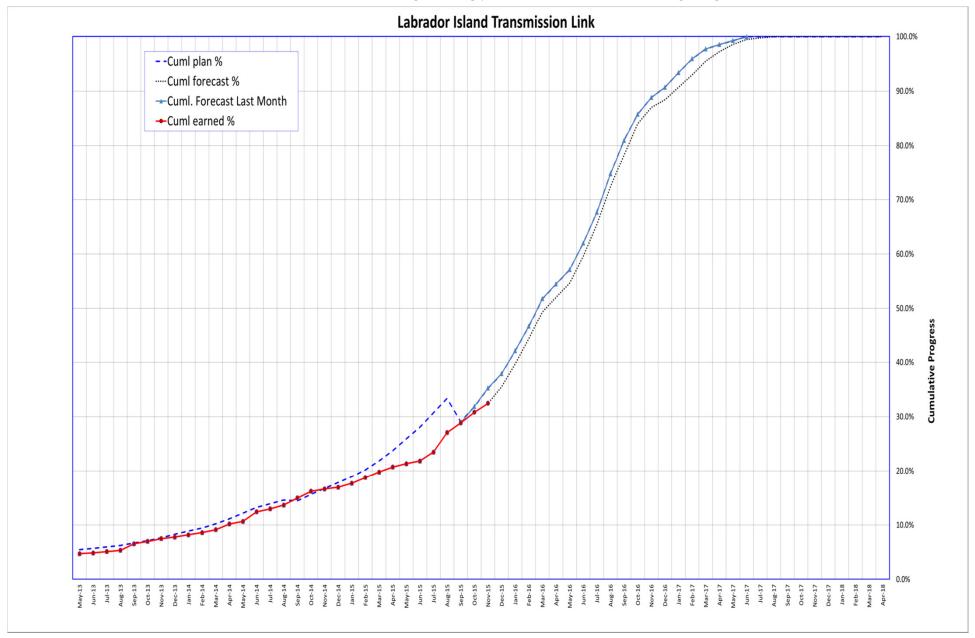
Project Stewardship: IPS Monthly Schedule & Progress Analysis

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3.0 Labrador Island Transmission Link (LITL) - LITL Engineering/Construction/Commissioning Progress Curve



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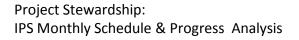
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3.0 Labrador Island Transmission Link (LITL) - Engineering/Construction/Commissioning Progress Table

LITL	Progres	viar <u>29</u> S	able	2015	Nov				
				This Rep	orting P	erio	od		
	Weight			Period %			(Cumulative 9	6
	Factor %		Plan	Earned	Variance		Plan	Earned	Variance
	Α		В	С	С-В		E	F	F-E
LITL Muskrat Falls Converter	5.7%		2.4%	1.0%	-1.4%		12.0%	8.1%	-3.9%
LITL Soldiers Pond Converter	5.8%		3.0%	2.2%	-0.8%		23.4%	17.8%	-5.6%
LITL HVdc Transmission Line Seg 1/2	19.3%		5.8%	3.7%	-2.1%		42.4%	39.9%	-2.5%
LITL HVdc Transmission Line Seg 3/4/5	35.3%		3.4%	0.9%	-2.5%		11.4%	7.6%	-3.8%
LITL Grounding (Electrode) Sites	1.7%		4.3%	4.6%	0.3%		69.5%	75.0%	5.5%
LITL Transition Compounds	1.8%		0.0%	0.0%	0.0%		32.9%	32.9%	0.0%
LITL SOBI Cable Crossing	18.0%		1.4%	0.6%	-0.8%		70.5%	69.9%	-0.6%
LITL Soldiers Pond Switchyard	3.2%		3.5%	6.7%	3.2%		34.8%	34.8%	0.0%
LITL Soldiers Pond Synchronous Condensors	4.9%		6.1%	0.5%	-5.6%		37.4%	28.6%	-8.8%
LITL Misc	4.3%		0.0%	0.2%	0.2%		79.0%	80.2%	1.2%
LITL TOTAL	100.0%		3.4%	1.7%	-1.6%		35.2%	32.5%	-2.7%
				Last Rep	orting P	eri	od		
	Weight			Period %				Cumulative 9	6
	Factor %		Plan	Earned	Variance		Plan	Earned	Variance
	Α		В	с	С-В		E	F	F-E
LITL Muskrat Falls Converter	5.7%		3.0%	0.9%	-2.1%		9.6%	7.1%	-2.5%
LITL Soldiers Pond Converter	5.8%		4.8%	2.1%	-2.7%		20.4%	15.6%	-4.8%
LITL HVdc Transmission Line Seg 1/2	19.3%		5.3%	5.4%	0.1%		36.7%	36.2%	-0.5%
LITL HVdc Transmission Line Seg 3/4/5	35.3%		1.7%	0.7%	-1.0%		8.0%	6.7%	-1.3%
LITL Grounding (Electrode) Sites	1.7%		5.9%	7.0%	1.1%		65.2%	70.4%	5.2%
LITL Transition Compounds	1.8%		0.0%	0.0%	0.0%		32.9%	32.9%	0.0%
LITL SOBI Cable Crossing	18.0%		1.3%	1.8%	0.5%		69.1%	69.3%	0.2%
LITL Soldiers Pond Switchyard	3.2%		5.1%	5.0%	-0.1%		31.3%	28.1%	-3.2%
LITL Soldiers Pond Synchronous Condensors	4.9%		4.9%	1.1%	-3.8%		31.4%	28.1%	-3.3%
LITL Misc	4.3%	3.6	0.0%	0.6%	0.6%		79.0%	80.0%	1.0%
LITL TOTAL	100.0%		2.8%	2.0%	-0.8%		31.9%	30.8%	-1.1%







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3.0 Labrador Island Transmission Link (LITL)

Corint Corintical Path 1st Power transfer Lab-> Nfld

NOTE: For complete Critical / Subcritical path schedule see attachment

1 poleor		Integrated Project Schedule						LCP Project Controls - Stewardship						
energy LOWER CHURCHILL PROJECT		1st Power transfer Lab -> Nfld					Updated: 25-Nov-15							
Activity Name		Current Start	Delta - Last Month Start	Current Finish	Delta - Last Month Finish	2015 Q1 Q2 Q3 C	24	Q1 (2016 Q2 Q3	Q4	Q1	2017 Q2		3 24 L
1st Power Transfer-CP-KD														
Target Milestones														
Target MIL=Overall-LITL-1st Power Transfer L Newfoundland - Tracking Forecast	abrador to	09-Sep-17	-53d		-53d	Power Transfer Labra	ador to	o Newf	oundland	- Track	ing For	ecast o		
1st Power Transfer-CP														
LCP SysComp RFO														
DynCm-3: LITL: All HVdc TL COMPLETED AND	CONNECTED		-53d	08-Sep-17	-53d	DynCm-3: LITL: A	VII HV	dc TL C	OMPLETED	AND	CONNE	CTED o	P	
DynCm-3: LITL: SOP & MF CONVERTER STAND HVdc LINK COMPLETED	ALONE TESTING &	09-Sep-17	-53d		-53d	F CONVERTER STAND	ALON	E TESTI	NG & HVd	c LINK	COMPL	ETED o	*	
LITL (MFACS) MF Converter Station														
LITL-MFConvert: Building Foundation/Erect/0	Outfit	28-Jul-15 A	0d	18-Oct-16	-172d							\neg		
LITL-MFConvert: Valve Hall & Control Bldg In:	stall Equipment	02-Mar-16	0d	19-May-1	7 -66d			-			_		╂┐	
LITL-MFConvert: Static Commissioning		06-Oct-16	1d	24-Aug-17	7 -70d				4		:		┢┙	
LITL-MFConvert: Gantry available for HVdc Se Electrode TL	g1 TL & Lab	25-Aug-17	-70d	25-Aug-17	7 -70d							1	†	
DynCm-3: LITL: 7a p2- MF Converter: HVdc LII	NK ENERGIZATION	09-Sep-17	-53d	15-Sep-17	-53d								₽	
LITL-Lab HVdc Seg1/2														
LITL-dcLabSeg1/Electr TL: HVdc Seg 1 & Electr to MF Converter (Slack Span>)	ode TL Connection	26-Aug-17	-70d	08-Sep-17	7 -70d							-	•	
LITL-dcLabSeg2/Electr TL: Connection to Lab T Span>)	ransCmp (Slack	26-Aug-17	-70d	08-Sep-17	7 -70d								1	
DynCm-3: LITL: LITL-dcLabSeg1/Electr TL: Post Inspection & Slack Span Connection	Installation Final		-70d	08-Sep-17	7 -70d	TL: Post Installation F	inal Ir	ispecti	on & Slack	Span	Connect	ion o	Ē	
DynCm-3: LITL: LITL-dcLabSeg2/Electr TL: Post Inspection & Slack Span Connection	Installation Final		-70d	08-Sep-17	7 -70d	TL: Post Installation F	inal Ir	rspecti	on & Slack	Span	Connect	ion o		
DynCm-3: LITL: 6a HVdc TL and Electrode Line	Lab: Energized	09-Sep-17	-53d		-53d	DynCm-3: LITL: 6a H	IVd¢ ⊺	L and I	lectrode I	Line La	b: Ener	gized 👴	*	
LITL-Nfld HVdc TL Seg 3/4/5														
DynCm-3: LITL: 6c HVdc TL and Electrode Line	Nfld: Energized	09-Sep-17	-53d		-53d	DynCm-3: LITL: 6c H	Vdc T	L and E	ectrode Li	ine Nfl	d: Ener	gized 👴	*	
LITL (SOPCS) SOP Converter Station														
DynCm-3: LITL: 8a p2 SOP Converter: HVdc LII	NK ENERIZATION	09-Sep-17	-53d	15-Sep-17	-53d							0	-	
◆ Current Key Dates		Pa	ge 1 of 1	Pr	oject: IPS Current o	curz1								_
Current Activities				La	yout = 452 IPS LITL	=1st Pwr xfer Critical Path	Filter	= TASK f	ilter: IPS Crit	tical Pat	h = LITL.			
Last Month Key Dates														

Project Stewardship: IPS Monthly Schedule & Progress Analysis Nov 2015 31 of 43

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4.0 Muskrat Falls Generation (MFGen) MFGen Analysis TObservations

1) Target Milestone

Target Milestone: MFGen 1st power from Muskrat Falls = (On hold)

2) Overall Engineering/Construction/Commissioning Progress

Period Planned Progress: 1.9% Cumulative Planned Progress: 54.7%

Period Forecast Progress: 1.9%

Period Earned Progress: 1.1% Cumulative Earned Progress: 39.6%

3) Critical Path(s):

- Diversion River Closure (priority 1a) see page 14
- On schedule for start on 6 July 2016
- Diversion Winter Headpond El. 25m (priority 1b) see page 15
- On schedule for start on 26 Oct 2016
- Diversion Impoundment Full Supply Level El. 39m (priority 1c) see page 16
- (On hold, see below for details)

4) Reservoir Clearing:

- Labour transferred to ROW clearing in LITL, forecast for restart in July 2016 with completion in Dec 2016.

5) North Spur:

- Work progressing with all milestones forecast to be achievable.

6) Spillway

- Spillway: work is progressing for priority p1a- River Closure. Progress behind current plan while commercial discussions are ongoing. Schedule has been modified to achive diversion until contractor's plans have been approved.

7) Transition Dams/North & South Dams

- Work began on Upstream Cofferdam (5) Groins 1&2 to EL 17m (2015 scope) CH0009.

8) Powerhouse:

- A review of the C1 (Muskrat Falls Generation) work plan is underway, and implementation of an updated C1 schedule will remain on hold pending acceptance of agreed actions and mitigations plan.
- Work progressing on all areas. Removal of ICS (Integrated Cover System) continues.

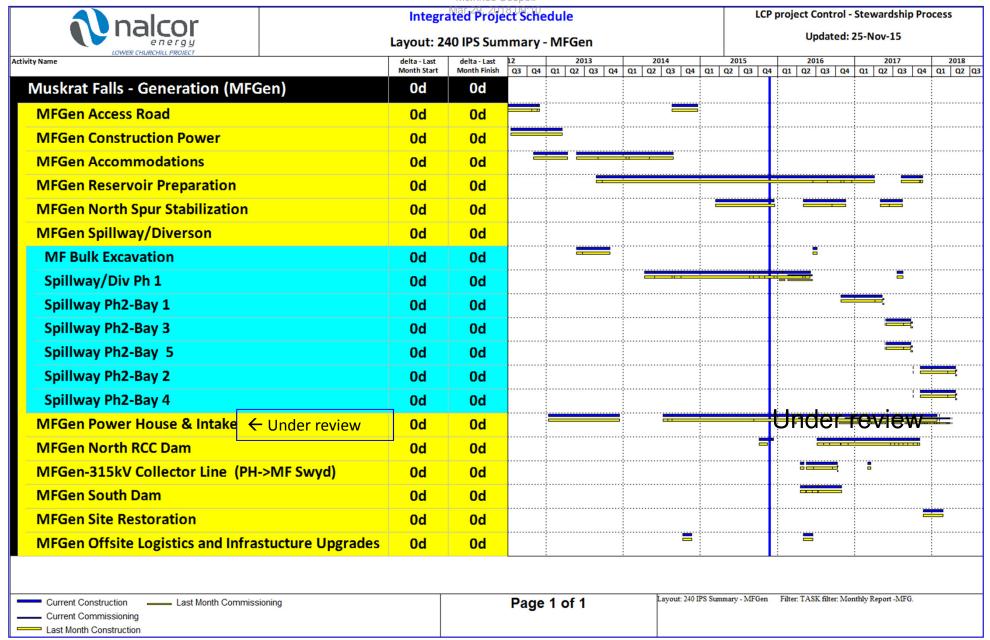


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4.0 Muskrat Falls Generation (MFGen)

MFGen Summary Schedule

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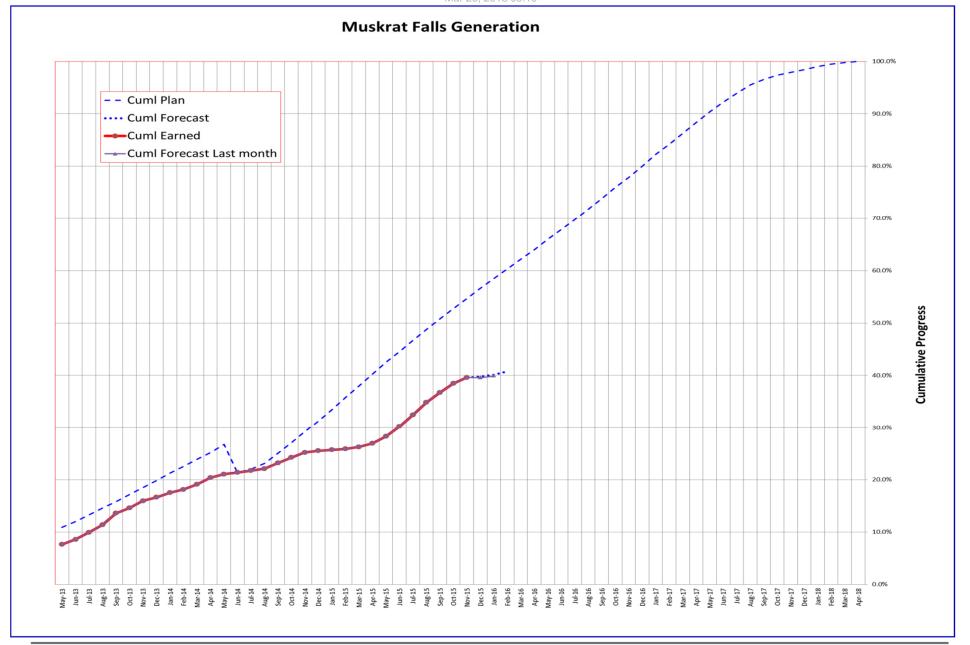
Project Stewardship: IPS Monthly Schedule & Progress Analysis

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4.0 Muskrat Falls Generation (MFGen) - MFGen Engineering/Construction/Commissioning Progress Curve



Project Stewardship: IPS Monthly Schedule & Progress Analysis

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4.0 Muskrat Falls Generation (MFGen) - MFGen Engineering/Construction/Commissioning Progress Table

	en Progr		3 Tabi		15 Nov	erioc				
	Weight		Period %				Cumulative %			
	Factor %		Plan	Earned	Variance		Plan	Earned	Variance	
	Α		В	С	С-В		E	F	F-E	
MFG Road/Camp/Constr. Power	7.9%		0.0%	0.0%	0.0%		100.0%	99.8%	-0.2%	
MFG Reservoir Preparation	6.5%		0.0%	0.0%	0.0%		60.8%	60.8%	0.0%	
MFG Spillway & Gates	11.4%		2.1%	1.1%	-1.0%		61.0%	65.8%	4.8%	
MFG North Spur Stabiliztion	4.2%		9.6%	6.1%	-3.5%		37.0%	43.3%	6.3%	
MFG North Dam (incl North Transition Dam)	7.5%		0.0%	0.0%	0.0%		0.0%	2.5%	2.5%	
MFG Powerhouse & intake	54.9%		2.5%	1.1%	-1.4%		49.7%	23.1%	-26.6%	
MFG South Dam (incl South Transition Dam)	1.1%		0.0%	0.0%	0.0%		0.0%	5.3%	5.3%	
MFG Misc:Eng/ 315kV/Site Rest./logistic	6.5%		0.0%	0.0%	0.0%		83.5%	83.5%	0.0%	
MFGen TOTAL	100.0%		1.9%	1.1%	-0.8%		54.7%	39.6%	-15.2%	
				Last Re	porting Pe	erioc	l l			
	Weight		Period %				Cumulative %			
	Factor %		Plan	Earned	Variance		Plan	Earned	Variance	
	Α		В	С	С-В		E	F	F-E	
MFG Road/Camp/Constr. Power	7.9%		0.0%	0.0%	0.0%		100.0%	99.8%	-0.2%	
MFG Reservoir Preparation	6.5%		0.0%	0.0%	0.0%		60.8%	60.8%	0.0%	
MFG Spillway & Gates	11.4%		2.2%	2.7%	0.5%		58.9%	64.7%	5.8%	
MFG North Spur Stabiliztion	4.2%		9.4%	9.4%	0.0%		27.4%	37.2%	9.8%	
MFG North Dam (incl North Transition Dam)	7.5%		0.0%	0.7%	0.7%		0.0%	2.5%	2.5%	
MFG Powerhouse & intake	54.9%		2.7%	1.8%	-0.9%		47.2%	22.0%	-25.2%	
MFG South Dam (incl South Transition Dam)	1.1%		0.0%	1.0%	1.0%		0.0%	5.3%	5.3%	
MFG Misc:Eng/ 315kV/Site Rest./logistic	6.5%		0.0%	0.0%	0.0%		83.5%	83.5%	0.0%	
MFGen TOTAL	100.0%		2.0%	1.8%	-0.2%		52.8%	38.5%	-14.3%	

Project Stewardship: IPS Monthly Schedule & Progress Analysis





5.0 Nalcor Operations and Maritime Link

Nalcor Operations

- Breaker Upgrades
- System Protection and Control Upgrades
- Energy Control center Upgrades
- > TL 267 and associated switchyard modifications

LCP/Nalcor Operations

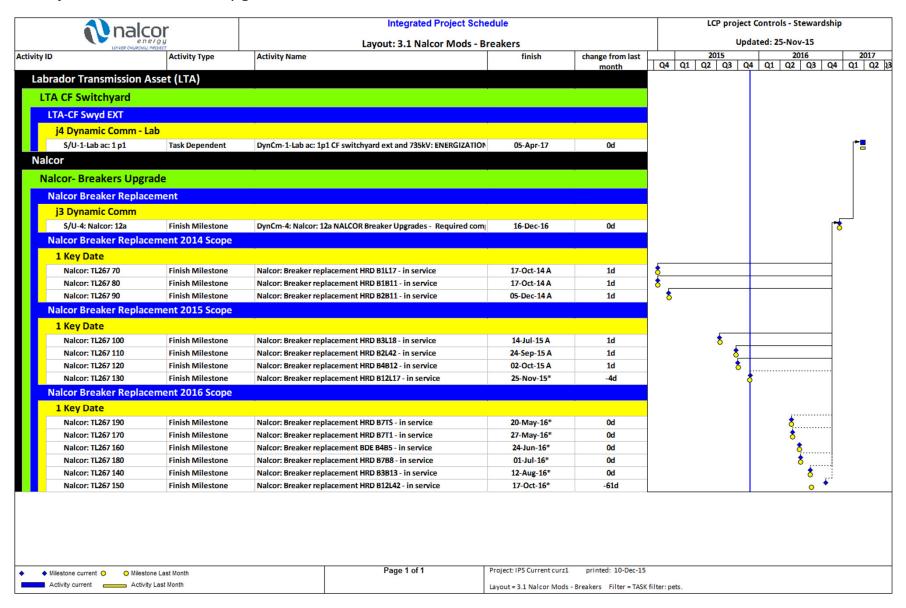
Line Rebuilds Soldiers Pond Area

Maritime Link

Maritime Link (update complete but not shown in this report)



5.0 Nalcor OperationsNalcor Operations - Breaker Upgrades



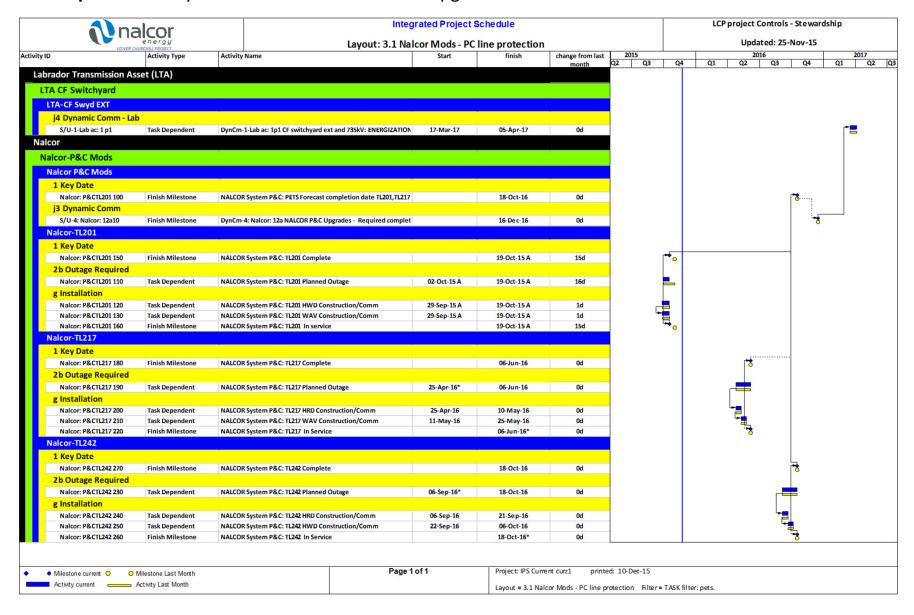
Project Stewardship: IPS Monthly Schedule & Progress Analysis Nov 2015_{nfidential} 37 of 43
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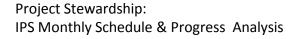
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5.0 Nalcor Operations

Nalcor Operations - System Protection and Control Upgrades









5.0 Nalcor Operations

Nalcor Operations - Energy Control center Upgrades

M pplcor	Integra	ted Project S	LCP Project Controls						
energy	Layout: 3.3 Nalcor Mods	yout: 3.3 Nalcor Mods - ECC Upgrades			Updated: 25-Nov-15				
ctivity Name		This Month Start	This Month Finish	change last month finish	2016 Q1 Q2 Q3 Q4	2017 Q1 Q2 Q3 Q4			
Nalcor-ECC Upgrades									
Nalcor-ECC Upgrades - LTA						!			
Nalcor ECC Mods LTA: Receive Final Po	oints List from LCP	28-Jun-16*	17-Nov-16	Od					
Nalcor ECC Mods LTA: Ready for LTA E	nergizing		02-Dec-16	0d	02-Dec-16	1			
Nalcor ECC Mods LTA: ECC Ready for C	ommissioning		02-Dec-16	0d	02-Dec-16	 			
DynCm-4: Nalcor: 12d NALCOR ECC: Re Required Completion Date for LTA Ene	_		16-Dec-16	Od	16-Dec-16 [:] →	' 			
Nalcor-ECC Upgrades - LITL						 			
Nalcor ECC Mods LITL: Receive Final Po	oints List from LCP	18-Mar-16*	29-Nov-16	Od		İ			
Nalcor ECC Mods LITL: Ready for LITL E	nergizing		14-Dec-16	0d	14-Dec-16]			
Nalcor ECC Mods LITL: ECC Ready for C		14-Dec-16	0d	14-Dec-16 →	Ī				
Nalcor: NALCOR ECC: Ready for start o Date for LITL Energizing	f testing - Required Completion		10-Jun-17	-53d	:	10-Jun-17 [:] ❤ 			
Nalcor-ECC Upgrades - MFG									
Nalcor ECC Mods MFG: Receive Final Points List from LCP		27-Feb-17*	28-Sep-17	-1d					
Nalcor ECC Mods MFG: Completion date MFG			13-Oct-17	-4d		13-Oct-17			
Nalcor ECC Mods MFG: ECC Ready for Commissioning			13-Oct-17	-4d		13-Oct-17 →			
Nalcor: NALCOR ECC MFG: Ready for start of testing - Required Completion Date for MFG Energizing To be determined			13-Oct-17	-4d		13-Oct-17 →			
Nalcor-ECC Upgrades - Maritime Link									
Nalcor ECC Mods ML: Receive Final Po	ints List from Emera ML	12-Oct-16*	17-Jan-17	0d		†			
Nalcor ECC Mods ML: Completion date	Nalcor ECC Mods ML: Completion date ML		01-Feb-17	Od	01-Feb-17	7 			
Nalcor ECC Mods ML: ECC Ready for Commissioning			01-Feb-17	0d	01-Feb-17	1 →			
Emera: Ready for start of testing - Req determined	uired Completion Date -to be		01-Feb-17	Od	01-Feb-17	/ !⊷ 			
♦ Milestone current	Page	e 1 of 1		Project: IP:	S Current curz1 printed: 15-D	ec-15			
Adivity current				Layout = 3.3 Nalcor Mods - ECC Upgrades Filter = TASK filter: Nalcor - ECC Upgrades.					

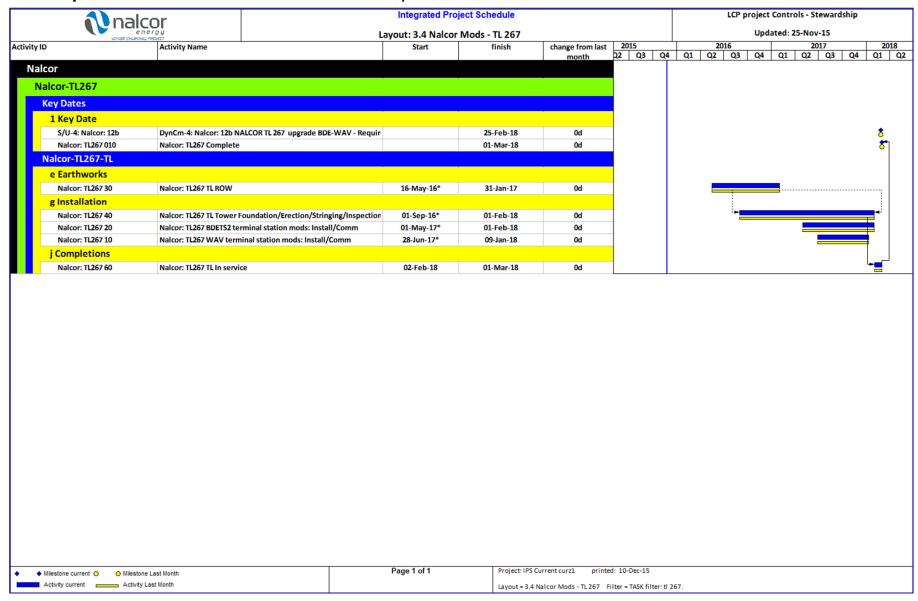
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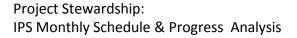
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5.0 Nalcor Operations

Nalcor Operations - TL 267 and associated switchyard modifications



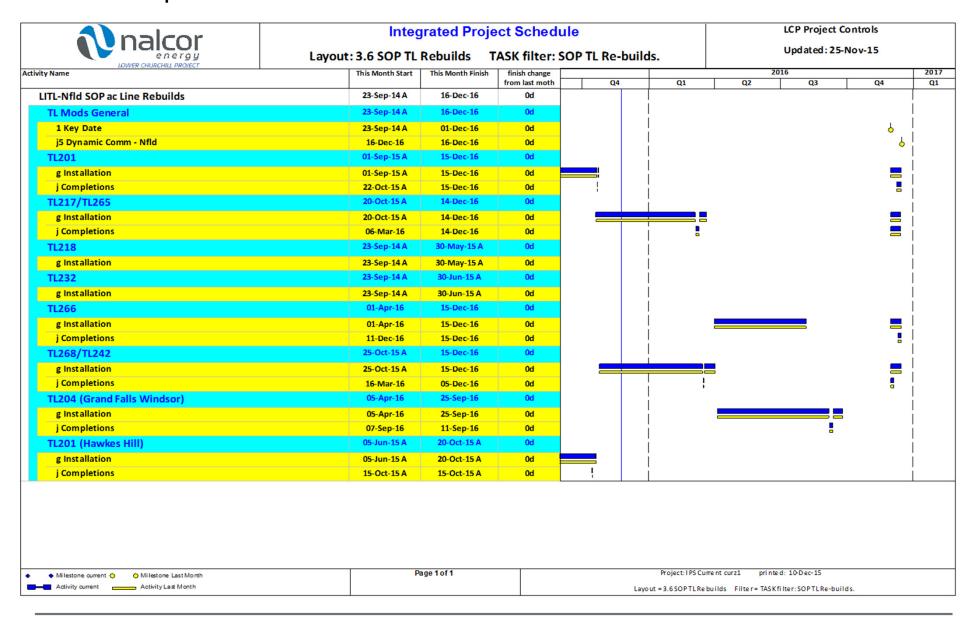






5.0 Nalcor Operations

LCP & Nalcor Operations - Line Rebuilds Soldiers Pond Area



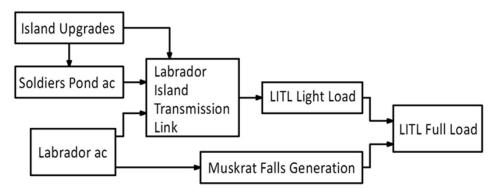
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6.0 RFO Start-up Sequences

IPS Start-Up Verification - Status of development

The Ready for Operations TIC (Technical Integration Committee) start-up sequence (in simplified block diagram form):



The Ready for Operations TIC (Technical Integration Committee) report concerning the start-up sequence was issued May 2014.



End of Report

Lower Churchill Project Delivery Team Project Controls

