

Muskrat Falls Project Oversight Committee

Quarterly Project Update

Period Ending March 31, 2018

May 18, 2018

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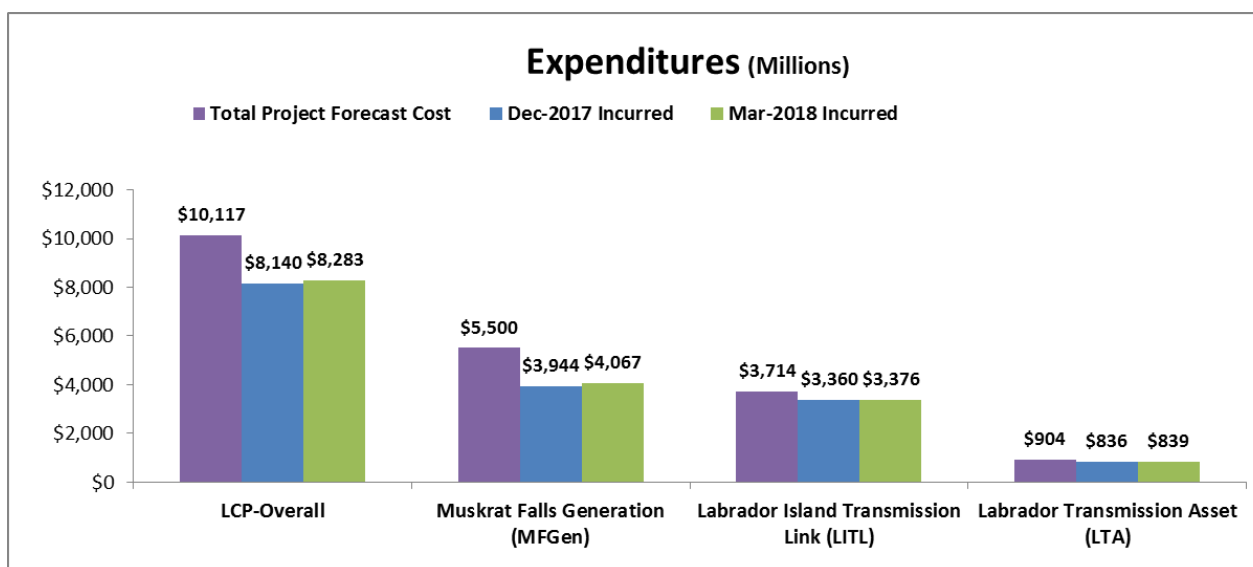
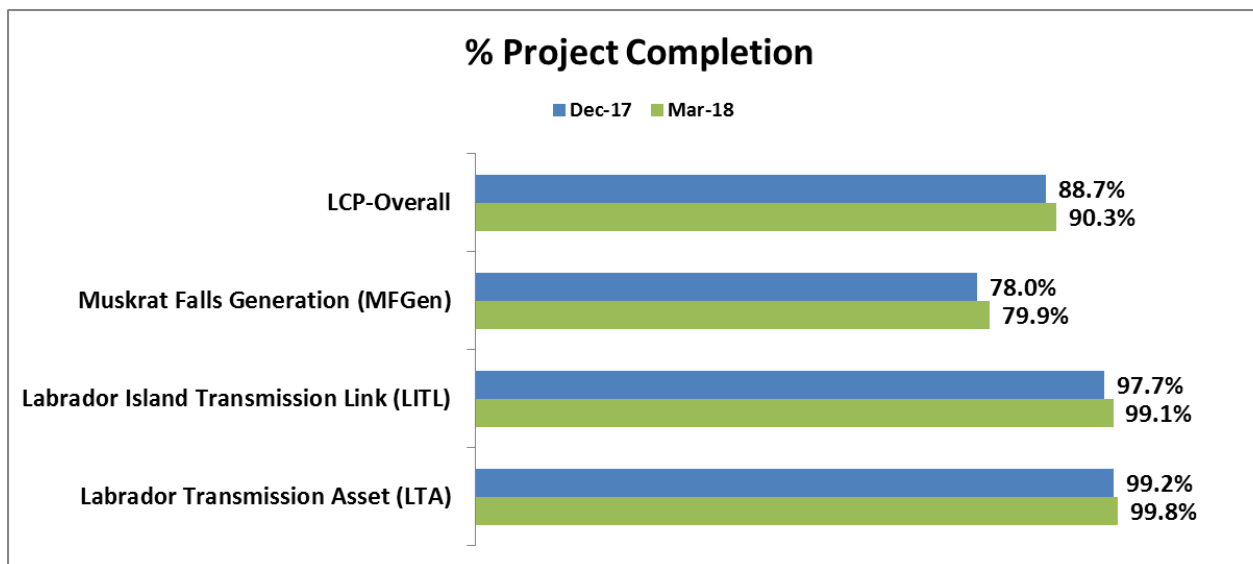
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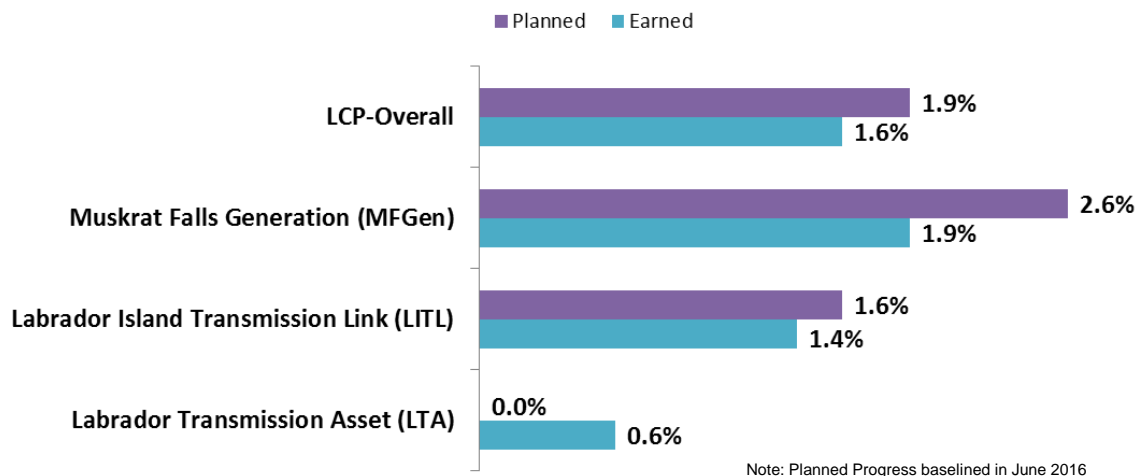
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1. Q1 2018 Cumulative Project Progress

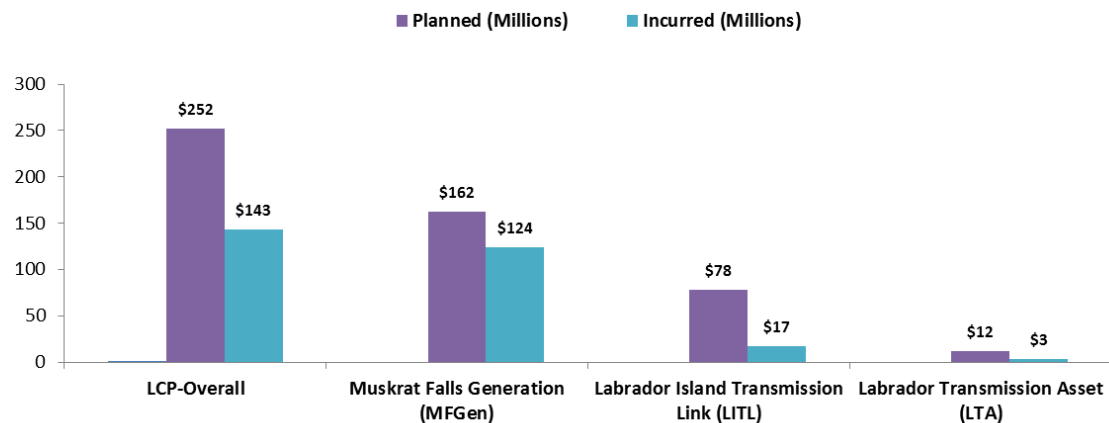


2. Q1 2018 Performance Summary

Q1 2018 Construction Progress



Q1 2018 Expenditures



3.0 Oversight Committee Reporting

- 3.1 Overview
- 3.2 Risks / Issues Being Followed by the Committee
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- 3.4 Project Warranty Provisions

3.1 Overview

- The Oversight Committee (Committee) receives details on project costs incurred, schedule progress, changes in costs and milestone schedule and the status of construction, manufacturing and installation contracts.
- The Committee identifies risks and issues and follows up with Nalcor to obtain more detail and explanation.
- This report covers the January 2018 to March 2018 period (Q1) and includes information on other key events up to the date of release of this report.
- Section 3 of this report contains information developed by the Committee and includes a discussion on project construction insurance and project warranty provisions. Section 4 contains project cost and schedule information provided by Nalcor. The Annexes contain a more detailed accounting of the information provided in Section 2.
- The next Committee Report will cover the period April 2018 – June 2018.

3.1 Overview

- The Committee met on three occasions during the period to receive project updates and conduct other Committee business. Committee meeting minutes and reports are available on the Committee website @ [Click here](#) and [Click here](#).
- The Committee Executive Director participated as an observer in three monthly calls on Nalcor project reporting to the Independent Engineer (IE) and Natural Resources Canada (NRCan).
- The Committee Executive Director and Chair participated in three calls with the IE and NRCan to review Nalcor monthly project reporting and follow up on the IE's technical visits during the quarter.
- In March 2018, the IE visited Stafford, UK to observe Protections and Controls (P&C) software development in support of phased commissioning (Pole 1), and in April 2018 participated in a project quarterly technical visit to St. John's.

3.1 Overview

- The IE reports:
 - Significant improvement in the state of completion of P&C software development and testing since the last quarter; risk remains but has been reduced;
 - July 1, 2018 Project Milestone Date Pole 1 - First Power Transfer appears achievable;
 - Commissioning issues are likely to occur during Pole 1 start up and trial operations period; and
 - Overall, positive project progress across all assets.
- The IE and NRCan's next project site visit is planned for June 2018. The Committee Executive Director will participate in these site visits and meetings. The IE will also participate in a Committee meeting during this visit.
- The IE will be visiting MFGen: transformer and circuit breaker manufacturing sites over the coming months to review progress.

3.1 Overview

- On March 13, 2018 Nalcor released Hatch's Dam Safety Audit 3 Report which is available @ [Click here](#). This report provided a review and status update of Nalcor's Dam Safety Management Plan and reported positive progress with implementation and that the plan was being well managed.
- On April 10, 2018, the Independent Expert Advisory Committee (IEAC) issued a set recommendations on the monitoring, management and mitigation of potential methylmercury impacts of the Lower Churchill Project to the Minister of Municipal Affairs and Environment (MAE). The full recommendations can be found @ [Click here](#).
- Nalcor held its Annual General Meeting (AGM) on April 19, 2018. During the AGM, the CEO commented *"project costs are within budget and schedule, therefore I do not anticipate the need to give a cost or schedule update this year, so the numbers we are going forward with are the numbers I presented in June of last year"*. The AGM presentation can be viewed @ [Click here](#).

3.1 Overview

- Nalcor's Combined Financial Statements for the Lower Churchill Project Companies for the year ending December 31, 2017 were completed by Nalcor's External Auditor Deloitte, LLP and are available on the Committee website @ [Click here](#).
 - Total Assets were reported at \$11.536 Billion. Total Liabilities were reported a \$8.778 Billion and total Shareholders' Equity at \$2.758 Billion.
- On April 4, 2018 Nalcor's External Auditor Deloitte, LPP completed its additional audit procedures review with respect to the validity of costs charged to the Muskrat Falls Project as they completed their audit for the fiscal year ending December 31, 2017. No exceptions were noted. The full review can be found on the Committee website @ [Click here](#).
- On May 1, 2018 the Committee Executive Director and Chair met with Newfoundland and Labrador Hydro (NLH) regarding project commissioning and integration into NLH operations. NLH reports positive progress in these areas.

3.1 Overview

- During the Quarter the Commission of Inquiry Respecting the Muskrat Falls Project (Commission) established the Terms of Reference (TOR) for the Inquiry and decided that an investigative and forensic audit would be required for the Commission to respond to its TOR. The forensic audit is being conducted by Grant Thornton LLP.
- During the Quarter the Committee was advised that Power Supply is completing a Quantitative Risk Assessment (QRA). Its purpose is to reconfirm that the current June 2017 Transmission (LITL and LTA) budget is sufficient to see the project to construction completion. Results of the QRA are expected in Q2, 2018.
- Power Development is also completing a QRA. Results of the QRA are expected in Q3, 2018.
- The Committee requested that Nalcor provide an overview of its project insurance policies and warranty provisions. These overviews can be found on pages 16 and 19 respectively.

3.2 Risk and Issues being Monitored by the Committee

- In its project reporting, Nalcor identifies risks which may impact project cost and schedule. The Committee reviews these and other project information to assess project risks.
- Over the period the Committee noted:
 - The risk profile for civil construction activities is reducing as these activities draw to a close;
 - Insurance claims and coverage risks for civil construction activities are reducing as claims are being settled;
 - The temporary cofferdam has performed well over the fall/winter period enabling North Dam construction;
 - There was negligible change in reservoir level over the winter period assisting with reservoir rim stability;
 - Improvement in HVdc Protection and Controls (P&C) software development status since last quarter has reduced risk;
 - Nalcor/NLH preparedness for interconnection and operations as Pole 1 transfer of power occurs is a key focus area for planning groups; and
 - Independent Expert Advisory Committee (IEAC) methylmercury recommendations were received by the Minister of Municipal affairs and Environment.

3.2 Risk and Issues being Monitored by the Committee

- The Project is now largely in the installation, integration and commissioning phases which inherently carry associated risks. Major civil construction activity is primarily focused on the North Dam. Risks are noted in Nalcor reporting and are being tracked by the Committee.
- During 2018 the Committee will continue to focus on project risks particularly on: Pole 1 first power transfer and commissioning, Pole 2 commissioning, North Dam construction, IEAC recommendations outcome, and project integration and operations readiness.

A) Safety Performance

- Risk associated with simultaneous operations across multiple work sites, impact on project delivery particularly in the powerhouse, energized switchyards and other assets. This risk will continue through construction into operations.

B) Contractor Management and Productivity

- Nalcor ability to manage contractors and contractor ability to meet schedule;
- Contractor management and performance in the powerhouse;
- Potential commercial negotiations to settle claims; and
- Potential for new claims as construction nears completion.

3.2 Risk and Issues being Monitored by the Committee

C) Phased Commissioning

- Ability to meet aggressive Pole 1 completion schedule;
- Completion of Protection and Controls system; associated warranty considerations with early asset handover during Pole 1 commissioning and completion; and
- Testing of HVdc system under partial and full power, in-service system reliability, and timing of contractor release and effective warranty period.

D) Insurance Claims and Coverage

- Claims ongoing: MFGGen cofferdam repairs and other powerhouse protection mitigation, Draft Tube 2 formwork failure. Water ingress in section of LITL subsea cable has been settled, but some payments remain pending; and
- Closure of claims: LITL replacement conductor.

E) Cofferdam Performance

- Performance of existing temporary cofferdam over multiple winters; and
- Construction of the North Dam.

F) Reservoir Rim Stability

- Impact of changing water levels during interim impoundment on reservoir shoreline/slope stability.

3.2 Risk and Issues being Monitored by the Committee

G) IEAC Mitigation Recommendations to the Minister of MAE

- Potential impact on cost and schedule depending on outcomes.

H) Project Integration and Operations Readiness

- Nalcor/NLH readiness to connect the Muskrat Falls Project to the Island and North American electricity grid and operate facilities effectively.

I) Project Delivery Team Retention

- Project Team personnel departures due to other emerging work opportunities and potential impact on project completion. Departures continued to occur over the Quarter.

J) Additional Risks

- Protest unrest;
- Reservoir vegetation and soil removal; and
- Other unforeseen directives from Government.
- Funds are not held within the June 2017 Project Budget for these Additional Risks.

3.3 Project Insurance

- The Committee requested that Nalcor provide an explanation and update on project insurance covering the construction phase of the project.
- The Project carries three main insurance policies for all elements of the project:
 1. CAR - Construction All Risk
 - Property insurance policy relating to property and equipment damage during construction.
 2. WUL - Wrap Up Liability
 - Third party property and liability insurance protecting third parties for bodily injury and damage to property.
 3. CPL - Contractors' Pollution Liability
 - Environmental pollution protection policy in the case of pollution damage to persons and property and clean-up costs arising from an accident.
- Each of the policies were negotiated in 2013 based on construction risks known at the time.
- For construction insurance policies, an initial premium is a deposit premium based in part on the anticipated policy term or duration and in part on estimated project values (i.e. completed final costs). This is known as a Deposit Premium.

3.3 Project Insurance

- Premiums for each policy are normally adjusted at the end of a project, based on the final contract values and timelines. This is known as a Final Premium.
- The CAR and WUL policies will have additional costs due to increased value and extended timeline. The CPL should have no additional costs.
- Current Status:
 - All Project insurance policies remain in full force and effect. However, expiry dates are approaching for CAR (June 2018) and WUL (November 2018). In addition, phased commissioning of the HVdc transmission components is nearing (Pole1).
- Insurance Matters Currently Being Addressed by Nalcor Include:
 - Term Extensions
 - Extension of policy term by approximately over 24 months based on latest schedule - full power at MFGGen at Sept 1, 2020.
 - Insured Values
 - Estimated final values for the project have increased significantly – based on the June 2017 budget the insured value for each policy has increased 50%, 57%, and 54% for CAR, WUL and CPL respectively.

3.3 Project Insurance

- CAR Claims to Date
 - Draft tube 2 formwork failure, cofferdam repairs and other powerhouse mitigation, LITL conductor replacement and water ingress in a section of the sub-sea cable. The LITL conductor replacement has been settled. The subsea water ingress claim, while settled, still has some payments pending. Others remain ongoing.
- WUL Claims to Date
 - The 2017 Mud Lake flooding class action suit has been reported to insurers.
- Operations
 - Full placement of new policies or adding LCP to existing Nalcor policies will occur when project is 100% complete; decision to be made at a later date; LCP policies remain in effect until full power.
 - One exception: WUL does not cover operational risks thus Nalcor is evaluating adding LTA and LIL operational risk into existing Nalcor Commercial General Liability policy effective July 1, 2018.
- Insurance policy costs associated with Final Premiums, extensions and transition into operations have been accounted for in the June 2017 budget.

3.4 Project Warranty

- The Committee requested that Nalcor provide an explanation of project warranty provisions for the construction phase of the project.
- Construction project warranties take many forms. Warranty periods provide for parts and equipment replacement coverage in the event of failures due to faulty workmanship, defects and/or deficiencies for specified periods of time. Warranty can cover both manufactured goods delivered and received and/or services rendered where installation and construction of physical assets has occurred.
- Generally, warranty periods commence upon either the dates goods are accepted, received or consumed, installed at a specified site, as first operated, or a combination of the above depending on the nature of the goods received and/or services rendered.
- During the procurement process for the project, warranties for goods and services were detailed in each of the bid packages. The warranty articles within applicable contracts specify the warranty period and other requirements based on the nature of the goods and/or services provided.
- Prior to contractor release for services rendered, appropriate reliability testing must be performed in accordance with applicable warranty articles.

3.4 Project Warranty

- Project warranties have been amended or are in the process of being amended to reflect the current project schedule and phased commission approach (Pole 1, Pole 2) followed by MFGGen generation.
- Once construction is complete, project assets will be turned over to operations and incorporated into the ongoing operations and maintenance (O&M) program.
- As part of the O&M program assets will be regularly inspected, including inspections prior to warranty expiration.

4.0 Nalcor Reporting

- 4.1 Summary - Quarter Ending March 2018
- 4.2 Project Expenditures
- 4.3 Contingency
- 4.4 Earned Progress

4.1 Summary – Quarter Ending March 2018

- March 2018 Summary:
 - Overall construction progress is at 90.3%;
 - \$8,283 Million in incurred costs; and
 - \$9,060 Million in committed costs.
- The project is tracking in compliance with the June 2017 budget and schedule.
- June 2017 budget final forecast cost remains unchanged.
 - While the overall budget and final forecast cost remains unchanged, variances between the project budget and final forecast costs have occurred within and among expenditure categories. Most variances are related to the transfer of budget between allocations from the contingency budget to the procurement and construction budget and movement between contingency allocation of assets.
- The current forecast contingency budget at March 2018 is \$303.6 Million, a decrease of \$36.1 Million from the previous Quarter. For further detail see Section 4.3.

4.1 Summary – Quarter Ending March 2018

- Planned vs Incurred Cost Variances:
 - MFGGen
 - Negligible variance on actual cumulative incurred vs planned cumulative incurred.
 - Negative variance is related to payment milestones being reached earlier than planned; Q4, 2017 rather than Q1, 2018.
 - LITL and LTA
 - The variances are a result of planned monthly incurred costs having been established in the June 2017 budget and lower cost consumption since that time. To the end of March 2018, contingency and work scope cost growth allowance has been utilized at a much slower rate than estimated in June 2017 and resolution of claims from the civil works contractors continues to progress favorably.
 - The project team does not consider the lower than anticipated incurred costs as a concern/risk. Westney Consulting, Nalcor's third party risk assessment consultant has validated that the conservative approach taken as prudent in the context of proactive risk mitigation and management.
- See Section 4.2 and Appendix B for further detail.

4.1 Summary – Quarter Ending March 2018

- Planned vs Earned Progress:
 - MFGGen
 - Variance for the Quarter, and on a cumulative basis, is a result of changes to the planned installation dates for spillway rollways to mitigate project risk. Spillway and gates progress reporting will continue to trend behind the baseline which was established in the June 2017 budget until the scope is complete. See Appendix C for further detail.
 - LTA/LITL
 - > 99% complete.
- Power Supply and Power Development currently performing QRA's to validate existing budget and schedules. Results of the QRA's are expected in Q2 and Q3, 2018 respectively.

4.1 Summary – Quarter Ending March 2018

Power Development:

- The project remains on budget and on schedule with the June 2017 budget;
- Spillway and gates are 86% complete;
- Powerhouse is 75% complete;
 - Three main contractors advancing and working well in the powerhouse;
 - Hydro-mechanical and turbine and generator embedment and installation work ongoing; and
 - Balance of Plant work progressing well.
- North Dam 57% complete;
 - Execution and planning ongoing;
 - Work force mobilization in April 2018;
 - Previous season concrete monitoring ongoing;
 - Project team worked with the Contractor to facilitate early start of concrete placement
 - Planned May 2018 start of concrete placement; actual start in late April.
- Focus areas for Q2, 2018 include: evaluation of schedule optimization opportunities, effective planning and execution of 2018 powerhouse and North Dam construction activities; and
- The forecast expenditure for the Q2, 2018 is estimated at approximately \$230 Million.

4.1 Summary – Quarter Ending March 2018

Power Supply:

- The project remains on budget and on schedule with the June 2017 budget;
- Strait of Belle Isle (SOBI)
 - All contracts commercially closed;
 - Final testing complete and all cables accepted;
 - Site remediation complete; and
 - Handover to operations has been achieved.
- Labrador Transmission Asset (LTA)
 - Churchill Falls extension yard energized;
 - Churchill Falls switchyard energized;
 - Handover/turnover complete; and
 - AC line From Churchill Falls to Muskrat Falls energized in April 2018.
- Labrador Island Transmission Link (LITL)
 - Overhead Transmission Line;
 - Punch list A items closed;
 - Punch list B items to be addressed in 2018 construction season; no impact on energization; and
 - Handover from contractor completed in April; turnover completed in May.
 - HVdc Specialties;
 - Commissioning ongoing; anticipated early in-service planned for end of Q2, 2018.

4.1 Summary – Quarter Ending March 2018

- First Power transfer for Pole 1 on the LITL remains on schedule for end of Q2, 2018; the HVdc protection and control system remains on the critical path but risk has been reduced;
- Switchyards at Soldiers Pond and Churchill Falls including the GIS and control building have been energized;
- Switchyard at Muskrat Falls including the GIS and control building were energized in April;
- Commissioning is ongoing at Converter Stations in Soldiers Pond and Muskrat Falls;
- The Synchronous Condenser at Soldiers Pond is anticipated to be ready for dynamic commissioning during June-October 2018 (not required for Pole 1 First Power Transfer);
- The focus for Q2, 2018 remains on continued completions, commissioning and integration of operations; and
- The forecast expenditure for Q2, 2018 is estimated at approximately \$124 Million.

4.2 Project Expenditures

March 2018 (\$000)	Project Budget June 2017 AFE	Cumulative \$			Cumulative %		
		Plan	Incurred	Variance	Plan	Incurred	Variance
<i>Description</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>C-B</i>	<i>D=B/A</i>	<i>E=C/A</i>	<i>E-D</i>
NE-LCP Owners Team, Admin and EPCM Services	\$1,115,235	\$888,891	\$859,877	(\$29,014)	79.7%	77.1%	-2.6%
Feasibility Engineering	\$37,072	\$37,073	\$35,894	(\$1,179)	100.0%	96.8%	-3.2%
Environmental & Regulatory Compliance	\$42,699	\$38,493	\$37,758	(\$735)	90.1%	88.4%	-1.7%
Aboriginal Affairs	\$17,478	\$12,760	\$13,737	\$977	73.0%	78.6%	5.6%
Procurement & Construction	\$8,475,290	\$7,482,365	\$7,279,630	(\$202,735)	88.3%	85.9%	-2.4%
Commercial & Legal	\$90,423	\$54,770	\$56,087	\$1,317	60.6%	62.0%	1.5%
Contingency	\$339,162	\$0	\$0	\$0	0.0%	0.0%	0.0%
TOTAL	\$10,117,328	\$8,514,352	\$8,282,983	(\$231,369)	84.2%	81.9%	-2.3%

March 2018 (\$000)	Project Budget June 2017 AFE	Incurred Cumulative Costs March 2018	Project Final Forecast Cost March 2018	Variance PFC from Budget
<i>Description</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D=A-C</i>
NE-LCP Owners Team, Admin and EPCM Services	\$1,115,235	\$859,877	\$1,130,444	(\$15,209)
Feasibility Engineering	\$37,072	\$35,894	\$35,894	\$1,178
Environmental & Regulatory Compliance	\$42,699	\$37,758	\$43,408	(\$709)
Aboriginal Affairs	\$17,478	\$13,737	\$31,451	(\$13,973)
Procurement & Construction	\$8,475,290	\$7,279,630	\$8,472,300	\$2,990
Commercial & Legal	\$90,423	\$56,087	\$100,228	(\$9,805)
Contingency	\$339,162	\$0	\$303,603	\$35,559
TOTAL	\$10,117,328	\$8,282,983	\$10,117,328	\$0

Columns in tables may not total due to rounding

4.3 Contingency

Q1 March 2018 (\$000)	Project Budget June 2017 AFE	March 2018 AFE Adjustment ¹	Project Forecast Cost December 2017	Project Forecast Cost March 2018	Change from Previous Quarter	Variance PFC from Budget
Sub-Project:	<i>A</i>	-	<i>B</i>	<i>C</i>	<i>C - B</i>	<i>C - A</i>
Muskrat Falls Generating Facility	\$226,400	\$226,400	\$203,069	\$178,259	(\$24,810)	(\$48,141)
Labrador-Island Transmission Link	\$102,750	\$92,750	\$130,462	\$104,947	(\$25,515)	\$12,197
Labrador Transmission Assets	\$10,012	\$20,012	\$6,179	\$20,397	\$14,218	\$385
Total Project	\$339,162	\$339,162	\$339,710	\$303,603	(\$36,107)	(\$35,559)

¹Contingency transfer of budget (\$10 Million) between LITL and LTA assets.

4.4 Earned Progress

<u>Cumulative to end of March 2018</u>	<u>Weight Factor %</u>	<u>March 2018 Cumulative %</u>			<u>February 2018 Variance</u>
		<u>Planned</u>	<u>Earned</u>	<u>Variance</u>	
<i>Sub-Project</i>	A	B	C	D = C - B	E
Muskrat Falls Generation (MFGGen)	46.3%	81.7%	79.9%	-1.8%	-1.1%
Labrador Island Transmission Link (LITL)	43.9%	100.0%	99.1%	-0.9%	-1.0%
Labrador Transmission Asset (LTA)	9.8%	100.0%	99.8%	-0.2%	-0.5%
Muskrat Falls Project - Overall	100.0%	91.5%	90.3%	-1.2%	-1.0%

<u>March 2018 Period</u>	<u>Weight Factor %</u>	<u>Period %</u>		
		<u>Planned</u>	<u>Earned</u>	<u>Variance</u>
<i>Sub-Project</i>	A	B	C	D = C - B
Muskrat Falls Generation (MFGGen)	46.3%	1.3%	0.6%	-0.7%
Labrador Island Transmission Link (LITL)	43.9%	0.3%	0.3%	0.0%
Labrador Transmission Asset (LTA)	9.8%	0.0%	0.3%	0.3%
Muskrat Falls Project - Overall	100.0%	0.7%	0.5%	-0.2%

Annex A

- I. Project Capital Budget
- II. Project Milestone Schedule

Columns in tables may not total due to rounding

I. Project Capital Budget

Muskkrat Falls Generating Facility (in \$ thousands)	June 2017 AFE
<i>Expenditure Category</i>	
NE-LCP Owners Team, Admin and EPCM Services	\$655,850
Feasibility Engineering	\$17,543
Environmental & Regulatory Compliance	\$27,125
Aboriginal Affairs	\$16,395
Procurement & Construction	\$4,501,984
Commercial & Legal	\$54,760
Contingency	\$226,400
Muskkrat Falls Generation Total	\$5,500,056
Labrador-Island Transmission Link (in \$ thousands)	March 2018 AFE
<i>Expenditure Category</i>	
NE-LCP Owners Team, Admin and EPCM Services	\$322,101
Feasibility Engineering	\$19,167
Environmental & Regulatory Compliance	\$14,726
Aboriginal Affairs	\$1,003
Procurement & Construction	\$3,233,690
Commercial & Legal	\$30,280
Contingency	¹ \$92,750
Labrador-Island Transmission Link Total	\$3,723,716
Labrador-Transmission Assets (in \$ thousands)	March 2018 AFE
<i>Expenditure Category</i>	
NE-LCP Owners Team, Admin and EPCM Services	\$137,284
Feasibility Engineering	\$363
Environmental & Regulatory Compliance	\$817
Aboriginal Affairs	\$80
Procurement & Construction	\$739,617
Commercial & Legal	\$5,383
Contingency	¹ \$20,012
Labrador Transmission Assets Total	\$893,556
Muskkrat Falls Capital Cost Budget Total	\$10,117,328

Contingency Budget (in \$ thousands)	March 2018 AFE
Sub-Project:	
Muskkrat Falls Generating Facility	\$226,400
Labrador-Island Transmission Link	\$92,750
Labrador Transmission Assets	\$20,012
Total Project	\$339,162

¹ Notes LITL and LTA \$10 million contingency adjustment in March 2018

II. Project Milestone Schedule

Muskrat Falls Generating Facility	June 2017 Planned Dates
North Spur Works Ready for Diversion	Oct-16
River Diversion Complete	Feb-17
Reservoir Impoundment Complete	Nov-19
Powerhouse Unit 1 Commissioned - Ready for Operation	Dec-19
First Power from Muskrat Falls	Nov-19
Powerhouse Unit 2 Commissioned - Ready for Operation	Mar-20
Powerhouse Unit 3 Commissioned - Ready for Operation	Jun-20
Powerhouse Unit 4 Commissioned - Ready for Operation	Aug-20
Full Power from Muskrat Falls	Aug-20
Commissioning Complete - Commissioning Certificate Issued	Sep-20

Labrador-Island Transmission Link	June 2017 Planned Dates
SOBI Cable Systems Ready	Dec-16
Soldiers Pond Switchyard Ready to Energize	Aug-17
Ready for Power Transmission (LTA)	Dec-17
Muskrat Falls Converter Station Ready to Energize (Pole 1)	Jun-18
HVdc Transmission Line Construction Complete	Dec-17
Soldier's Pond Converter Station Ready to Energize (Pole 1)	Jun-18
1ST Power Transfer (Pole 1)	Jul-18
Soldiers Pond Synchronous Condenser Ready for Operation	Jun-18
Ready for Power Transmission (Low Load Testing Complete Pole 1)	Dec-18
Muskrat Falls and Soldiers Pond Converter Stations - Bipole Dynamic Testing Complete	Mar-19
Commissioning Complete - Commissioning Certificate Issued	Sep-20

Labrador Transmission Assets	June 2017 Planned Dates
HVac Transmission Line Construction Complete	May-17
Churchill Falls Switchyard Ready to Energize	Nov-17
Muskrat Falls Switchyard Ready to Energize	Nov-17
Ready for Power Transmission	Dec-17
Commissioning Complete - Commissioning Certificate Issued	Sep-20

Annex B

Expenditures

- I. Muskrat Falls Generation
- II. Labrador Island Transmission Link
- III. Labrador Transmission Assets

Columns in tables may not total due to rounding

I. Muskrat Falls Generation

March 2018 (\$000)	Project Budget June 2017 AFE	Cumulative \$			Cumulative %		
		Planned	Incurred	Variance	Planned	Incurred	Variance
<i>Description</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>C-B</i>	<i>D=B/A</i>	<i>E=C/A</i>	<i>E-D</i>
NE-LCP Owners Team, Admin and EPCM Services	\$655,850	\$464,749	\$449,244	(\$15,505)	70.9%	68.5%	-2.4%
Feasibility Engineering	\$17,543	\$17,543	\$16,874	(\$669)	100.0%	96.2%	-3.8%
Environmental & Regulatory Compliance	\$27,125	\$24,961	\$25,499	\$538	92.0%	94.0%	2.0%
Aboriginal Affairs	\$16,395	\$11,941	\$12,959	\$1,018	72.8%	79.0%	6.2%
Procurement & Construction	\$4,501,984	\$3,520,976	\$3,530,395	\$9,419	78.2%	78.4%	0.2%
Commercial & Legal	\$54,760	\$28,964	\$32,401	\$3,437	52.9%	59.2%	6.3%
Contingency	\$226,400	\$0	\$0	\$0	0.0%	0.0%	0.0%
TOTAL	\$5,500,056	\$4,069,133	\$4,067,372	(\$1,761)	74.0%	74.0%	0.0%

March 2018 (\$000)	Project Budget June 2017 AFE	Incurred Cumulative Costs March 2018	Project Final Forecast Cost March 2018	Variance PFC from Budget
<i>Description</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D=A-C</i>
NE-LCP Owners Team, Admin and EPCM Services	\$655,850	\$449,244	\$657,690	(\$1,840)
Feasibility Engineering	\$17,543	\$16,874	\$16,874	\$669
Environmental & Regulatory Compliance	\$27,125	\$25,499	\$27,865	(\$740)
Aboriginal Affairs	\$16,395	\$12,959	\$30,167	(\$13,772)
Procurement & Construction	\$4,501,984	\$3,530,395	\$4,528,409	(\$26,425)
Commercial & Legal	\$54,760	\$32,401	\$60,792	(\$6,032)
Contingency	\$226,400	\$0	\$178,259	\$48,141
TOTAL	\$5,500,056	\$4,067,372	\$5,500,056	\$0

II. Labrador Island Transmission Link

March 2018 (\$000)	Project Budget March 2018 AFE	Cumulative \$			Cumulative %		
		Plan	Incurred	Variance	Plan	Incurred	Variance
<i>Description</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>C-B</i>	<i>D=B/A</i>	<i>E=C/A</i>	<i>E-D</i>
NE-LCP Owners Team, Admin and EPCM Services	\$322,101	\$286,697	\$283,777	(\$2,920)	89.0%	88.1%	-0.9%
Feasibility Engineering	\$19,167	\$19,167	\$18,717	(\$450)	100.0%	97.7%	-2.3%
Environmental & Regulatory Compliance	\$14,726	\$12,715	\$11,447	(\$1,268)	86.3%	77.7%	-8.6%
Aboriginal Affairs	\$1,003	\$759	\$612	(\$147)	75.7%	61.0%	-14.7%
Procurement & Construction	\$3,233,690	\$3,215,903	\$3,043,538	(\$172,365)	99.4%	94.1%	-5.3%
Commercial & Legal	\$30,280	\$20,972	\$18,168	(\$2,804)	69.3%	60.0%	-9.3%
Contingency	\$92,750	\$0	\$0	\$0	0.0%	0.0%	0.0%
TOTAL	\$3,713,716	\$3,556,212	\$3,376,260	(\$179,952)	95.5%	90.7%	-4.8%

March 2018 (\$000)	Project Budget March 2018 AFE	Incurred Costs Cumulative March 2018	Project Final Forecast Cost March 2018	Variance PFC from Budget
<i>Description</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D=A-C</i>
NE-LCP Owners Team, Admin and EPCM Services	\$322,101	\$283,777	\$338,650	(\$16,549)
Feasibility Engineering	\$19,167	\$18,717	\$18,717	\$450
Environmental & Regulatory Compliance	\$14,726	\$11,447	\$14,726	\$0
Aboriginal Affairs	\$1,003	\$612	\$1,038	(\$35)
Procurement & Construction	\$3,233,690	\$3,043,538	\$3,204,977	\$28,713
Commercial & Legal	\$30,280	\$18,168	\$30,662	(\$382)
Contingency	\$92,750	\$0	\$104,947	(\$12,197)
TOTAL	\$3,713,716	\$3,376,260	\$3,713,716	\$0

III. Labrador Transmission Assets

March 2018 (\$000)	Project Budget March 2018 AFE	Cumulative \$			Cumulative %		
		Plan	Incurred	Variance	Plan	Incurred	Variance
<i>Description</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>C-B</i>	<i>D=B/A</i>	<i>E=C/A</i>	<i>E-D</i>
NE-LCP Owners Team, Admin and EPCM Services	\$137,284	\$137,445	\$126,856	(\$10,589)	100.1%	92.4%	-7.7%
Feasibility Engineering	\$363	\$363	\$303	(\$60)	100.0%	83.5%	-16.5%
Environmental & Regulatory Compliance	\$817	\$817	\$812	(\$5)	100.0%	99.4%	-0.6%
Aboriginal Affairs	\$80	\$60	\$166	\$106	75.0%	207.5%	132.5%
Procurement & Construction	\$739,617	\$745,486	\$705,697	(\$39,789)	100.8%	95.4%	-5.4%
Commercial & Legal	\$5,383	\$4,834	\$5,518	\$684	89.8%	102.5%	12.7%
Contingency	\$10,012	\$0	\$0	\$0	0.0%	0.0%	0.0%
TOTAL	\$883,556	\$889,005	\$839,352	(\$49,653)	99.5%	93.9%	-5.6%

March 2018 (\$000)	Project Budget March 2018 AFE	Incurred Costs Cumulative March 2018	Project Final Forecast Cost March 2018	Variance PFC from Budget
<i>Description</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D=A-C</i>
NE-LCP Owners Team, Admin and EPCM Services	\$137,284	\$126,856	\$134,104	\$3,180
Feasibility Engineering	\$363	\$303	\$303	\$60
Environmental & Regulatory Compliance	\$817	\$812	\$817	\$0
Aboriginal Affairs	\$80	\$166	\$246	(\$166)
Procurement & Construction	\$739,617	\$705,697	\$738,914	\$703
Commercial & Legal	\$5,383	\$5,518	\$8,774	(\$3,391)
Contingency	\$20,012	\$0	\$20,397	(\$385)
TOTAL	\$903,556	\$839,352	\$903,556	\$0

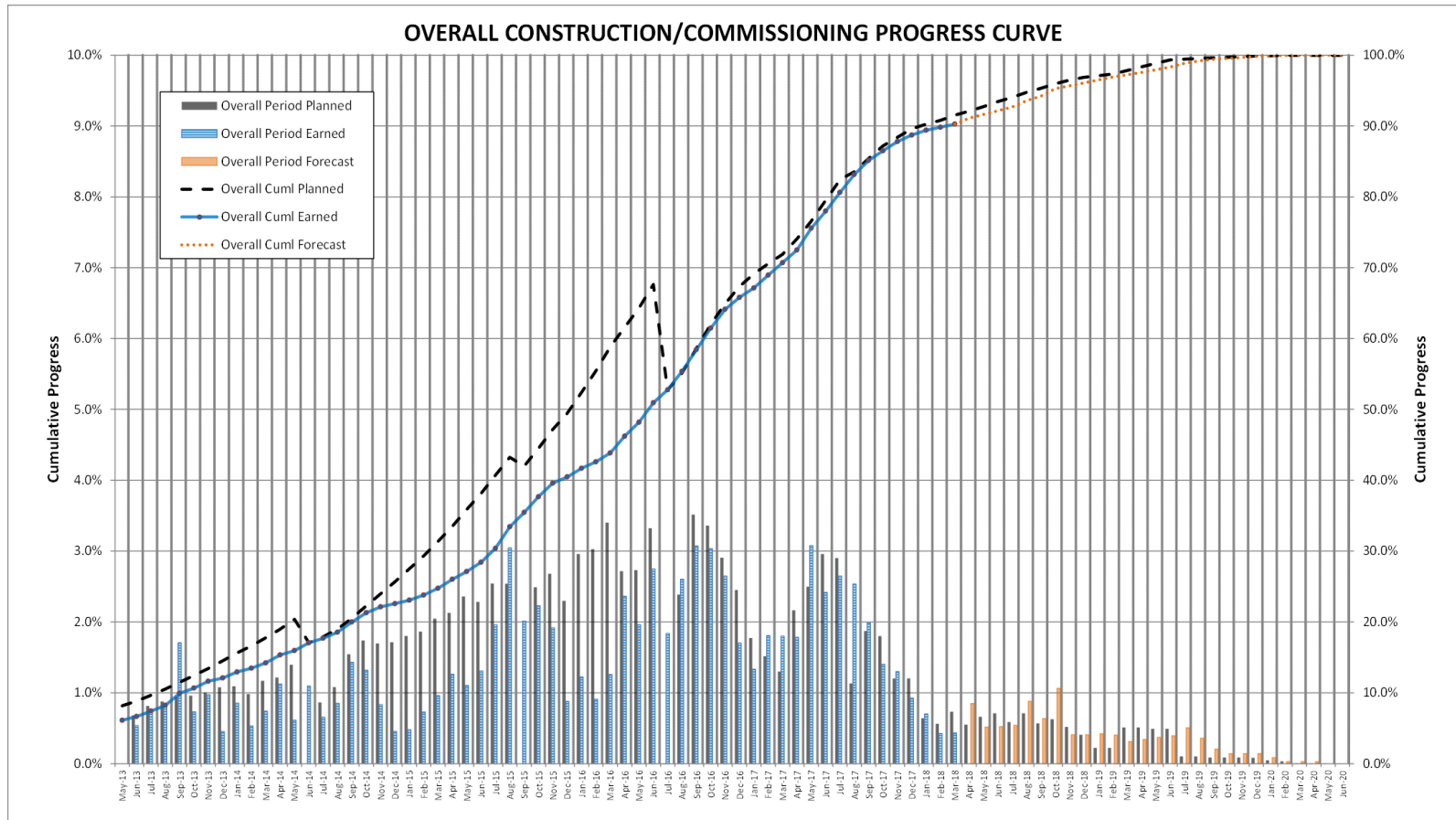
Annex C

Earned Progress

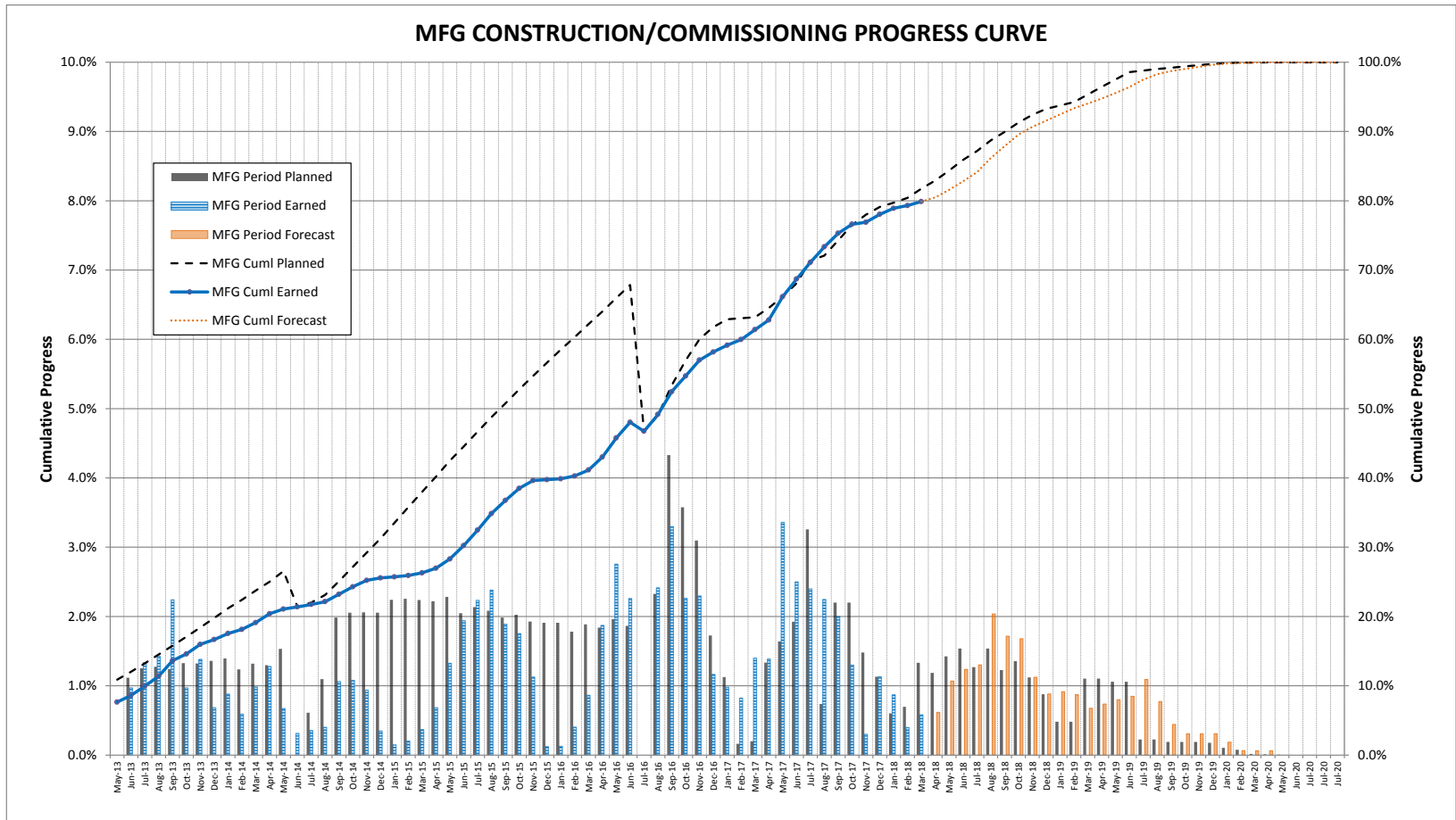
- I. Overall Construction
- II. Muskrat Falls Generation
- III. Powerhouse Concrete Placement
- IV. Labrador Island Transmission Link
- V. Labrador Transmission Assets

Columns in tables may not total due to rounding

I. Overall Construction



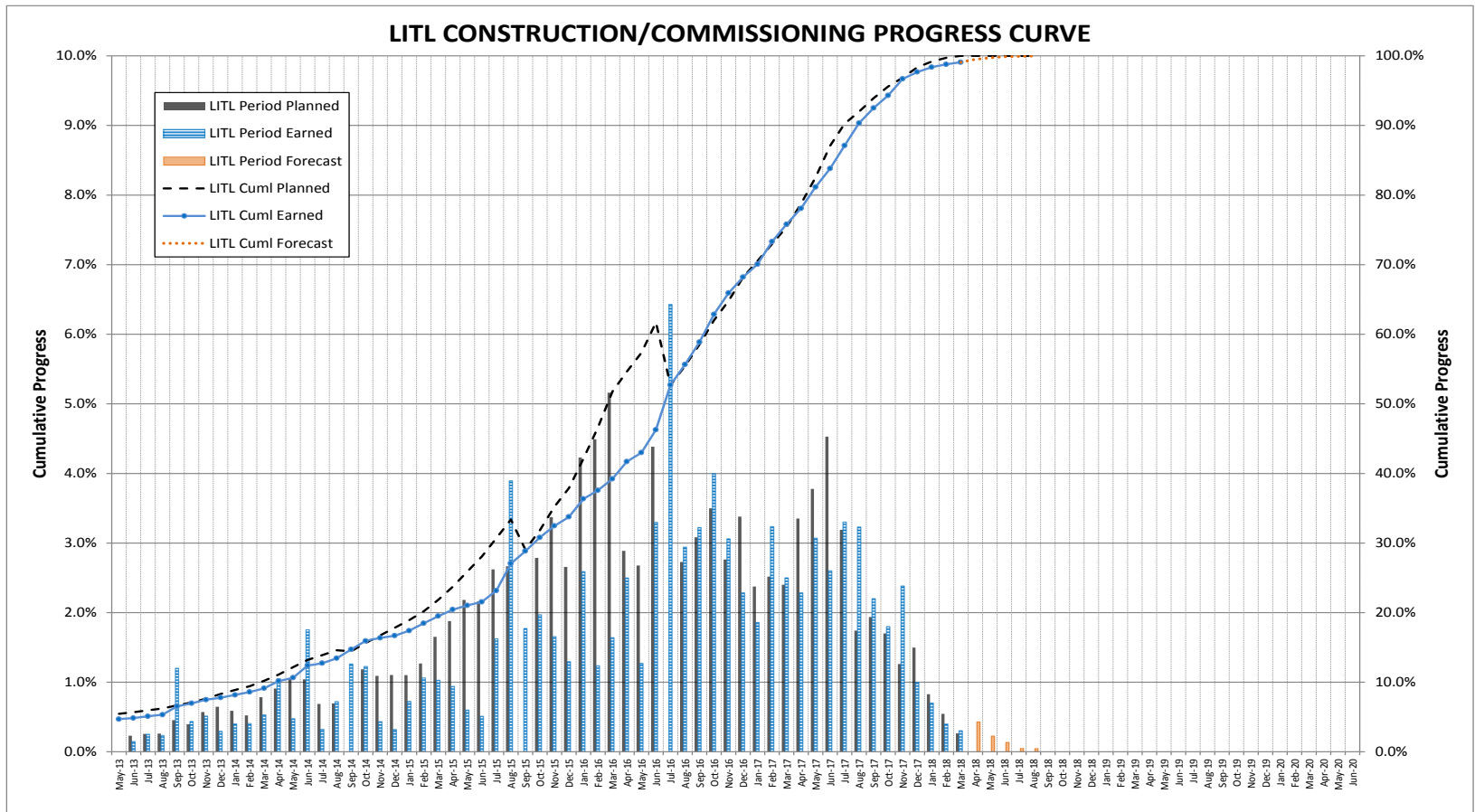
II. Muskrat Falls Generation



II. Muskrat Falls Generation

March 2018	Weight Factor %	March 2018 Cumulative %			February 2018
		Plan	Earned	Variance	Variance
<i>Sub-Project</i>	A	B	C	D = C - B	E
MFG Road/Camp/Constr. Power	8.9%	100.0%	100.0%	0.0%	0.0%
MFG Reservoir Preparation	5.8%	100.0%	100.0%	0.0%	0.0%
MFG Spillway & Gates	12.2%	96.9%	85.5%	-11.4%	-9.8%
MFG North Spur Stabilization	3.9%	100.0%	100.0%	0.0%	0.0%
MFG North Dam	5.7%	64.6%	57.3%	-7.3%	-7.3%
MFG Powerhouse & Intake	61.3%	74.5%	74.5%	0.0%	0.9%
MFG South Dam	1.1%	100.0%	99.2%	-0.8%	-0.8%
MFG Misc:Eng/ 315kV/Site Rest./logistic	1.1%	78.0%	75.5%	-2.5%	-2.5%
MFGGen - Overall	100.0%	81.7%	79.9%	-1.8%	-1.1%

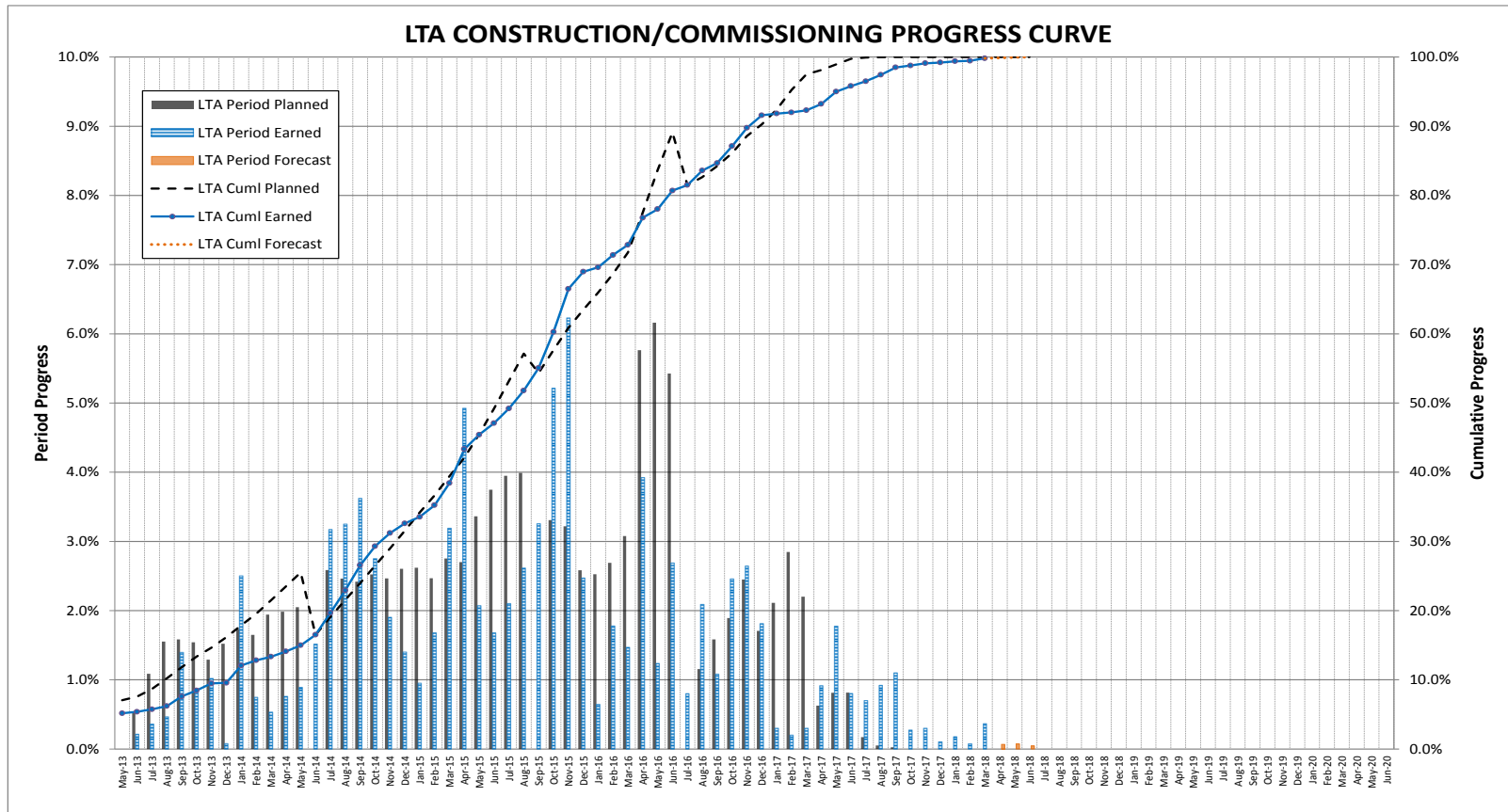
IV. Labrador Island Transmission Link



IV. Labrador Island Transmission Link

March 2018	Weight	March 2018 Cumulative %			February 2018
	Factor %	Plan	Earned	Variance	Variance
<i>Sub-Project</i>	A	B	C	D = C - B	E
LITL Muskrat Falls Converter	6.1%	100.0%	94.6%	-5.4%	-6.9%
LITL Soldiers Pond Converter	5.5%	100.0%	97.3%	-2.7%	-4.8%
LITL HVdc Transmission Line Seg 1/2	26.8%	100.0%	100.0%	0.0%	0.0%
LITL HVdc Transmission Line Seg 3/4/5	34.2%	100.0%	100.0%	0.0%	0.7%
LITL Electrode Sites	0.8%	100.0%	99.3%	-0.7%	-0.7%
LITL Transition Compounds	1.7%	100.0%	98.2%	-1.8%	-1.3%
LITL SOBI Cable Crossing	17.7%	100.0%	100.0%	0.0%	0.0%
LITL Soldiers Pond Switchyard	2.7%	100.0%	100.0%	0.0%	0.0%
LITL Soldiers Pond Sync. Condensors	3.1%	100.0%	91.8%	-8.2%	-10.3%
LITL Misc	1.4%	100.0%	88.6%	-11.4%	-12.5%
LITL- Overall	100.0%	100.0%	99.1%	-0.9%	-0.9%

V. Labrador Transmission Assets



V. Labrador Transmission Assets

March 2018	Weight	March 2018 Cumulative %			February
	Factor %	Plan	Earned	Variance	2018 Variance
Sub-Project	A	B	C	D = C - B	E
LTA HVac Transmission Line Seg1/2 - MF to CF	62.8%	100.0%	100.0%	0.0%	0.0%
LTA Churchill Falls Switchyard	21.7%	100.0%	99.9%	-0.1%	-0.1%
LTA Muskrat Falls Switchyard	13.4%	100.0%	99.6%	-0.4%	-2.9%
LTA Misc	2.1%	100.0%	94.5%	-5.5%	-6.5%
LTA - Overall	100.0%	100.0%	99.8%	-0.2%	-0.5%

Annex D

Project Milestone Schedule

- I. Muskrat Falls Generation
- II. Labrador Island Transmission Link
- III. Labrador Transmission Assets

I. Muskrat Falls Generation

March 2018	Planned Date June 2017	March Actual/Forecast
Project Sanction	17-Dec-12	Complete
North Spur Works Ready for Diversion	31-Oct-16	Complete
River Diversion Complete	15-Feb-17	River Diversion Achieved; winter head pond impoundment in progress.
Reservoir Impoundment Complete	1-Nov-19	14-Oct-19
Powerhouse Unit 1 Commissioned - Ready for Operation	19-Dec-19	9-Dec-19
First Power from Muskrat Falls	2-Nov-19	15-Oct-19
Powerhouse Unit 2 Commissioned - Ready for Operation	3-Mar-20	21-Feb-19
Powerhouse Unit 3 Commissioned - Ready for Operation	9-Jun-20	6-May-20
Powerhouse Unit 4 Commissioned - Ready for Operation	14-Aug-20	20-Jul-20
Full Power from Muskrat Falls	14-Aug-20	20-Jul-20
Commissioning Complete - Commissioning Certificate Issued	1-Sep-20	1-Sep-20

II. Labrador Island Transmission Link

December 2017	Planned Date June 2017	March 2018 Actual/forecast
Project Sanction	17-Dec-12	Complete
SOBI Cable Systems Ready	9-Dec-16	Complete
Soldiers Pond Switchyard Ready to Energize	31-Aug-17	Complete
Ready for Power Transmission (LTA)	31-Dec-17	13-Apr-18
Muskrat Falls Converter Station Ready to Energize (Pole 1)	1-Jun-18	13-May-18
HVdc Transmission Line Construction Complete	31-Dec-17	Complete
Soldier's Pond Converter Station Ready to Energize (Pole 1)	1-Jun-18	5-May-18
1ST Power Transfer (Pole 1)	1-Jul-18	5-Jun-18
Soldiers Pond Synchronous Condenser Ready for Operation	1-Jun-18	25-Oct-18
Ready for Power Transmission (Low Load Testing Complete Pole 1)	1-Dec-18	4-Aug-18
Muskrat Falls and Soldiers Pond Converter Stations - Bipole Dynamic Testing Complete	31-Mar-19	27-Feb-19
Commissioning Complete - Commissioning Certificate Issued	1-Sep-20	1-Sep-20

III. Labrador Transmission Assets

Labrador Transmission Assets	June 2017 Budget Planned Date	March 2018 Actual / Forecast
Project Sanction	17-Dec-12	Complete
HVac Transmission Line Construction Complete	31-May-17	Complete: Turnover of HVac TL and all subsystems complete
Churchill Falls Switchyard Ready to Energize	30-Nov-17	Complete
Muskrat Falls Switchyard Ready to Energize	30-Nov-17	2-Apr-18
Ready for Power Transmission	31-Dec-17	13-Apr-18
Commissioning Complete - Commissioning Certificate Issued	1-Sep-20	1-Sep-20

End of Report