

# Muskrat Falls Project Oversight Committee

Quarterly Report

Period Ending September 30, 2017

November 3, 2017

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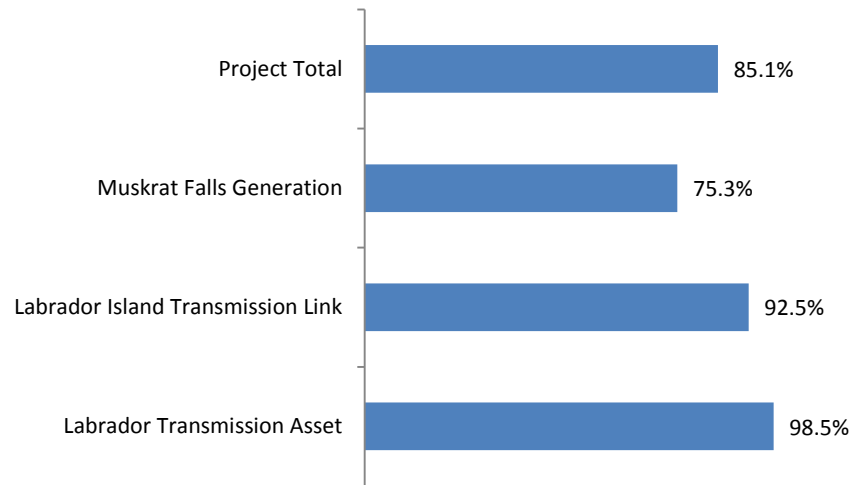
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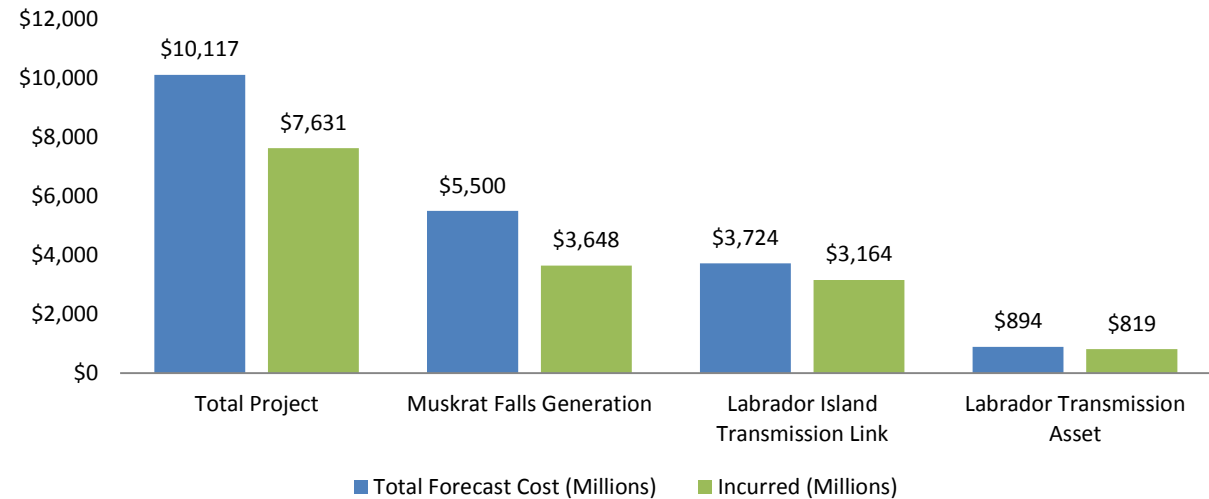
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# 1. Project Summary at end of September 2017

**Percent Project Completion**



**Expenditures**



**Total Committed \$8,818 Million**

## 2.0 Oversight Committee Reporting

- 2.1 Overview
- 2.2 Risks / Issues Being Followed by the Committee
- 2.3 Financing and Other Costs
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## 2.1 Overview

- The Oversight 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.
- As the project proceeds toward construction completion and commissioning, the Committee will also be monitoring plans and preparation for integration and operations.
- Section 1 of this report contains information developed by the Committee and for this quarter, includes a discussion on project financing costs. Section 2 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 Quarterly Report will cover the period October 2017- December 2017.

## 2.1 Overview

- During the period from July 1, 2017 to September 30, 2017
  - The Committee met on three occasions 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 Independent Engineer (IE) released the LCP Project Site Visit and Meetings Report on October 18, 2017 which is available @ [Click here](#);
  - The IE also visited facilities in Stafford, UK to observe Protection and Control (P&C) equipment/software development and Clearwater, FL to observe Converter Station capacitor manufacturing. Reports from these visits will be posted to the Committee website once received; and
  - The next IE project site visit is being planned for the Nov/Dec 2017 period.

## 2.2 Risks and Issues

- In its project reporting, Nalcor identifies risks which may impact project cost and schedule. The Committee reviews this and other project information to assess project risk. The Committee has not identified any new risks during the period and continues to focus on a number of project risks including:
  - A) Safety Performance
    - Increased risk associated with simultaneous operations across multiple work sites and impact on project delivery particularly in the powerhouse and energized switchyards.
  - B) Contractor Management and Productivity
    - Nalcor ability to manage contractors and contractor ability to meet schedule; and
    - Potential commercial negotiations to settle claims.
  - C) Phased Commissioning
    - Ability to meet aggressive Pole 1 completion schedule; and
    - Associated warranty considerations with early asset hand over during Pole 1 commissioning and completion.

## 2.2 Risks and Issues

### D) Insurance Claims and Coverage

- Ongoing claims include: LITL conductor modification and replacement, MFGen cofferdam repairs and other powerhouse protection mitigation, replacement of subsea cable section, and Draft Tube 2 formwork failure.

### E) Cofferdam Performance

- Performance of existing temporary cofferdam to enable impoundment for winter ice protection and potential impact on construction of the North Dam.

### F) Reservoir Rim Stability

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

### G) 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.



## 2.2 Risks and Issues

### H) Additional Risks<sup>1</sup>

- Protest unrest;
- Reservoir vegetation and soil removal; and
- Other unforeseen directives from Government.

EY commented in the August 31, 2017 report that it considers Nalcor's treatment of the "Additional Risks" to be reasonable as it relates to budgeted project costs.

- The Committee is addressing risks noted above with Nalcor and will continue to follow up and report on these and any new risks that are identified.

1. Cost impacts associated with Additional Risks were not included in the June 2017 Project Capital Budget.

## 2.3 Financing & Other Costs

Project Capital Budget Comparison - (\$Billions)	Capital Costs	Financing and Other Costs	Total
• December 2012 (Sanction)	\$6.20	\$1.2	\$7.40
• December 2013 (Financial Close)	\$6.53	\$1.2	\$7.73
• June 2014	\$6.99	\$1.3	\$8.29
• September 2015	\$7.65	\$1.3	\$8.95
• June 2016	\$9.13	\$2.3	\$11.43
• December 2016	\$9.40	\$2.3	\$11.70
• June 2017	\$10.12	\$2.6	\$12.72

- The Committee requested Nalcor to provide an explanation of financing and other costs and why they increased from the initial December 2012 Sanction estimate of \$1.2 billion and why they did not increase proportional to the growth in the Project Capital Budget.
- Below is an explanation of financing and other costs, Interest During Construction (IDC), Allowance for Funds Used During Construction (AFUDC), and reasons for the increase.

## 2.3 Financing & Other Costs

- Financing & Other Costs include interest on debt financing, and Allowance for Funds Used During Construction as well as other costs, which are amounts required for pre-funded financing reserve accounts, financial closing related costs and some pre-commissioning costs.
- These amounts are capitalized and/or funded during the construction period and form part of the “all-in” cost of the project at in-service.
- The pre-funded financing reserves are set aside at in-service as part of the financing arrangements, but refunded over the debt repayment period.
- The June 2017 estimate of Financing & Other Costs is \$2.6 billion

## 2.4 Interest During Construction (IDC)

- IDC is the interest that will accrue on funds borrowed to construct the project.
- A total of \$7.9 billion has been borrowed and has been guaranteed by the Government of Canada through two separate Federal Loan Guarantees (FLG).

<u>Date</u>	<u>Amount</u>	<u>Average Effective Interest Rate</u>
December 2013	\$5.0B	3.8% (FLG1)
May 2017	\$2.9B	2.9% (FLG2)

- The total amount of IDC is estimated to be \$1.4 billion.

## 2.5 Allowance for Funds Used During Construction

- AFUDC is the return that will accrue on equity invested to fund project construction.
- LITL uses a utility cost of service model for cost recovery and will accrue AFUDC. The cost recovery profile under this model goes from high in the early years to low in the later years.
- The June 2017 Project Budget Update includes estimated AFUDC on LITL equity of \$440 million, which is currently accruing at a rate of 8.5%.
- The MF/LTA cost recovery is based on an increasing price and increasing volume of electricity, and is therefore lower in the early years and higher in the later years. Within that cost recovery an 8.4% Internal Rate of Return (IRR) on equity invested is generated over the term of the power purchase agreement with NLH, but AFUDC does not accrue.

## 2.6 Financing & Other Cost Increases

- At Project Sanction the estimated cost of \$1.2 billion included:
  - \$0.77 billion in IDC and related closing costs on the \$5.0 billion Federal Loan Guarantee (FLG1) debt;
  - \$0.19 billion for AFUDC on equity investments in LITL; and
  - \$0.21 billion in FLG1 financing reserves (debt service and liquidity reserves).
- This estimate assumed full project commissioning in June 2018
- In June 2017 the estimated cost of \$2.6 billion included:
  - \$1.48 billion in IDC and related closing costs on the \$5.0 billion FLG1 + \$2.9 billion FLG2 debt;
  - \$0.44 billion in AFUDC on equity investments in LITL;
  - \$0.34 billion for FLG1 + FLG2 financing reserves (debt service and liquidity reserves);
  - \$0.08 billion in hedge settlement costs associated with the FLG1 and FLG2 financings;
  - \$0.06 billion in Transition to Operations (TTO) costs; and
  - \$0.20 billion interim use operating costs prior to full project commissioning.
- This estimate assumes full project commissioning in September 2020.

## 2.6 Financing & Other Costs Increases

- Increases within the cost categories above are attributable to:
  - IDC – increased due to additional FLG2 debt, and a greater proportion of the total interest cost being capitalized to the asset during construction versus passed through as an operating expense under the power purchase and transmission related agreements with NLH as result of the 2+ year delay in MF full commissioning;
    - The overall amount of interest over the term of the debt did not change as a result of the 2 year delay. The consideration is whether the interest cost for those 2 years is capitalized versus expensed
  - LITL AFUDC - increased due to a greater amount being accrued to the LITL asset with the delay in full project commissioning;
  - Financing reserves increased as a result of the additional \$2.9 billion in FLG2 debt
  - Hedge settlements were not included in the Sanction estimate as financial close had not occurred for either the FLG1 or FLG2 financings;
  - Inclusion of TTO costs which were not included in the original sanction estimate; and
  - Inclusion of interim operating costs which were not included in the original sanction estimate.
    - At that time it was expected that the LITL, LTA and MF would be completed within the 6 month window between MF first and full power. Currently it is expected that LITL/LTA will be used on an interim basis starting in 2018 ahead of MF full in-service in 2020

## 3.0 Nalcor Reporting

- 3.1 Summary – Quarter ending September 2017
- 3.2 Project Expenditures
- 3.3 Contingency
- 3.4 Earned Progress



## 3.1 Summary – Quarter Ending September 2017

- Overall construction progress is at 85.1%;
- \$7,631 billion in incurred costs;
- \$8.818 billion in committed costs;
- June 2017 Project Capital Budget and final forecast cost remains unchanged;
- Approximately \$39 million of contingency has been allocated from the contingency budget;
- All major contracts have been awarded;
- Some LITL and LTA project milestone forecast completion dates are tracking beyond June 2017 project schedule planned dates; however, this is not impacting the forecast achievement of 1<sup>st</sup> Power for LITL by end of Q2 2018;
- MFGen project milestone forecast completion dates are subject to ongoing negotiations;
  - Forecast changes are not anticipated to be beyond June 2017 project schedule planned dates;
- Mitigation measures have been implemented in instances where schedule pressure is occurring in particular, Phased Commissioning.

## 3.1 Summary - Quarter Ending September 2017

- Powerhouse concrete placement is ahead of plan (383,000 m<sup>3</sup> placed vs. 379,000 m<sup>3</sup> planned);
- Powerhouse steel placement is on target (3,578 tonnes erected vs 3,586 tonnes planned);
- North Spur stabilization works has achieved Substantial Completion;
- North Dam progress at 51% on an adjusted two season construction schedule;
- North Dam Concrete – 83,000m<sup>3</sup> of 248,000m<sup>3</sup> placed to date;
- LTA achieved Substantial Completion in July 2017;
- LITL progress at 93%:
  - The HVdc overhead transmission line is nearing Substantial Completion (96% complete at end Sept)
  - HVdc specialties commissioning is ongoing and anticipated early in-service date is end of Q2 2018.

## 3.1 Summary – Quarter Ending September 2017

- Most major equipment manufacturing is substantially complete:
  - Turbines and generators, spillway, and hydro mechanical, HVdc and switchyard equipment.
- Most remaining manufacturing/installation contract progress is primarily affected by installation and commissioning delays resulting from project civil works delays.

## 3.2 Project Expenditures

September 2017 (\$000)	Project Budget	Cumulative \$			Cumulative %		
		Plan	Incurred	Variance	Plan	Incurred	Variance
<i>Description</i>	A	B	C	C-B	D=B/A	E=C/A	E-D
NE-LCP Owners Team, Admin and EPCM Services	\$1,115,235	\$809,082	\$800,396	(\$8,686)	72.5%	71.8%	-0.8%
Feasibility Engineering	\$37,072	\$37,073	\$37,073	\$0	100.0%	100.0%	0.0%
Environmental & Regulatory Compliance	\$42,699	\$36,427	\$36,784	\$357	85.3%	86.1%	0.8%
Aboriginal Affairs	\$17,478	\$11,785	\$11,712	(\$73)	67.4%	67.0%	-0.4%
Procurement & Construction	\$8,475,290	\$6,787,265	\$6,695,972	(\$91,293)	80.1%	79.0%	-1.1%
Commercial & Legal	\$90,423	\$44,782	\$48,694	\$3,912	49.5%	53.9%	4.3%
Contingency	\$339,162	\$0	\$0	\$0	0.0%	0.0%	0.0%
<b>TOTAL</b>	<b>\$10,117,328</b>	<b>\$7,726,414</b>	<b>\$7,630,631</b>	<b>(\$95,783)</b>	<b>76.4%</b>	<b>75.4%</b>	<b>-0.9%</b>

September 2017 (\$000)	Project Budget	Incurred Costs September 2017	Project Forecast Cost September 2017	Variance PFC from Budget
<i>Description</i>	A	B	C	D=A-C
NE-LCP Owners Team, Admin and EPCM Services	\$1,115,235	\$800,396	\$1,117,130	(\$1,895)
Feasibility Engineering	\$37,072	\$37,073	\$37,073	(\$1)
Environmental & Regulatory Compliance	\$42,699	\$36,784	\$43,228	(\$529)
Aboriginal Affairs	\$17,478	\$11,712	\$17,478	\$0
Procurement & Construction	\$8,475,290	\$6,695,972	\$8,505,385	(\$30,095)
Commercial & Legal	\$90,423	\$48,694	\$96,423	(\$6,000)
Contingency	\$339,162	\$0	\$300,613	\$38,549
<b>TOTAL</b>	<b>\$10,117,328</b>	<b>\$7,630,631</b>	<b>\$10,117,328</b>	<b>\$0</b>

Columns in tables may not total due to rounding

## 3.3 Contingency

<b>September 2017 (\$000)</b>	<b>Project Budget at June 2017</b>	<b>Project Forecast Cost August 2017</b>	<b>Project Forecast Cost September 2017</b>	<b>Change from Previous Month</b>	<b>Variance PFC from Budget</b>
<b>Sub-Project:</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>C - B</b>	<b>C - A</b>
Muskrat Falls Generating Facility	\$226,400	\$215,718	\$213,570	(\$2,148)	(\$12,830)
Labrador-Island Transmission Link	\$102,750	\$77,032	\$73,828	(\$3,204)	(\$28,922)
Labrador Transmission Assets	\$10,012	\$10,019	\$13,215	\$3,196	\$3,203
Total Project	\$339,162	\$302,769	\$300,613	(\$2,156)	(\$38,549)

Columns in tables may not total due to rounding

## 3.4 Earned Progress

Cumulative to end of September 2017	Weight Factor %	September 2017 Cumulative %			August 2017 Variance
		Planned	Earned	Variance	
<i>Sub-Project</i>	A	B	C	D = C - B	E
Muskrat Falls Generation (MFGGen)	46.3%	74.3%	75.3%	1.0%	-0.9%
Labrador Island Transmission Link (LITL)	43.9%	93.9%	92.5%	-1.4%	-1.7%
Labrador Transmission Asset (LTA)	9.8%	100.0%	98.5%	-1.5%	-2.6%
Muskrat Falls Project - Overall	100.0%	85.4%	85.1%	-0.3%	-1.3%

September 2017 Period	Weight Factor %	Period %		
		Planned	Earned	Variance
<i>Sub-Project</i>	A	B	C	D = C - B
Muskrat Falls Generation (MFGGen)	46.3%	2.2%	2.0%	-0.2%
Labrador Island Transmission Link (LITL)	43.9%	1.9%	2.2%	0.3%
Labrador Transmission Asset (LTA)	9.8%	0.0%	1.1%	1.1%
Muskrat Falls Project - Overall	100.0%	1.9%	2.0%	0.1%

Columns in tables may not total due to rounding

# Annex A

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

Columns in tables may not total due to rounding

# I. Project Capital Budget

Muskrat Falls Generating Facility (in \$ thousands)	June 2017
<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
<b>Muskrat Falls Generation Total</b>	<b>\$5,500,056</b>
Labrador-Island Transmission Link (in \$ thousands)	June 2017
<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	\$102,750
<b>Labrador-Island Transmission Link Total</b>	<b>\$3,723,716</b>
Labrador-Transmission Assets (in \$ thousands)	June 2017
<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	\$10,012
<b>Labrador Transmission Assets Total</b>	<b>\$893,556</b>
<b>Muskrat Falls Capital Cost Budget Total</b>	<b>\$10,117,328</b>

Contingency Budget (in \$ thousands)	Project Budget at June 2017
<b>Sub-Project:</b>	
<b>Muskrat Falls Generating Facility</b>	\$226,400
<b>Labrador-Island Transmission Link</b>	\$102,750
<b>Labrador Transmission Assets</b>	\$10,012
<b>Total Project</b>	<b>\$339,162</b>



## 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

September 2017 (\$000)	Project Budget	Cumulative \$			Cumulative %		
		Planned	Incurred	Variance	Planned	Incurred	Variance
Description	A	B	C	C-B	D=B/A	E=C/A	E-D
NE-LCP Owners Team, Admin and EPCM Services	\$655,850	\$423,899	\$417,455	(\$6,444)	64.6%	63.7%	-1.0%
Feasibility Engineering	\$17,543	\$17,543	\$17,543	\$0	100.0%	100.0%	0.0%
Environmental & Regulatory Compliance	\$27,125	\$23,700	\$24,370	\$670	87.4%	89.8%	2.5%
Aboriginal Affairs	\$16,395	\$11,104	\$11,100	(\$4)	67.7%	67.7%	0.0%
Procurement & Construction	\$4,501,984	\$3,171,644	\$3,148,931	(\$22,713)	70.4%	69.9%	-0.5%
Commercial & Legal	\$54,760	\$23,799	\$28,942	\$5,143	43.5%	52.9%	9.4%
Contingency	\$226,400	\$0	\$0	\$0	0.0%	0.0%	0.0%
<b>TOTAL</b>	<b>\$5,500,056</b>	<b>\$3,671,689</b>	<b>\$3,648,341</b>	<b>(\$23,348)</b>	<b>66.8%</b>	<b>66.3%</b>	<b>-0.4%</b>

September 2017 (\$000)	Project Budget	Incurred Costs Sep 2017	Project Forecast Cost Sep 2017	Variance PFC from Budget
Description	A	B	C	D=A-C
NE-LCP Owners Team, Admin and EPCM Services	\$655,850	\$417,455	\$657,365	(\$1,515)
Feasibility Engineering	\$17,543	\$17,543	\$17,543	\$0
Environmental & Regulatory Compliance	\$27,125	\$24,370	\$27,685	(\$560)
Aboriginal Affairs	\$16,395	\$11,100	\$16,395	\$0
Procurement & Construction	\$4,501,984	\$3,148,931	\$4,506,739	(\$4,755)
Commercial & Legal	\$54,760	\$28,942	\$60,760	(\$6,000)
Contingency	\$226,400	\$0	\$213,570	\$12,830
<b>TOTAL</b>	<b>\$5,500,056</b>	<b>\$3,648,341</b>	<b>\$5,500,056</b>	<b>\$0</b>

## II. Labrador Island Transmission Link

September 2017 (\$000)	Project Budget	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>
<b>NE-LCP Owners Team, Admin and EPCM Services</b>	\$322,101	\$259,507	\$260,100	\$593	80.6%	80.8%	0.2%
<b>Feasibility Engineering</b>	\$19,167	\$19,167	\$19,167	\$0	100.0%	100.0%	0.0%
<b>Environmental &amp; Regulatory Compliance</b>	\$14,726	\$11,910	\$11,600	(\$310)	80.9%	78.8%	-2.1%
<b>Aboriginal Affairs</b>	\$1,003	\$661	\$612	(\$49)	65.9%	61.0%	-4.9%
<b>Procurement &amp; Construction</b>	\$3,233,690	\$2,901,668	\$2,856,053	(\$45,615)	89.7%	88.3%	-1.4%
<b>Commercial &amp; Legal</b>	\$30,280	\$17,248	\$16,225	(\$1,023)	57.0%	53.6%	-3.4%
<b>Contingency</b>	\$102,750	\$0	\$0	\$0	0.0%	0.0%	0.0%
<b>TOTAL</b>	<b>\$3,723,716</b>	<b>\$3,210,161</b>	<b>\$3,163,757</b>	<b>(\$46,404)</b>	<b>86.2%</b>	<b>85.0%</b>	<b>-1.2%</b>

September 2017 (\$000)	Project Budget	Incurred Costs September 2017	Project Forecast Cost September 2017	Variance PFC from Budget
<b>NE-LCP Owners Team, Admin and EPCM Services</b>	\$322,101	\$260,100	\$322,481	(\$380)
<b>Feasibility Engineering</b>	\$19,167	\$19,167	\$19,167	\$0
<b>Environmental &amp; Regulatory Compliance</b>	\$14,726	\$11,600	\$14,726	\$0
<b>Aboriginal Affairs</b>	\$1,003	\$612	\$1,003	\$0
<b>Procurement &amp; Construction</b>	\$3,233,690	\$2,856,053	\$3,262,232	(\$28,542)
<b>Commercial &amp; Legal</b>	\$30,280	\$16,225	\$30,280	\$0
<b>Contingency</b>	\$102,750	\$0	\$73,828	\$28,922
<b>TOTAL</b>	<b>\$3,723,716</b>	<b>\$3,163,757</b>	<b>\$3,723,716</b>	<b>\$0</b>

# III. Labrador Transmission Assets

September 2017 (\$000)	Project Budget	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>
<b>NE-LCP Owners Team, Admin and EPCM Services</b>	\$137,284	\$125,676	\$122,841	(\$2,835)	91.5%	89.5%	-2.1%
<b>Feasibility Engineering</b>	\$363	\$363	\$363	\$0	100.0%	100.0%	0.0%
<b>Environmental &amp; Regulatory Compliance</b>	\$817	\$817	\$814	(\$3)	100.0%	99.6%	-0.4%
<b>Aboriginal Affairs</b>	\$80	\$20	\$0	(\$20)	25.0%	0.0%	-25.0%
<b>Procurement &amp; Construction</b>	\$739,617	\$713,953	\$690,988	(\$22,965)	96.5%	93.4%	-3.1%
<b>Commercial &amp; Legal</b>	\$5,383	\$3,735	\$3,527	(\$208)	69.4%	65.5%	-3.9%
<b>Contingency</b>	\$10,012	\$0	\$0	\$0	0.0%	0.0%	0.0%
<b>TOTAL</b>	<b>\$893,556</b>	<b>\$844,565</b>	<b>\$818,531</b>	<b>(\$26,034)</b>	<b>94.5%</b>	<b>91.6%</b>	<b>-2.9%</b>

September 2017 (\$000)	Project Budget	Incurred Costs	Project Forecast	
			September 2017	Variance PFC from Budget
<i>Description</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D=A-C</i>
<b>NE-LCP Owners Team, Admin and EPCM Services</b>	\$137,284	\$122,841	\$137,284	\$0
<b>Feasibility Engineering</b>	\$363	\$363	\$363	\$0
<b>Environmental &amp; Regulatory Compliance</b>	\$817	\$814	\$817	\$0
<b>Aboriginal Affairs</b>	\$80	\$0	\$80	\$0
<b>Procurement &amp; Construction</b>	\$739,617	\$690,988	\$736,414	\$3,203
<b>Commercial &amp; Legal</b>	\$5,383	\$3,527	\$5,383	\$0
<b>Contingency</b>	\$10,012	\$0	\$13,215	(\$3,203)
<b>TOTAL</b>	<b>\$893,556</b>	<b>\$818,531</b>	<b>\$893,556</b>	<b>\$0</b>

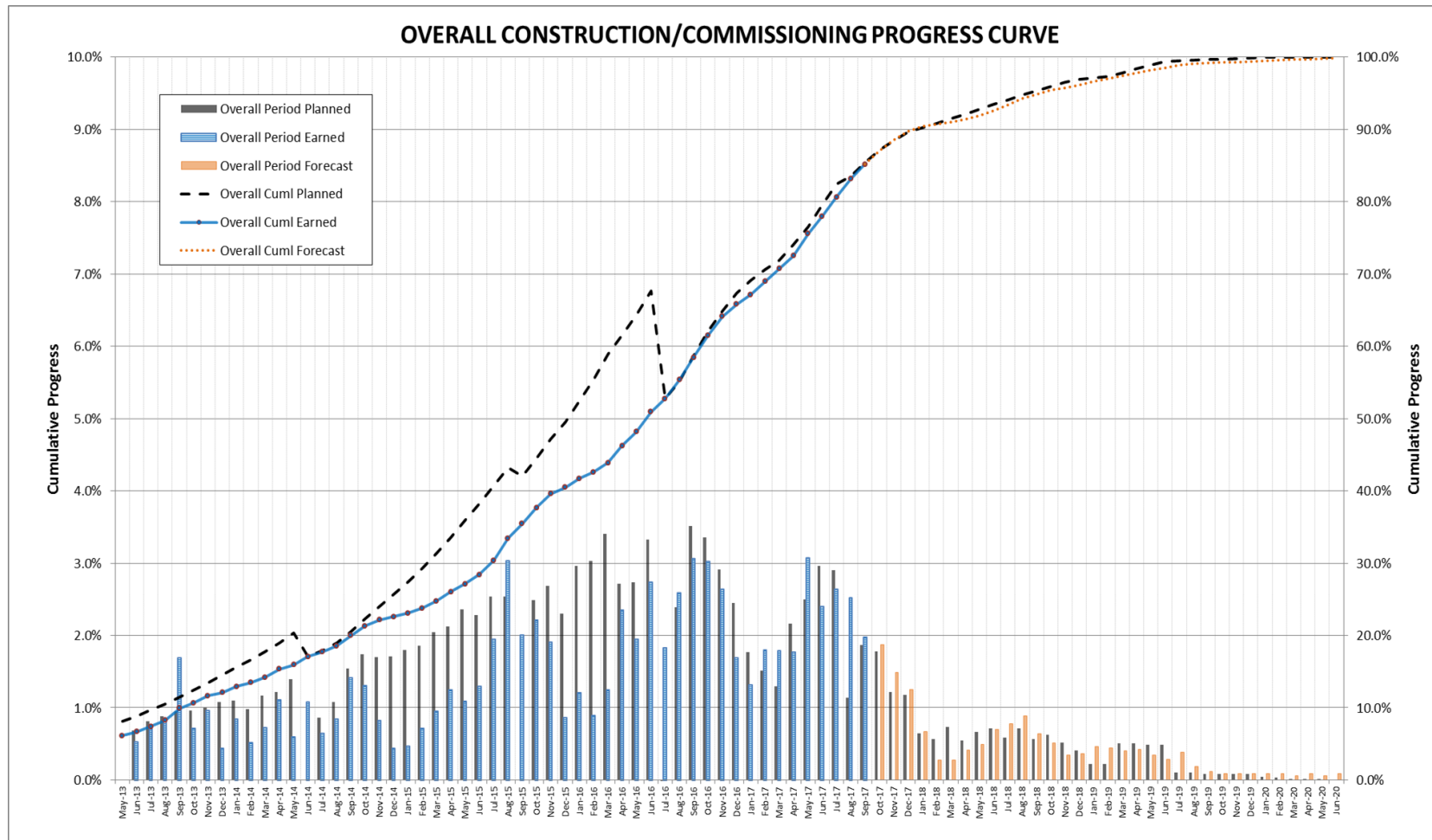
# Annex C

## Earned Progress

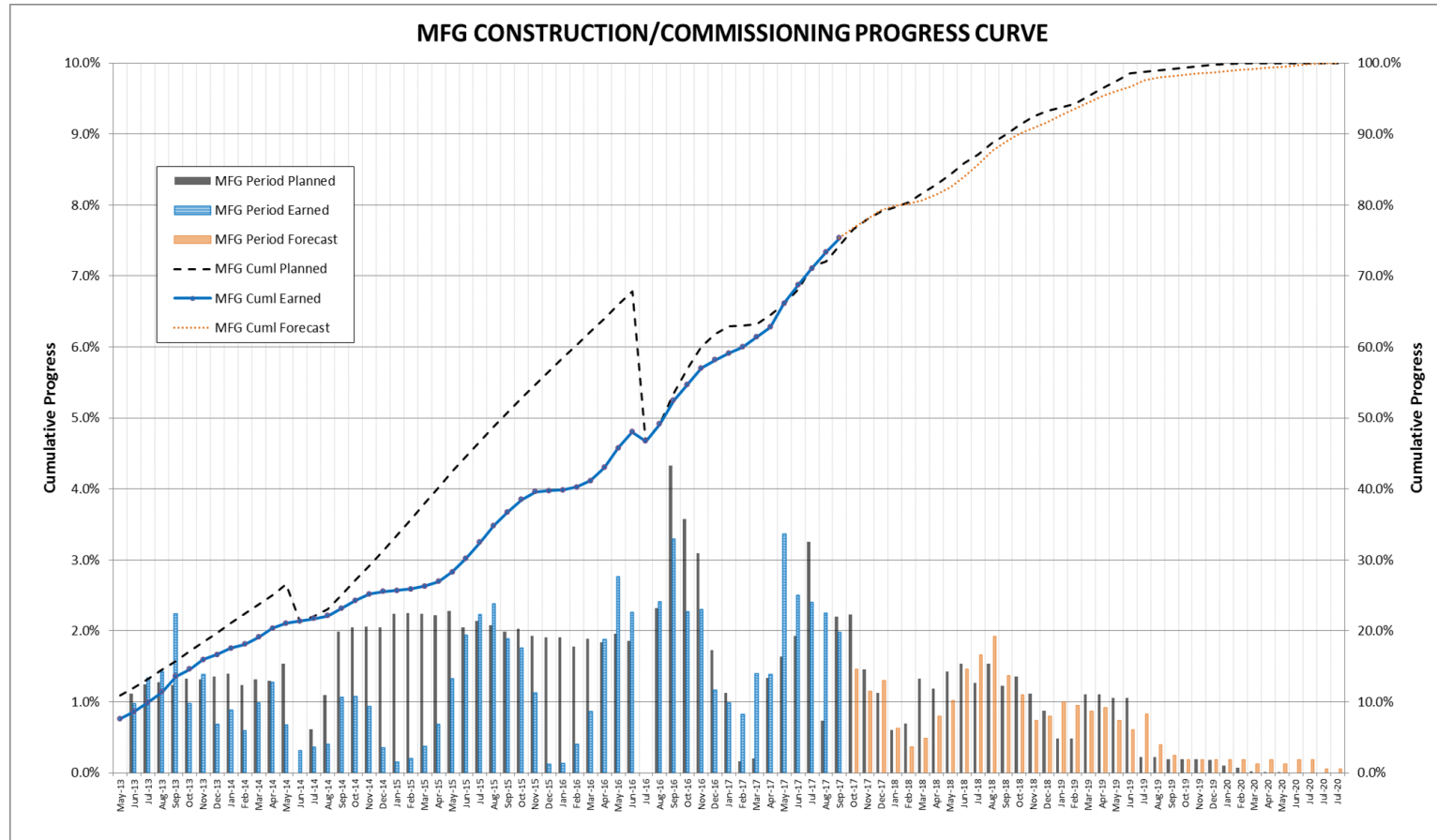
- I. Overall Construction
- II. Muskrat Falls Generation
- III. Powerhouse Concrete Placement
- IV. Labrador Island Transmission Link
- V. Labrador Transmission Assets

Columns in tables may not total due to rounding

# I. Overall Construction



# II. Muskrat Falls Generation



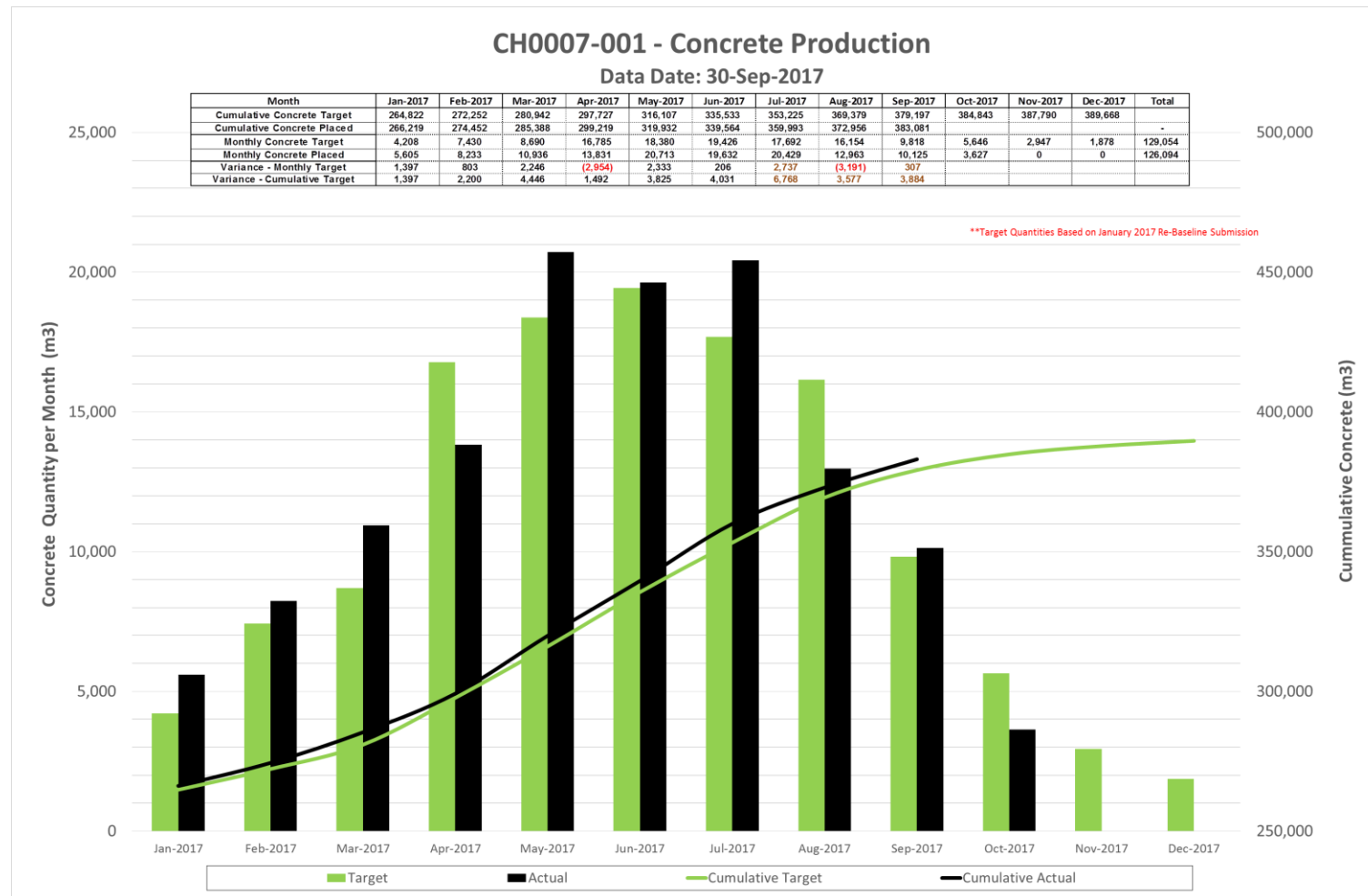


## II. Muskrat Falls Generation

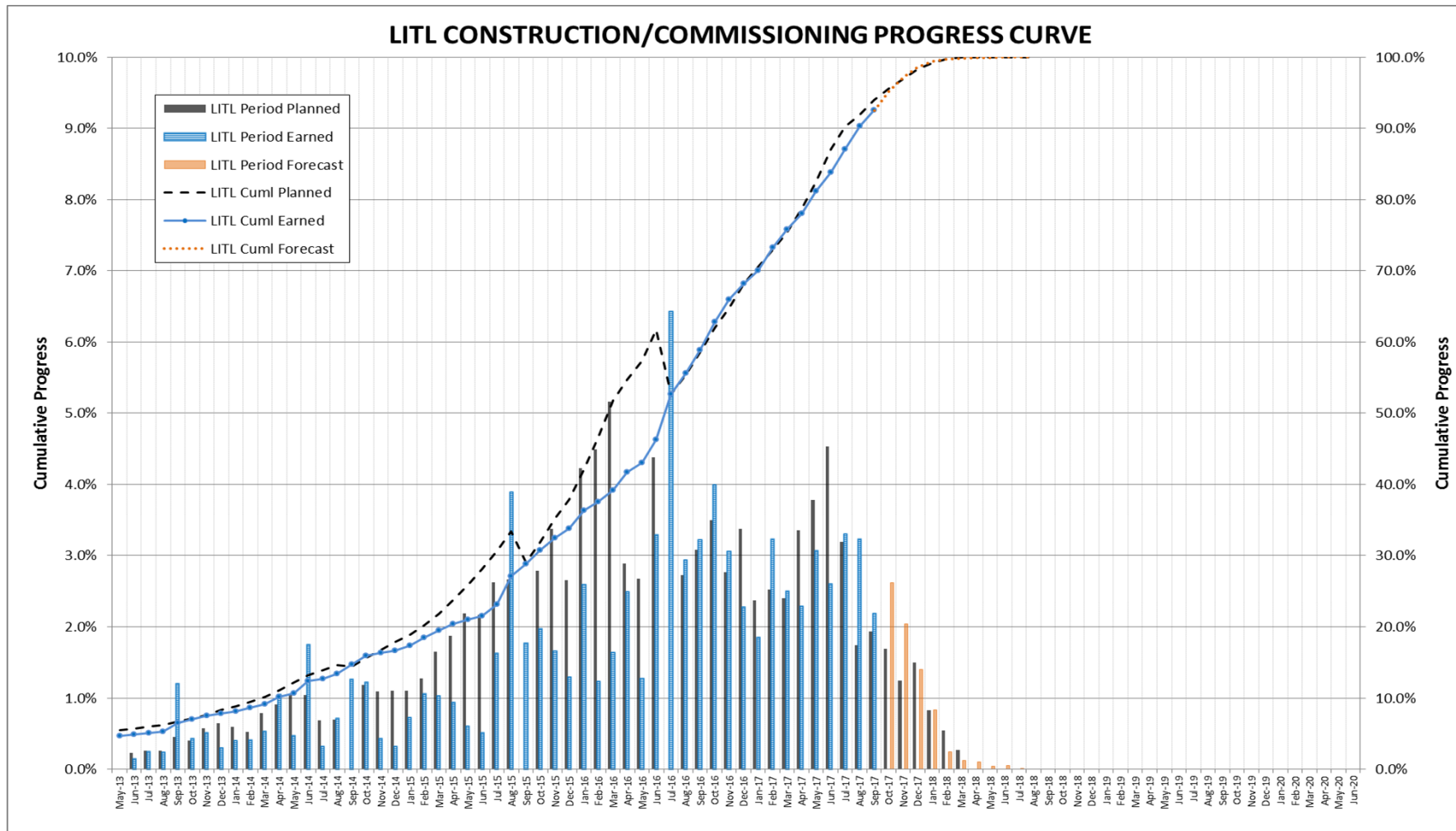
Cumulative to end of September 2017	Weight Factor %	September 2017 Cumulative %			August 2017 Variance
		Planned	Earned	Variance	
<i>Sub-Project</i>	A	B	C	D = C - B	E
MFG Road/Camp/Constr. Power	8.9%	100.0%	100.0%	0.0%	0.0%
MFG Reservoir Preparation	5.8%	100.0%	98.0%	-2.0%	-2.0%
MFG Spillway & Gates	12.2%	92.9%	84.8%	-8.1%	-5.8%
MFG North Spur Stabilization	3.9%	100.0%	100.0%	0.0%	-0.5%
MFG North Dam <sup>1</sup> .	5.7%	<sup>1</sup> 56.0%	51.4%	-4.6%	-45.1%
MFG Powerhouse & intake	61.3%	64.0%	67.9%	3.9%	4.6%
MFG South Dam	1.1%	100.0%	98.0%	-2.0%	-6.2%
MFG Misc:Eng/ 315kV/Site Rest./logistic	1.1%	78.0%	78.0%	0.0%	-13.3%
MFGGen - Overall	100.0%	74.3%	75.3%	1.0%	-0.9%

1. North Dam Planned Progress revised to align with approved re-baseline contract schedule – September 2017.

# III. Powerhouse Concrete Placement



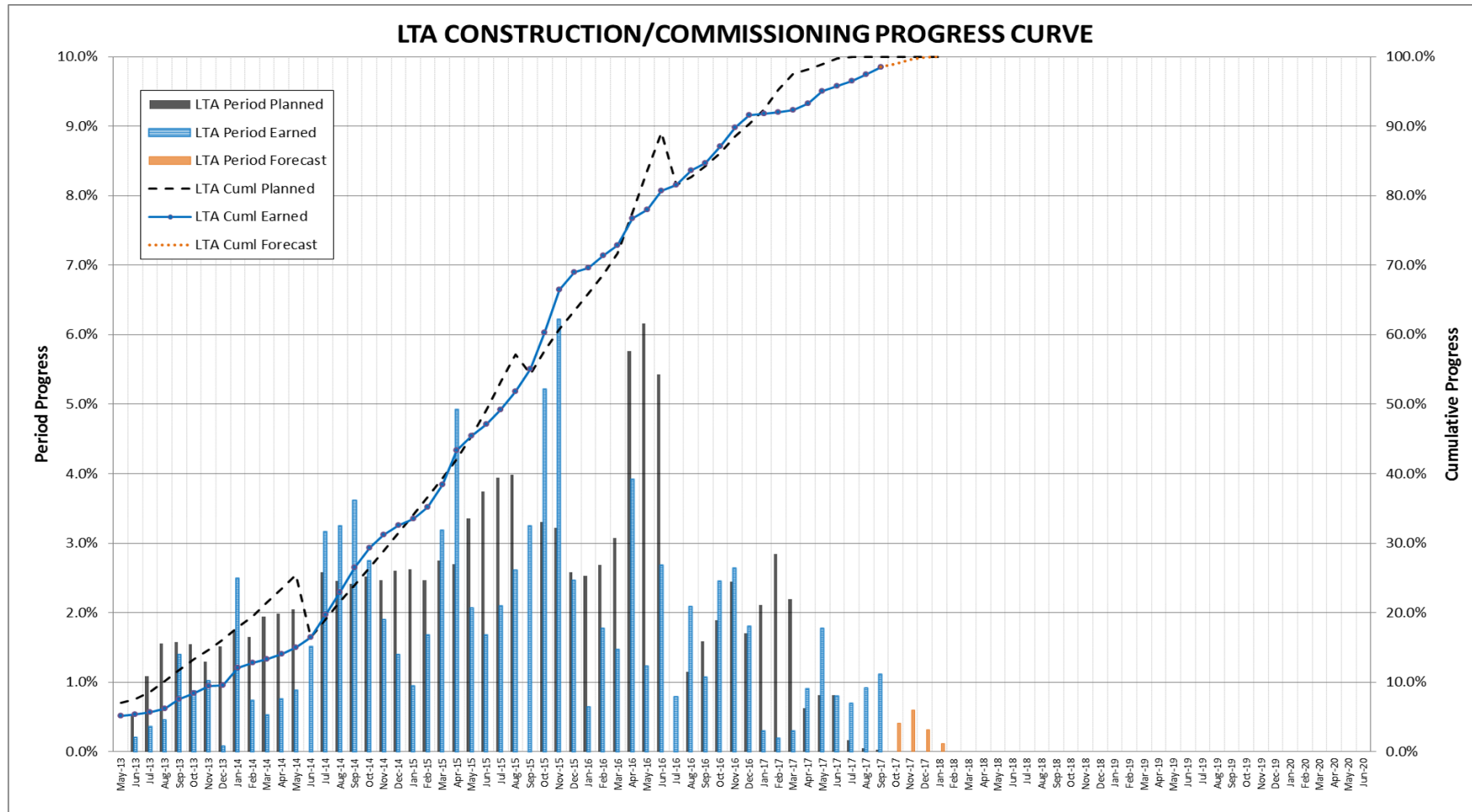
# IV. Labrador Island Transmission Link



## IV. Labrador Island Transmission Link

Cumulative to end of September 2017	Weight	September 2017 Cumulative %			August
	Factor %	Plan	Earned	Variance	2017 Variance
<i>Sub-Project</i>	A	B	C	D = C - B	E
LITL Muskrat Falls Converter	6.1%	97.8%	63.6%	-34.2%	-44.6%
LITL Soldiers Pond Converter	5.5%	97.0%	71.5%	-25.5%	-32.2%
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%	83.2%	93.5%	10.3%	14.4%
LITL Electrode Sites	0.8%	100.0%	81.3%	-18.7%	-25.0%
LITL Transition Compounds	1.7%	98.0%	80.9%	-17.1%	-35.9%
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%	-0.2%
LITL Soldiers Pond Sync. Condensers	3.1%	100.0%	79.4%	-20.6%	-27.3%
LITL Misc	1.4%	100.0%	74.1%	-25.9%	-29.7%
LITL- Overall	100.0%	93.9%	92.5%	-1.4%	-1.7%

# V. Labrador Transmission Assets



# V. Labrador Transmission Assets

Cumulative to end of September 2017	Weight	September 2017 Cumulative %			August 2017
	Factor %	Plan	Earned	Variance	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%	98.4%	-1.6%	-2.9%
LTA Muskrat Falls Switchyard	13.4%	100.0%	93.3%	-6.7%	-11.6%
LTA Misc	2.1%	100.0%	89.5%	-10.5%	-18.4%
LTA - Overall	100.0%	100.0%	98.5%	-1.5%	-2.6%

# Annex D

## Project Milestone Schedule

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

# I. Muskrat Falls Generation

Muskrat Falls Generation	June 2017 Budget Planned Date	September 2017 Actual / Forecast
Project Sanction	17-Dec-12	Complete
North Spur Works Ready for Diversion	31-Oct-16	Complete
River Diversion Complete	15-Feb-17	Interim Impoundment Achieved (Feb 2017) Impoundment to 25 metres pending
Reservoir Impoundment Complete	1-Nov-19	Forecast Dates subject to ongoing commercial negotiations. Nalcor advises Forecast changes are not anticipated to be beyond Planned Dates
Powerhouse Unit 1 Commissioned - Ready for Operation	19-Dec-19	
First Power from Muskrat Falls	02-Nov-19	"
Powerhouse Unit 2 Commissioned - Ready for Operation	3-Mar-20	"
Powerhouse Unit 3 Commissioned - Ready for Operation	9-Jun-20	"
Powerhouse Unit 4 Commissioned - Ready for Operation	14-Aug-20	"
Full Power from Muskrat Falls	14-Aug-20	"
Commissioning Complete - Commissioning Certificate Issued	01-Sep-20	"



## II. Labrador Island Transmission Link

Labrador Island Transmission Link	June 2017 Budget Planned Date	September 2017 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	7-Feb-18
Muskrat Falls Converter Station Ready to Energize (Pole 1)	1-Jun-18	25-Feb-18
HVdc Transmission Line Construction Complete	31-Dec-17	1-Dec-17
Soldier's Pond Converter Station Ready to Energize (Pole 1)	1-Jun-18	14-Feb-18
1ST Power Transfer (Pole 1)	1-Jul-18	18-Apr-18
Soldiers Pond Synchronous Condenser Ready for Operation	1-Jun-18	31-Aug-18
Ready for Power Transmission (Low Load Testing Complete Pole 1)	1-Dec-18	17-Jun-18
Muskrat Falls and Soldiers Pond Converter Stations - Bipole Dynamic Testing Complete	31-Mar-19	27-Jan-19
Commissioning Complete - Commissioning Certificate Issued	1-Sep-20	1-Sep-20

# III. Labrador Transmission Assets

Labrador Transmission Assets	June 2017 Budget Planned Date	September 2017 Actual / Forecast
Project Sanction	17-Dec-12	Complete
Hvac Transmission Line Construction Complete	31-May-17	Complete (energization pending) Line 3102 handed over to Owner. Clearing of punch list items on 3101 ongoing
Churchill Falls Switchyard Ready to Energize	30-Nov-17	22-Dec-17
Muskrat Falls Switchyard Ready to Energize	30-Nov-17	31-Dec-17
Ready for Power Transmission	31-Dec-17	7-Feb-18
Commissioning Complete - Commissioning Certificate Issued	1-Sep-20	1-Sep-20

# End of Report