



Muskrat Falls Project Oversight Committee

Quarterly Project Update

Period Ending March 31, 2020

June 15, 2020

Table of Contents

1. Q1 2020 Cumulative Costs
2. Q1 2020 Planned and Incurred Costs
3. Oversight Committee Reporting
4. Nalcor Reporting

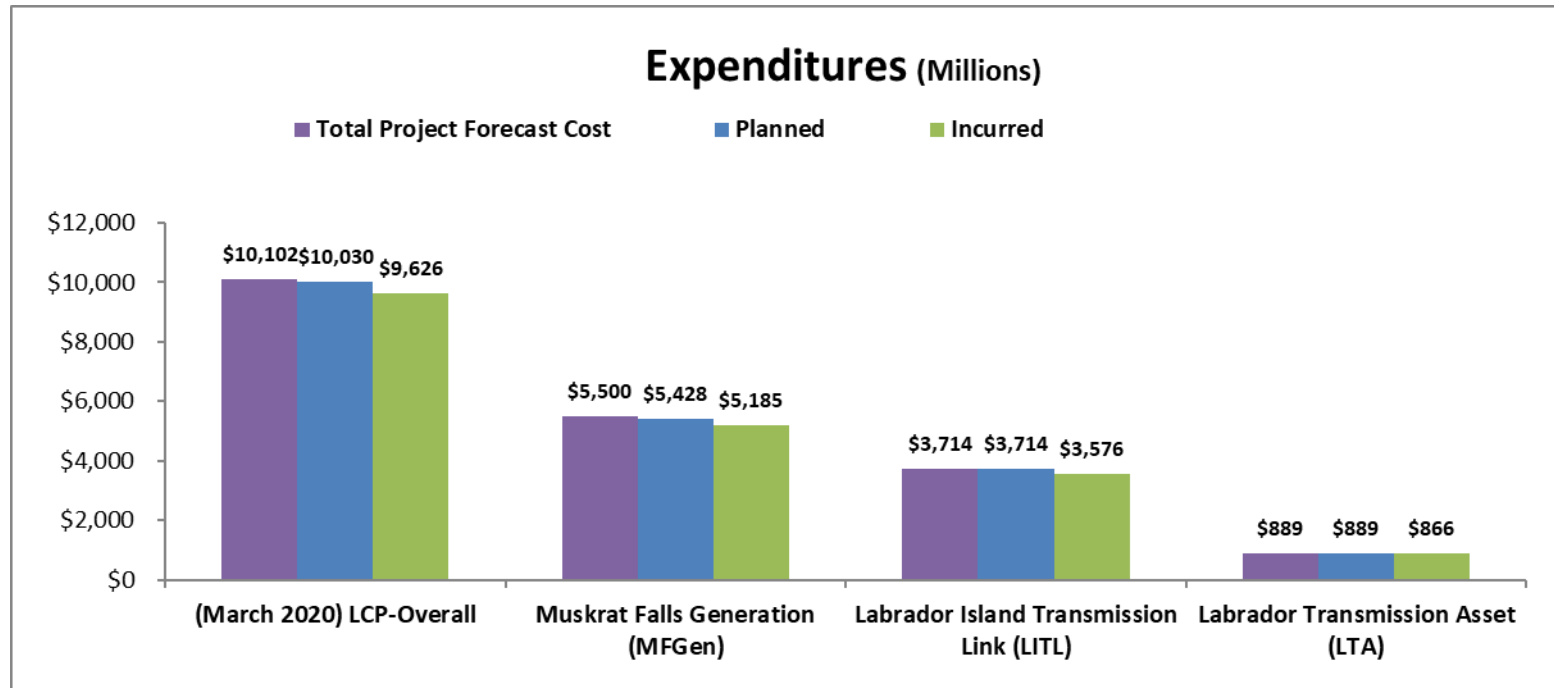
Annex A - Project Capital Budget and Project Milestone Schedule

Annex B - Project Expenditures

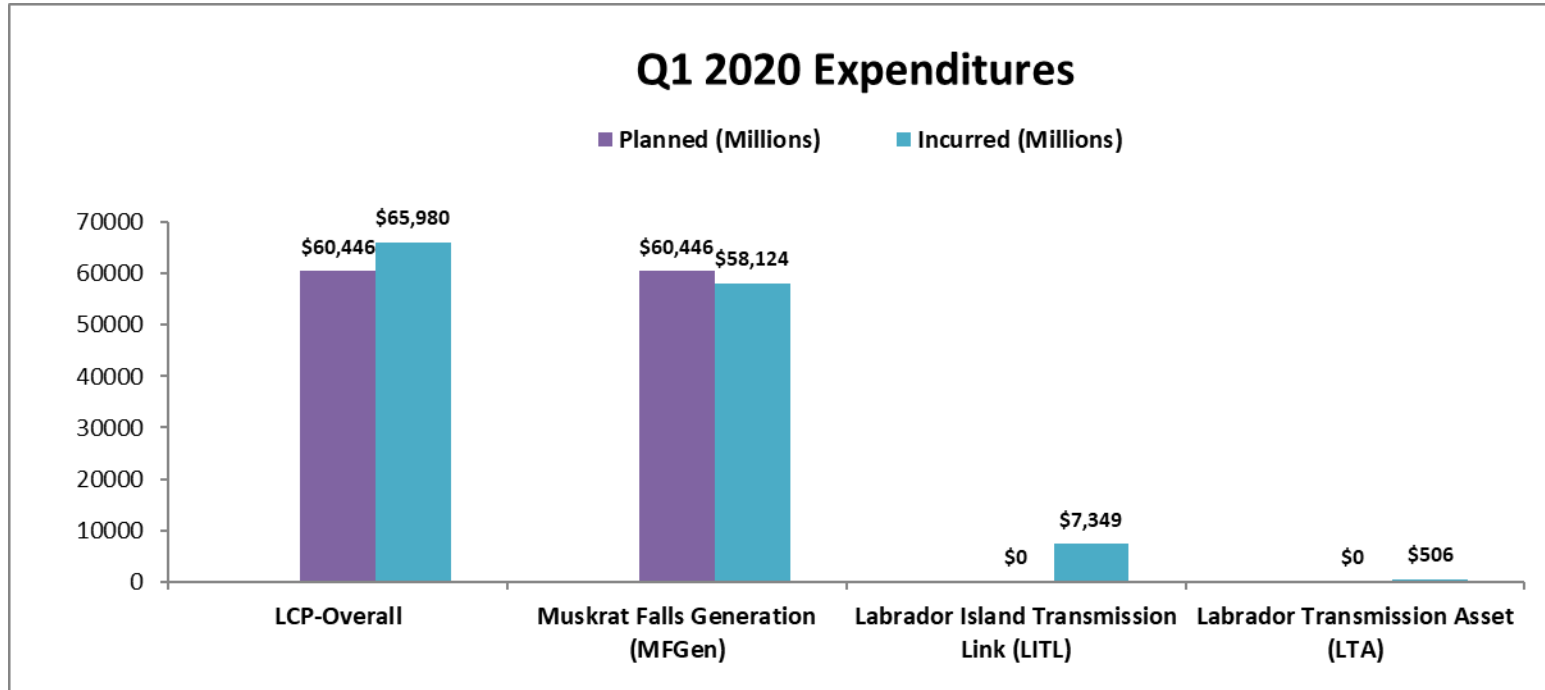
Annex C - Earned Progress

Annex D - Project Milestone Schedule Forecast

1. Q1 2020 Cumulative Costs



2. Q1 2020 Planed and Incurred Costs

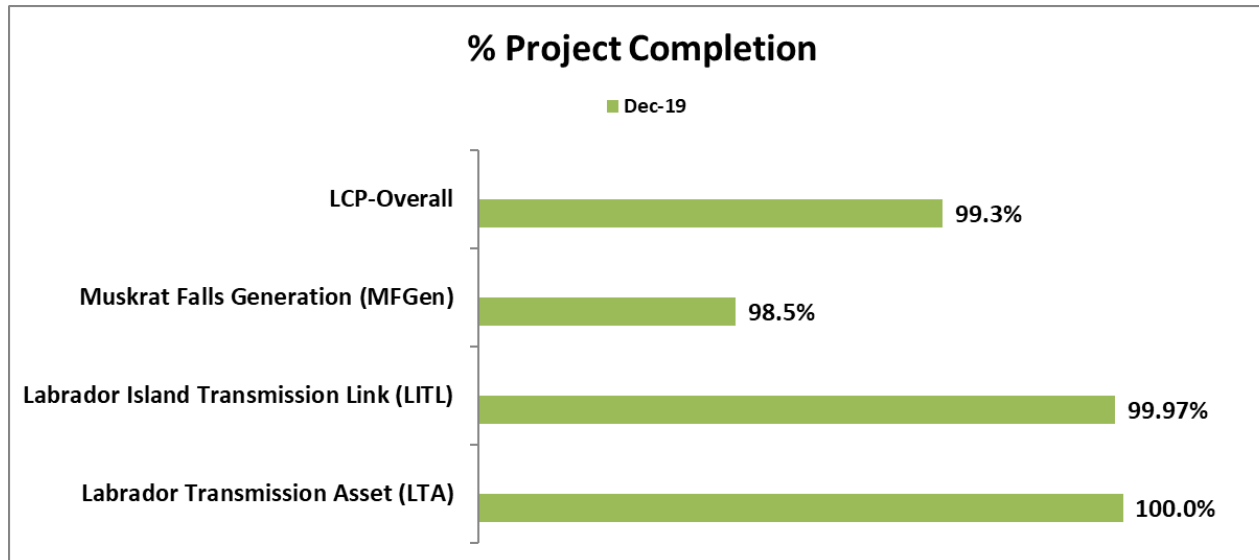


3.0 Oversight Committee Reporting

- 3.1 Overview
- 3.2 Committee Activities
- 3.3 Independent Engineer Activities
- 3.4 Risks and Issues Being Monitored by the Committee
- 3.5 Subsequent Events to Q1 and Other Notable Activity

3.1 Overview

- The Oversight Committee (Committee) receives details on project costs incurred, schedule progress, changes in costs and milestone schedule, the status of construction, and 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 to March 2020 period (Q1) and includes information on other notable project activity up to the date of drafting of this report.
- In December 2019, the project achieved > 99% construction complete. This progress was reported as follows:



3.1 Overview

- With earned progress overall above 99.3%, commencing in January 2020, the Project discontinued reporting earned progress and has shifted reporting to focus on remaining construction and commissioning work to be completed under remaining material contracts.
- This change impacts the reporting template for the Committee and in this report it will be noticeable that construction progress in terms of percentages complete will no longer be included.
- Reporting on planned and incurred costs will continue, however. Remaining installation and commissioning work will be reported upon by individual contracts or work activity going forward.
- Section 3 of this report contains information developed by the Committee. Section 4 contains project cost and schedule information provided by Nalcor. The Annexes contain a more detailed accounting of the information provided in this report.
- The next Committee Report will cover the period April 2020 - June 2020.

3.2 Committee Activities

- The Committee met on two 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 Chair and Natural Resources Director participated as an observer in 3 monthly calls on Nalcor project reporting to the IE and NRCan and two calls with the NRCan and the IE separate from Nalcor.
- Planned visits to project sites were put on hold due to COVID-19 pandemic travel and physical distancing restrictions.

3.3 Independent Engineer Activities

- A planned March-April 2020 Muskrat Falls project site visit and Stafford HVdc protection and Controls (P&C) software development site visit were impacted by COVID-19 travel restrictions.
- Nalcor has advised that in the intervening timeframe, the Independent Engineer (IE) has been receiving project information as requested from the Nalcor and that the IE has been able to remotely observe P&C software Factory Accepted Testing (FAT) for interim bipole software. Arrangements will be made again to do so during the second phase of FAT.

3.4 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. These risks can be found on pages 11-14 of this report.
- Over the reporting period the Committee noted:
 - The COVID-19 pandemic has resulted in the suspension of construction and commissioning work at both Muskrat Falls and Soldiers Pond in March 2020, with the sites being placed into care and maintenance mode;
 - Reservoir rim stability remained consistent over the Quarter;
 - Litigation and Arbitration proceedings continue with Astaldi;
 - Protection and Controls (P&C) software completion for the HVdc system and schedule remains a key project risk. P&C software completion has placed the LITL on the critical path for the overall project schedule. Testing has advanced from Factory System Testing (FST) to Factory Acceptance Testing (FAT);
 - Soldiers Pond synchronous condensers vibration and binding issues root cause and remediation remain ongoing. When Unit 3 bearings and housing were removed corrosion and damage was observed;
 - Official forecast completion of key milestones under the Integrated Project Schedule (IPS) have not been updated since the reporting period ending January 2020 due to the suspension of construction and commissioning work at both Muskrat Falls and Soldiers Pond in March 2020, with the sites being placed into care and maintenance mode and cessation of contractor reporting and uncertainty as to when and how operations can re-start; and
 - Nalcor/NLH preparedness for interconnection and operations following transfer of power and final completion of bipole remains a key focus area.

3.4 Risk and Issues being Monitored by the Committee

- The project is now largely in the installation, integration and static and dynamic commissioning phases which inherently carry associated risks.
- Risks that are being tracked by the Committee include:
 - A) Safety Performance
 - Risk associated with simultaneous operations across multiple work sites, impact on project delivery particularly in the powerhouse, energized yards 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.

3.4 Risk and Issues being Monitored by the Committee

C) Phased Commissioning

- Completion of P&C system to enhance functionality and reliability; associated warranty considerations with early asset handover during commissioning and completion;
- Final completion and testing of HVdc system under low and full power, in-service system reliability, and timing of contractor release and effective warranty period; and
- P&C software delivery and final commissioning completion to maintain project critical path and power delivery.

D) Astaldi

- Astaldi arbitration/litigation outcomes and potential impact on project costs.

E) Synchronous Condensers

- Remediation of vibration (Unit 3) and binding (Unit 1) issues; and new corrosion and damage issues identified this quarter on Unit 3 and potential impact on transmission project schedule.

3.4 Risk and Issues being Monitored by the Committee

F) Insurance Claims and Coverage

- Potential coverage: Preservation/re-preservation of Turbine and Generator parts - investigations ongoing - claim is still active, and resolutions are part of ongoing commercial discussions with Andritz.
- Potential coverage: Spillway secondary concrete and gate guide heater tubulars repairs – repair proposals received with some details to follow, and resumption of site activities to implement repairs are now being planned. Potential coverage still being pursued.

G) LITL and Powerhouse Commissioning

- Commissioning of LITL and powerhouse generation Units 1 through 4 and future revised schedule.

H) Reservoir Rim Stability

- Impact of reservoir full supply level on reservoir shoreline/slope stability.

I) 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.

3.4 Risk and Issues being Monitored by the Committee

J) Project Delivery Team Retention

- Project Team personnel departures and potential impact on project completion.

K) Additional Risks (above the June 2017 Project Budget)

- COVID-19 cost and schedule impacts;
- Astaldi arbitration/litigation; and
- Alternate HVdc P&C software development.
- Funds are not held within the June 2017 Project Budget for these additional risks.

3.5 Subsequent Events to Q1 2020 and Other Notable Activity

- On March 10, 2020 the Government of Newfoundland and Labrador released the Commission of Inquiry Respecting the Muskrat Falls Project Commissioner's Report.
- In April 2020, Astaldi filed an application to amend its Statement of Claim (which Nalcor is objecting to) seeking an increase in damages claimed.
- In response to the COVID-19 Pandemic in March 2020, Nalcor declared Force Majeure under its major construction contracts and commenced the suspension of construction and commissioning work at both Muskrat Falls and Soldiers Pond in March 2020, with the sites being placed in care and maintenance mode.
- In April 2020, Nalcor declared Force Majeure under the Project Financing Agreements, the Power Purchase Agreement with Newfoundland and Labrador Hydro, the Energy and Capacity Agreement and Development Agreement with Emera.
- In March, April and May 2020, Nalcor provided the Public Utilities Board (PUB) with the Liberty Consulting Group Quarterly Monitoring Reports on the Integration of Power Supply Facilities to the Island Interconnected System – Monthly Updates.
- On May 14, 2020 the Committee Chair and Committee solicitor met with Nalcor and its external counsel to receive an update on the Astaldi arbitration.

3.5 Subsequent Events to Q1 2020 and Other Notable Activity

- In May 2020, Nalcor provided the Committee an update on potential impacts of COVID-19 and other risks on project cost and schedule as a **risk management exercise only. This update was not based on an updated Integrated Project Schedule (IPS).** The IPS will be updated upon return of contractors to work and progress productivity being analyzed and reported.
 - Potential milestone dates that were provided are an estimate of the impacts on schedule related to COVID-19, and other known project schedule risks (namely, HVdc P&C software development, synchronous condenser binding and vibration remediation and powerhouse units commissioning). **These outcomes do not represent an official forecast. Significant variability and risk is associated with schedule potential outcomes.**
 - Overall, various project milestones could be delayed by approximately 4-10 months from those reported by Nalcor in the Committee's February 26, 2020 - 2019 Quarter 4 report, placing project completion beyond Date Certain (February 2021). See table on next slide for further schedule details. It is also important to note that while project completion is estimated to be 4 months beyond the current Date Certain, final high power testing of the complete bipole may not be able to be completed until fall 2021 when demand is such to transfer > 800 megawatts on the system. Nalcor advises it anticipates that each pole can likely be tested to maximum thermal rating prior to then.
- Potential capital costs associated with COVID-19 only (exclusive of costs associated with other known project risks noted above and financing and interest charges) were also estimated. **This outcome does not represent an official cost estimate. Significant variability and risk is associated with COVID-19 cost potential outcomes.**
 - Project capital costs will increase in the range of \$150 to \$200 million.
- Financing and Other Costs
 - Under the existing Project Financing Agreement and Transmission Funding Agreement, interest payments on bonds and AFUDC on the LITL are to be paid by ratepayers following commissioning. With commissioning not occurring now until 4 months past Date Certain, approximately \$400 million in financing and other costs would be required to be funded.
- In preparation for not being able to meet the Date Certain requirements as noted above, a waiver has been granted by the Government of Canada and the Collateral Agent.

3.5 Subsequent Events to Q1 2020 and Other Notable Activity

Potential Outcomes COVID-19 and Other Schedule Risks (To be confirmed post resumption of work)

Milestone	Date - Post-COVID
<u>Generation</u>	
Commercial Power Unit 1	Q3 2020 ¹
Commercial Power Unit 2	Q4 2020 ¹
Commercial Power Unit 3	Q1 2021 ¹
Commercial Power Unit 4	Q2 2021 ¹
<u>Transmission</u>	
LIL Interim Software (trial operations complete)	Q4 2020 ²
LIL Final Software (high power testing complete)	Q2 2021 ²
SC Unit 1 Commissioned	Q2 2021 ³
SC Unit 2 Commissioned	Q2 2021 ³
SC Unit 3 Commissioned	Q1 2021 ³

¹Includes potential late delivery of commissioned powerhouse generating units

²Includes potential late delivery of Interim and Final software

³Includes potential late delivery of synchronous condensers due to lateral vibration remediation

- Nalcor advises that a more robust cost and schedule update will be provided in Quarter 3, 2020 following the post COVID-19 work suspension and care and maintenance program and resumption of work and contractor progress reporting.

4.0 Nalcor Reporting

- 4.1 Summary - Quarter Ending March 2020
- 4.2 Project Expenditures
- 4.3 Contingency
- 4.4 Earned Progress

4.1 Summary – Quarter Ending March 2020

- March 2020 Summary:
 - Overall construction progress is at 99.3% (December 2019);
 - \$9,626 Million in incurred costs; and
 - \$9,681 Million in committed costs.
- As a result of the evolving COVID-19 pandemic, the Project took specific steps to ensure the health and safety of all of its workers, as well as the public, and in that regard, construction work at both the Muskrat Falls Site and the Soldiers Pond Site was paused, both Sites placed into care and maintenance mode; and the Project office at Torbay Road was closed, with majority of the Project Delivery Team working remotely from home as per guidance from the Government of Newfoundland and Labrador. A Force Majeure was declared and letters were issued to all active contractors.
- As a result of the above, the Project is unable to provide a reliable forecast date for the key milestones that have not yet been achieved in both Power Development and Power Supply; and the Integrated Project Schedule will not be updated until there is greater certainty on the path forward. The full impact on both the final forecast cost and the key schedule milestones is unknown at this time.
- A more robust cost and schedule update will be provided in Quarter 3, 2020 following the post COVID-19 work suspension and care and maintenance program and resumption of work and contractor progress reporting.

4.1 Summary – Quarter Ending March 2020

- As of March 2020, the 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. As well, there are transfers of unused budget from procurement and construction to the contingency budget to be used in other areas of the project.
 - Does not include Additional Risks as reported on slide 14, which at the end of March 2020 totaled approximately \$850 Million. If these risks are realized, they may become project costs.
 - The current forecast contingency budget at March 2020 is \$129.2 Million, a decrease of \$5.5 Million from the previous Quarter. For further detail see Section 4.3.

4.1 Summary – Quarter Ending March 2020

Quarterly Planned vs Incurred Cost Variances:

MFGen	
Cumulative Planned: \$5,428M	Q1 2020 Planned: \$60M
Cumulative Incurred: \$5,185M	Q1 2020 Incurred: \$58M
Variance: -\$242.3M (-4.5%)	Variance: \$2M (-3.3%)

- Planned expenditure by month was set in June 2017.
- During Q1 2020, the variance in planned vs. incurred cost is primarily due to lower than planned incurred in March due to the site ramp down to care and maintenance mode due to the COVID-19.
- See Section 4.2 and Annex B for further detail.

4.1 Summary – Quarter Ending March 2020

Quarterly Planned vs Incurred Cost Variances:

LITL	
Cumulative Planned: \$3,714M	Q1 2020 Planned: \$0M
Cumulative Incurred: \$3,575M	Q1 2020 Incurred: \$7M
Variance: -\$139 (-3.7%)	Variance: \$7M

LTA	
Cumulative Planned: \$889M	Q1 2020 Planned: \$0M
Cumulative Incurred: \$865M	Q1 2020 Incurred: \$0.5M
Variance: -\$24M (-2.7%)	Variance: \$0.5M

- The planned expenditure by month was set in June of 2017.
- During Q1 2020, incurred was higher than planned due to extension of work scope into 2020, whereas work scope was planned to be substantially complete in 2018.
- See Section 4.2 and Annex B for further detail.

4.1 Summary – Quarter Ending March 2020

Planned vs Earned Progress:

- MFGen
 - >98.5 complete
- LITL
 - > 99% complete
- LTA
 - Complete
- See Section 4.2 and Annex C for further detail.

4.1 Summary – Quarter Ending March 2020

Power Development¹:

Project actions in response to the COVID-19 Pandemic:

- On March 17, Construction work at the Muskrat Falls Site was paused and the Site placed into a care and maintenance mode; The project also enacted its work-from-home policy and the majority of the Project Delivery Team is working remotely from home;
- Force Majeure was declared on major contracts;
- The Muskrat Falls Site continues to operate in care and maintenance mode; 80 +- essential workers on site maintaining essential systems and operations; all workers are housed at the camp; and the site team is rotated at the completion of each turnaround; a small crew is in place to respond problems and to monitor operation of equipment;
- COVID-19 screening and monitoring measures have been implemented at the Site, including daily temperature testing of all workers, social distancing, and enhanced sanitization;
- All normal project functions and activities are working in the LCP 'virtual' project office; protocols and procedures have been implemented to facilitate safe operation of the Muskrat Falls site while operating the site in care and maintenance mode;

¹ Some actions in this and the following slide were performed since March 2020

4.1 Summary – Quarter Ending March 2020

- Since March 2020, guidelines have been developed and issued to Contractors for resuming work at the project sites during the COVID-19 pandemic; Contractors are tasked with developing site restart plans for their work scopes;
- Unit 1 commissioning is an immediate priority;
- Lack of information regarding contractor productivity and progress rates has precluded the development of a reliable forecast date for upcoming milestones; the Integrated Project Schedule (IPS) will be updated when there is greater certainty on the path forward and COVID-19 costs are being tracked;
- While Construction is paused, the CH0030 (Turbines and Generators), CH0031 (Balance of Plant), and CH0032 (Supply and Installation of Hydro-Mechanical Equipment) Contractors remain engaged and supporting the Project;
 - By ensuring all engineering issues and technical documents are complete and up to date; advancing essential administrative work and closeout activities with respect to completed work scopes; and
 - As part of the Site restart plan, timing of other priority work at site, including completion of remaining base scope, punchlist items, and site remediation scope under Contract CH0011-002; and remaining and repair work under Contract CH0032, will be assessed.

4.1 Summary – Quarter Ending March 2020

Major Contracts Status Update

Following reflects work status prior to ramp down of operations on March 17, 2020:

- Turbines and Generators

Unit	Status
1	Water up complete; wet commissioning commenced 28-Jan-2020; replacement of generator rotor rim keys complete; initial mechanical runs up to synchronous speed completed; and completion of off-line exciter and generator testing by commissioning team ongoing.
2	Rotor rim key installation complete; welding oil head piping and lower bracket sole plates installation ongoing. (88% complete)
3	Installation of runner tower assembly in pit complete; rotor assembly and air admission piping preparations ongoing and rotor rim key installation commenced. (70% complete)
4	Stator cleaning and installation of brake track plates complete; runner assembly and preparation for high potential testing ongoing; rotor rim key installation not commenced. (49% complete)

4.1 Summary – Quarter Ending March 2020

- Intake Powerhouse Transition Dams and Spillway - Remaining Construction
 - Finalization of handover documentation and demobilization ongoing; and
 - Remaining work scope - remaining base scope, punchlist items and site remediation scope - currently under review; work forecast to be executed in Summer / Fall 2020.
- Hydro Mechanical Installation
 - Base Spillway scope is complete;
 - Work necessary to enable spillway operation during Spring freshet 2020 complete; and
 - Remaining work and repair work to be completed post Spring freshet 2020.
- Balance of Plant
 - Mechanical Completion and commissioning activities throughout Powerhouse ongoing;
 - Fire detection system installation and seismic and electrical supports ongoing; and
 - Systems to support Ready to Turn Unit 2 continue as work fronts from Andritz are available.
- Arbitration with Astaldi continues; payment of Astaldi related liens against the project continues; Nalcor intends to recover any costs associated from Astaldi or the contract's securities; in April 2020, Astaldi filed an application to amend its Statement of Claim (which Nalcor is objecting to) seeking an increase in damages claimed; witness statements have now been exchanged. Other project residual contingency, funds are not held within the June 2017 budget should net damages be awarded in Astaldi's favour.
- Focus areas for Q2, 2020 include work restart, commissioning of Unit 1. Forecast expenditure for Q2, 2020 is estimated at approximately \$60 Million.

4.1 Summary – Quarter Ending March 2020

Power Supply:

Project Actions in Response to the COVID-19 Pandemic:

- Multiple measures have been taken to protect the health and safety of workers and the public;
- On March 13, 2020, LCP declared Force Majeure on the GE Power 534 contract and the GE Grid 501 contract;
- On March 17, 2020, operations at the MF site, including the C3 yard, ramped down; it is now in care and maintenance mode;
- On March 17, 2020 Nalcor's work-from-home policy as per its Business Continuity Plan was enacted. The project office at Torbay Road was closed and the majority of the project delivery team, with the exception of essential services at sites, are now working remotely from their homes;
- On March 28, 2020, the Soldiers Pond site ramped down operations and is now in care and maintenance mode;
- As part of the 90-day continuity plan, all non-construction project functions and activities are working from the 'virtual' project office;
- Lack of information regarding contractor productivity and progress rates has precluded the development of a reliable forecast date for upcoming milestones; and
- The Integrated Project Schedule will be updated when there is greater certainty on the path forward and COVID-19 costs are being tracked.

4.1 Summary – Quarter Ending March 2020

Project Restart Plans

- Since March, 2020 Guidelines have been developed for resuming work on all project work sites during the COVID-19 pandemic;
- The guidelines detail precautions necessary to protect the health and safety of all personnel performing work on project sites; the guidelines have been issued to contractors to assist with COVID-19 hazard management at work sites;
- Contractors are expected to amend existing, or create new, procedures and/or work methods to ensure COVID-19 hazard controls are implemented in their worker start and recovery protocols; and
- GE Power submitted a restart plan to Nalcor for work at the Soldiers Pond synchronous condenser site. Nalcor worked with GE Power to finalize their restart plan. On April 29, 2020, Nalcor provided GE Power with notice to start remobilization to site.

4.1 Summary – Quarter Ending March 2020

Protection and Controls (P&C) Transmission Bipole Software

- Software Progress During COVID-19
 - GE Grid has implemented their work from home policy for non-essential personnel; however, software development continues and a core team of personnel remain on site to support those working from home and complete testing work in the lab;
 - Nalcor and GE Grid have established a process to ensure software development;
 - Testing and witnessing continues during this period of work and travel restrictions; technology to allow remote participation is being used to enable witnessing of Factory Accepted Testing (FAT) by Nalcor and Independent Third Party (ITP) personnel;
 - To date no issues have been identified with remote participation;
 - Systematic and Amplitude continue to monitor GE Grid's progress from their home offices in Australia and Denmark and are witnessing and reviewing test results from the FAT daily; and
 - The ITP's next progress audit is planned for May 4, 2020.

4.1 Summary – Quarter Ending March 2020

- Bipole Status¹
 - Onsite testing of the OCT/OLT version of software is complete; testing concluded successfully in March with minor issues noted that have either been resolved or are in the process of being resolved;
 - GE Grid has re-run all previously failed test cases for the Factory System Test (FST);
 - A number of FST test cases were unsuccessful. Nalcor and the Independent Third Parties (ITP) reviewed the FST results and GE Grid's proposed operating restrictions, and agreed to a limited number of non-service affecting operating restrictions in the Interim version of software in order to allow Factory Acceptance Testing (FAT) to proceed;
 - Nalcor is in alignment with the ITP and approved GE Grid to proceed with FAT on April 19, 2020;
 - FAT is being executed by two shifts per day, seven days per week;
 - At date of reporting, the FAT is proceeding as per the current testing schedule; however, bugs have been identified, which will require fixing; due to the software bugs found, GE Grid will provide a revised schedule for bug fixing and software delivery;
 - As of May 25, 2020 this revised schedule has not been received, nor has the schedule for final bipole software delivery; and
 - Power Supply see further schedule slippage risk as high based on historical and current performance of GE Grid.

¹ Some actions in this and the following slide were performed since March 2020

4.1 Summary – Quarter Ending December 2019

- Synchronous Condensers (SC)
- COVID-19 Essential Work at Soldiers Pond
 - As of March 28, 2020, only essential LCP and Power Supply personnel are reporting to the Soldiers Pond site for care and maintenance related activities; and
 - Approximately 10-15 people are on site daily to maintain essential operations, health, safety, and security.
- Status of Synchronous Condenser Units at Time of COVID-19 Work Suspension
 - SC Unit 3 bearings and housing were removed and shipped to a refurbishment facility for a circumferential slot modification; the same modification as Unit 2 which has resolved Unit 2 binding;
 - When the SC Unit 3 bearings and housings were removed, corrosion and damage was observed on both; root cause analysis has commenced. SC Unit 2 balancing was ongoing in March but was not complete before the site ramp down; no vibration measurements were collected;
 - SC Unit 1 refurbished bearing housing and the modified single oil pocket bearing are on site ready for installation. Installation was planned to start the last week of March but is on hold during the COVID-19 work suspension;
 - GE Power RFP award for lateral vibration remediation is planned to be completed by June 2020; and
 - Power Supply see further schedule slippage risk as high.
- The focus for Q2 2020 is on work restart, continued completions, commissioning and integration of operations; and the forecast expenditure for Q2 2020 is estimated at approximately \$26 Million.

4.2 Project Expenditures

March 2020 (\$000)	Project Budget June 2017 AFE amended November 2019	Cumulative \$			Cumulative %		
		Plan	Incurred	Variance	Plan	Incurred	Variance
Description	A	B	C	C-B	D=B/A	E=C/A	E-D
NE-LCP Owners Team, Admin and EPCM Services	\$1,115,235	\$1,128,245	\$1,054,227	(\$74,018)	101.2%	94.5%	-6.6%
Feasibility Engineering	\$37,072	\$37,073	\$35,847	(\$1,226)	100.0%	96.7%	-3.3%
Environmental & Regulatory Compliance	\$42,699	\$42,561	\$39,333	(\$3,228)	99.7%	92.1%	-7.6%
Aboriginal Affairs	\$17,478	\$17,059	\$46,038	\$28,979	97.6%	263.4%	165.8%
Procurement & Construction	\$8,475,290	\$8,719,626	\$8,366,630	(\$352,996)	102.9%	98.7%	-4.2%
Commercial & Legal	\$90,423	\$85,289	\$83,920	(\$1,369)	94.3%	92.8%	-1.5%
Contingency	\$324,162	\$0	\$0	\$0	0.0%	0.0%	0.0%
TOTAL	\$10,102,328	\$10,029,853	\$9,625,995	(\$403,858)	99.3%	95.3%	-4.0%

March 2020 (\$000)	Project Budget June 2017 AFE amended November 2019	Incurred Cumulative Costs March 2020	Project Final Forecast Cost March 2020	Variance PFC from Budget
Description	A	B	C	D=A-C
NE-LCP Owners Team, Admin and EPCM Services	\$1,115,235	\$1,054,227	\$1,164,522	(\$49,287)
Feasibility Engineering	\$37,072	\$35,847	\$35,847	\$1,225
Environmental & Regulatory Compliance	\$42,699	\$39,333	\$40,408	\$2,291
Aboriginal Affairs	\$17,478	\$46,038	\$50,960	(\$33,482)
Procurement & Construction	\$8,475,290	\$8,366,630	\$8,572,939	(\$97,649)
Commercial & Legal	\$90,423	\$83,920	\$108,453	(\$18,030)
Contingency	\$324,162	\$0	\$129,200	\$194,962
TOTAL	\$10,102,328	\$9,625,995	\$10,102,329	(\$0)

4.3 Contingency

Q1 2020 (\$000)	Project Budget June 2017 AFE	March 2018 AFE Adjustment	November 2019 AFE Adjustment	Project Forecast Cost December 2019	Project Forecast Cost March 2020	Change from Previous Quarter	Variance PFC from Budget
	<i>A</i>	-		<i>B</i>	<i>C</i>	<i>C - B</i>	<i>C - A</i>
Total Project	\$339,162	\$339,162	\$324,162	\$134,679	\$129,200	(\$5,479)	(\$194,962)

4.4 Earned Progress (December 2019)

Cumulative to end of December 2019	Weight Factor %	December 2019 Cumulative %
		Earned
<i>Sub-Project</i>	A	C
Muskrat Falls Generation (MFGGen)	46.3%	98.5%
Labrador Island Transmission Link (LITL)	43.9%	99.97%
Labrador Transmission Asset (LTA)	9.8%	100.0%
Muskrat Falls Project - Overall	100.0%	99.3%

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	\$92,750
Labrador-Island Transmission Link Total	\$3,713,716
Labrador-Transmission Assets (in \$ thousands)	November 2019 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	\$5,012
Labrador Transmission Assets Total	\$888,556
Muskkrat Falls Capital Cost Budget Total	\$10,102,328

Contingency Budget (in \$ thousands)	November 2019 AFE
Sub-Project:	
Muskkrat Falls Generating Facility	\$226,400
Labrador-Island Transmission Link	\$92,750
Labrador Transmission Assets	\$5,012
Total Project	\$324,162

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

Project 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 2020 (\$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	\$656,510	\$565,427	(\$91,083)	100.1%	86.2%	-13.9%
Feasibility Engineering	\$17,543	\$17,543	\$16,865	(\$678)	100.0%	96.1%	-3.9%
Environmental & Regulatory Compliance	\$27,125	\$27,018	\$26,957	(\$61)	99.6%	99.4%	-0.2%
Aboriginal Affairs	\$16,395	\$15,976	\$45,245	\$29,269	97.4%	276.0%	178.5%
Procurement & Construction	\$4,501,984	\$4,660,907	\$4,477,106	(\$183,801)	103.5%	99.4%	-4.1%
Commercial & Legal	\$54,760	\$49,626	\$53,637	\$4,011	90.6%	97.9%	7.3%
Contingency	\$226,400	\$0	\$0	\$0	0.0%	0.0%	0.0%
TOTAL	\$5,500,056	\$5,427,580	\$5,185,237	(\$242,343)	98.7%	94.3%	-4.4%

March 2020 (\$000)	Project Budget June 2017 AFE	Incurred Cumulative Costs March 2020
<i>Description</i>	<i>A</i>	<i>B</i>
NE-LCP Owners Team, Admin and EPCM Services	\$655,850	\$565,427
Feasibility Engineering	\$17,543	\$16,865
Environmental & Regulatory Compliance	\$27,125	\$26,957
Aboriginal Affairs	\$16,395	\$45,245
Procurement & Construction	\$4,501,984	\$4,477,106
Commercial & Legal	\$54,760	\$53,637
Contingency	\$226,400	\$0
TOTAL	\$5,500,056	\$5,185,237

II. Labrador Island Transmission Link

March 2020 (\$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	\$332,101	\$357,860	\$25,759	103.1%	111.1%	8.0%
Feasibility Engineering	\$19,167	\$19,167	\$18,679	(\$488)	100.0%	97.5%	-2.5%
Environmental & Regulatory Compliance	\$14,726	\$14,726	\$11,564	(\$3,162)	100.0%	78.5%	-21.5%
Aboriginal Affairs	\$1,003	\$1,003	\$625	(\$378)	100.0%	62.3%	-37.7%
Procurement & Construction	\$3,233,690	\$3,316,440	\$3,162,981	(\$153,459)	102.6%	97.8%	-4.7%
Commercial & Legal	\$30,280	\$30,280	\$23,417	(\$6,863)	100.0%	77.3%	-22.7%
Contingency	\$92,750	\$0	\$0	\$0	0.0%	0.0%	0.0%
TOTAL	\$3,713,716	\$3,713,716	\$3,575,126	(\$138,590)	100.0%	96.3%	-3.7%

March 2020 (\$000)	Project Budget March 2018 AFE	Incurred Costs Cumulative March 2020
<i>Description</i>	<i>A</i>	<i>B</i>
NE-LCP Owners Team, Admin and EPCM Services	\$322,101	\$357,860
Feasibility Engineering	\$19,167	\$18,679
Environmental & Regulatory Compliance	\$14,726	\$11,564
Aboriginal Affairs	\$1,003	\$625
Procurement & Construction	\$3,233,690	\$3,162,981
Commercial & Legal	\$30,280	\$23,417
Contingency	\$92,750	\$0
TOTAL	\$3,713,716	\$3,575,126

III. Labrador Transmission Assets

March 2020 (\$000)	Project Budget November 2019 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	\$139,634	\$130,940	(\$8,694)	101.7%	95.4%	-6.3%
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	\$80	\$168	\$88	100.0%	210.0%	110.0%
Procurement & Construction	\$739,617	\$742,279	\$726,543	(\$15,736)	100.4%	98.2%	-2.1%
Commercial & Legal	\$5,383	\$5,383	\$6,866	\$1,483	100.0%	127.5%	27.5%
Contingency	\$5,012	\$0	\$0	\$0	0.0%	0.0%	0.0%
TOTAL	\$888,556	\$888,556	\$865,632	(\$22,924)	100.0%	97.4%	-2.6%

March 2020 (\$000)	Project Budget November 2019 AFE	Incurred Costs Cumulative March 2020
<i>Description</i>	<i>A</i>	<i>B</i>
NE-LCP Owners Team, Admin and EPCM Services	\$137,284	\$130,940
Feasibility Engineering	\$363	\$303
Environmental & Regulatory Compliance	\$817	\$812
Aboriginal Affairs	\$80	\$168
Procurement & Construction	\$739,617	\$726,543
Commercial & Legal	\$5,383	\$6,866
Contingency	\$5,012	\$0
TOTAL	\$888,556	\$865,632

Annex C

Earned Progress

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

Columns in tables may not total due to rounding

I. Overall Construction

- >99.3% complete

II. Muskrat Falls Generation

- >98.5% complete

III. Labrador Island Transmission Link

- >99.97% complete

IV. Labrador Transmission Assets

- 100% complete

Annex D

Project Milestone Schedule Forecast

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

I. Muskrat Falls Generation

March 2020	Planned Date June 2017	March 2020 Actual/Forecast
Project Sanction	17-Dec-12	Complete
North Spur Works Ready for Diversion	31-Oct-16	Complete
River Diversion Complete	15-Feb-17	Complete
Reservoir Impoundment Complete	1-Nov-19	Complete
Powerhouse Unit 1 Commissioned - Ready for Operation	19-Dec-19	TBD
First Power from Muskrat Falls	2-Nov-19	TBD
Powerhouse Unit 2 Commissioned - Ready for Operation	3-Mar-20	TBD
Powerhouse Unit 3 Commissioned - Ready for Operation	9-Jun-20	TBD
Powerhouse Unit 4 Commissioned - Ready for Operation	14-Aug-20	TBD
Full Power from Muskrat Falls	14-Aug-20	TBD
Commissioning Complete - Commissioning Certificate Issued	1-Sep-20	Not to be achieved
Date Certain	28-Feb-21	28-Feb-21

II. Labrador Island Transmission Link

March 2020	Planned Date June 2017	March 2020 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	Complete
Muskrat Falls Converter Station Ready to Energize (Pole 1)	1-Jun-18	Complete
HVdc Transmission Line Construction Complete	31-Dec-17	Complete
Soldier's Pond Converter Station Ready to Energize (Pole 1)	1-Jun-18	Complete
1ST Power Transfer (Pole 1)	1-Jul-18	Completion of 45 megawatt heat run
Soldiers Pond Synchronous Condenser Ready for Operation	1-Jun-18	TBD
Ready for Power Transmission (Low Load Testing Complete Pole 1)	1-Dec-18	Complete
Muskrat Falls and Soldiers Pond Converter Stations - Bipole Dynamic Testing Complete	31-Mar-19	TBD
Commissioning Complete - Commissioning Certificate Issued	1-Sep-20	Not to be achieved
Date Certain	28-Feb-21	28-Feb-21

III. Labrador Transmission Assets

March 2020	June 2017 Budget Planned Date	March 2020 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	Complete
Ready for Power Transmission	31-Dec-17	Complete
Commissioning Complete - Commissioning Certificate Issued	1-Sep-20	Not to be achieved
Date Certain	28-Feb-21	28-Feb-21

End of Report