

# Muskrat Falls Project Oversight Committee

Quarterly Project Update

Period Ending March 2021

June 25, 2021

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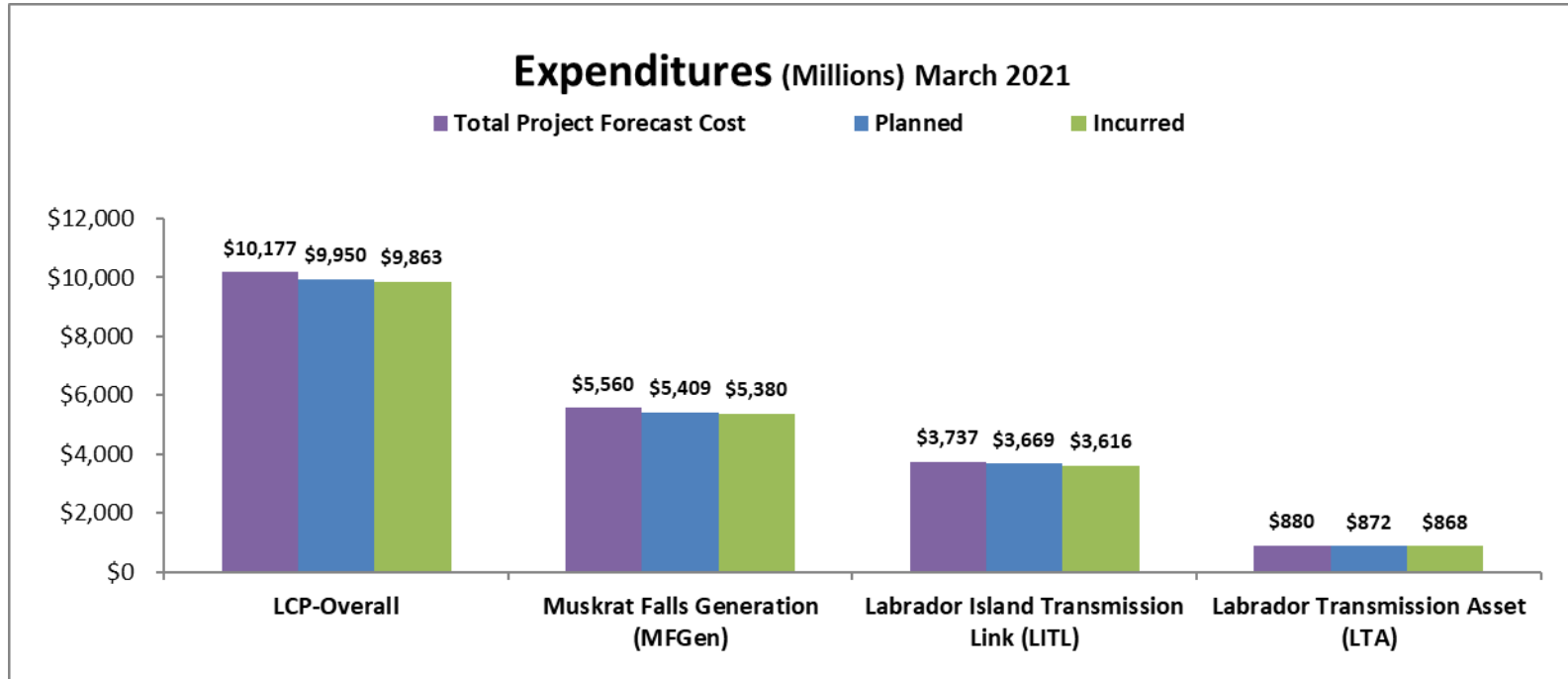
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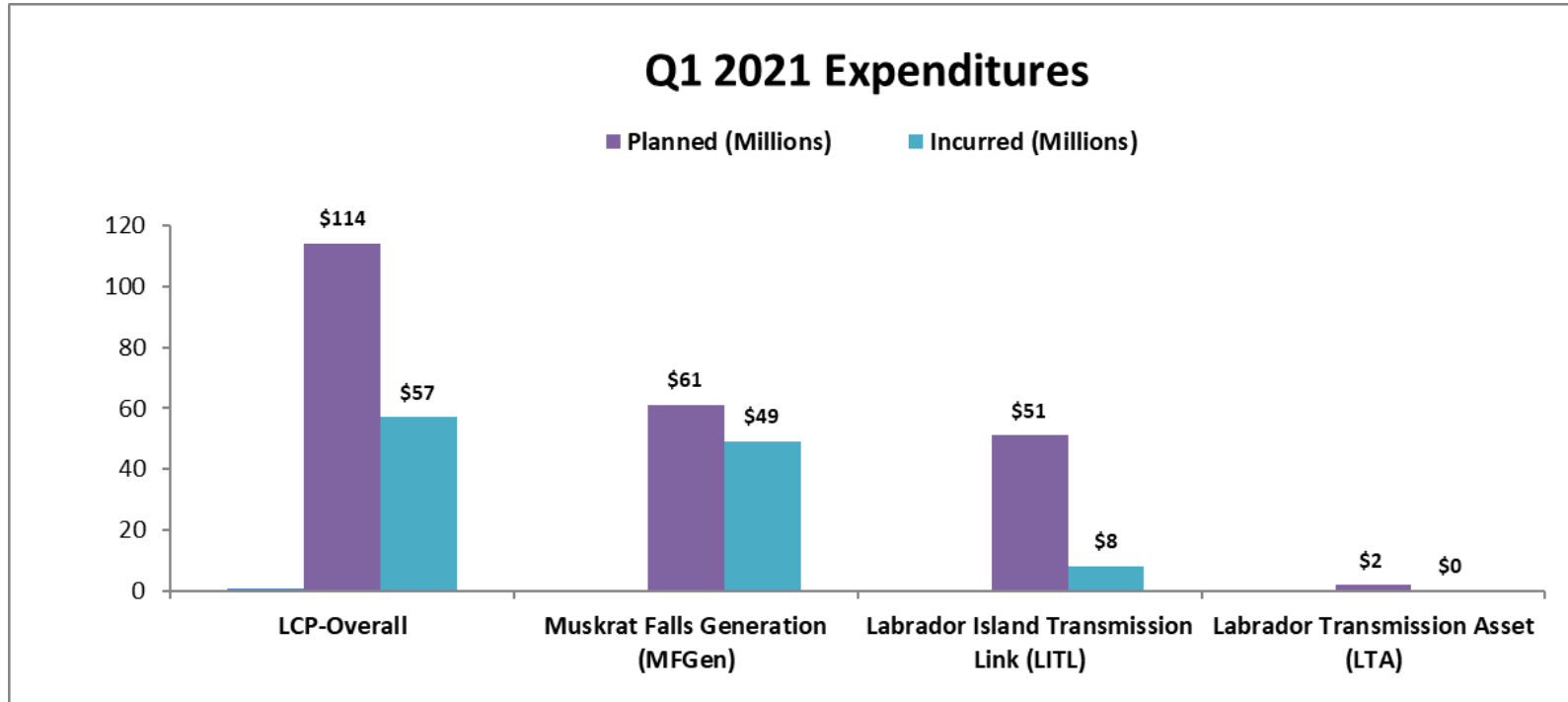
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- Tables and figures may not total due to rounding

# 1. Q1 2021 Cumulative Costs



## 2. Q1 2021 Planned and Incurred Costs



## 3.0 Oversight Committee Reporting

- 3.1 Overview
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- 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 2021 reporting period (Q1).
- Section 3 of this report contains information developed by the Committee.
- Section 3.5 of this report includes recent information on notable activity beyond the Q1 reporting period ending, and up to the date of drafting this report (June 6, 2021). Project update information in this section supersedes information as reported in other sections of this report.
- Section 4 contains project cost and schedule information as reported by Nalcor for the reporting period ending March 2021 which includes project activity updates to late April 2021.
- The Annexes contain a more detailed accounting of the information provided in this report.
- The next Committee Report will cover the reporting period April 2021 - June 2021.

## 3.2 Committee Activities

- The Committee met on four occasions during the Quarter to receive project updates and conduct other Committee business including a meeting with Natural Resources Canada (NRCan) and the Independent Engineer (IE). Committee meeting minutes and reports are available on the Committee website @ [Click here](#) and [Click here](#).
- The Committee Chair and/or Industry, Energy and Technology (IET) officials participated as an observer in three monthly calls on Nalcor project reporting to the IE and Natural Resources Canada and two calls with the IE and NRCan.
- The Committee Chair and IET officials participated in three calls with Nalcor Transition to Operations (TTO) officials to receive project updates.
- The Committee Chair, Committee legal representative and IET Associate Deputy Minister participated in a call with Nalcor and its legal counsel to receive an update on the Astaldi arbitration.
- Planned visits to project sites continued to be placed on hold due to COVID-19 pandemic travel and physical distancing restrictions.
- The Committee Chair participated in virtual site visits with NRCan and the IE of the Soldiers Pond converter station and Muskrat Falls generation station.

## 3.3 Independent Engineer Activities

- Project and other site visits have been impacted by COVID-19 travel restrictions. The Independent Engineer (IE) continues to monitor the project remotely and information exchanges are ongoing during this period.



## 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 10-13 of this report.
- Over the reporting period the Committee notes:
  - Final valve hall remediation remains a key project risk;
  - LITL bipole final software schedule delivery and commissioning risk is increasing;
  - Synchronous condenser vibration remediation using elliptical bearings is ongoing;
  - Operations at the Muskrat Falls site have transitioned back to pre-February COVID-19 outbreak conditions;
  - Head cover and welding repairs on powerhouse units continues; design of head cover modification has been confirmed through vibration testing;
  - Litigation and arbitration proceedings continue with Astaldi; 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;
    - 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 software 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;
- Final valve hall remediation; and
- P&C software delivery and final commissioning completion to meet project schedule.

### D) Astaldi

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

### E) Synchronous Condensers

- Remediation of vibration and other commissioning issues; and potential impact on 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.
- Partial coverage confirmed: Spillway secondary concrete (\$1M and gate guide heater tubulars repairs (\$2 Million) – Initial payment of \$3 Million (net of deductible) has been received and transferred to Andritz to cover their direct costs and their contractors - Further recovery is pending.
- Potential coverage: Valve Hall remediation – potential claim being pursued.

### G) LITL and Powerhouse Commissioning

- Commissioning of LITL and powerhouse generation units 2 through 4 and project schedule.

### 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.

## 3.4 Risk and Issues being Monitored by the Committee

### I) Additional Risks (above the September 2020 Project Budget)

- COVID-19 cost and schedule impacts;
- Astaldi arbitration/litigation;
- Failure to meet revised schedule milestones (unknown); and
- Any significant legal costs due to new disputes with contractors (unknown).
- Funds are not held within the September 2020 Project Budget for these additional risks.

## 3.5 Subsequent Events to Q1 2021 and Other Notable Activity

- In April 2021, the IE prepared a 2020-2021 Project Status report covering the period from January 2020 to March 2021. A copy of this report can be found on the Committee website @ [Click here](#).
- In May and June 2021, Nalcor provided the Newfoundland and Labrador Board of Commissioners of Public Utilities (PUB) with monthly updates in response findings of the Liberty Consulting Group Eight Quarterly Monitoring Report on the Integration of Power Supply Facilities to the Island Interconnected System.
- In May the PUB released the Liberty Consulting Group Eleventh Quarterly Monitoring Report on the Integration of power Supply Facilities to the Island Interconnected System.
- On June 10, 2021 Nalcor held its 2020 Annual General Meeting and released its business and financial report for 2020 and first quarter financial results for 2021. Further information is available on the Nalcor website @ [Click here](#).
- Combined financial statements for the Lower Churchill Companies and Special Audit Procedures reports can be found on the Committee website @ [Click here](#) and [Click here](#).
- As of early June 2021, the current forecast for project commissioning complete remains November 15, 2021. This date is at risk due to HVdc P&C final bipole software delivery and commissioning completion risk. A revised forecast schedule is expected by July 2021.

## 3.5 Subsequent Events to Q1 2021 and Other Notable Activity

- In early June 2021, Power Supply advised:
  - Valve Hall Beam Replacement
    - Quality issues with first batches of replacement beams for converter stations valve halls has slowed production requiring GE Grid to provide an updated beam replacement schedule.
  - Final Bipole Software and Commissioning Completion
    - GE Grid has communicated that due to bug fixing the final bipole software schedule has slipped and committed to provided an updated forecast. Based on available information, including the most recent Independent Third Party (ITP) reports, Power Supply notes that risk to final bipole completion schedule beyond the current November 15, 2021 schedule is high and increasing. The revised GE Grid schedule will inform the Project Integrated Schedule (IPS) which will be updated following review, once received from GE Grid.
  - Synchronous Condensers
    - No change since last report.
- In early June 2021, Power Development advised:
  - Powerhouse Unit Commissioning
    - An investigation into a trip during unit 2 commissioning related to the controls system is ongoing; unit 2 release for service is now forecasted for mid-June.
    - No change on units 1, 3, and 4 since last report.

## 4.0 Nalcor Reporting

- 4.1 Summary - Quarter Ending March 2021
- 4.2 Project Expenditures
- 4.3 Contingency
- 4.4 Earned Progress

\*Information in this section was provided for period ending March 2021 project reporting which includes project activity updates to late April 2021. Recent updates to this section can be found in Section 3.5.



## 4.1 Summary – Quarter Ending March 2021

### March 2021 Summary:

- Overall construction progress is at 99.3% (December 2019);
  - \$9,863 Million in incurred costs; and
  - \$9,905 Million in committed costs.
- 
- As of March 2021, the September 2020 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.
  - Does not include Additional Risks as reported on slide 13, which at the end of March 2021, known risks totaled approximately \$450 Million. If these risks are realized, they may become project costs.
  - The current forecast contingency budget at March 2021 is \$59.9 Million, an increase of \$3.6 Million from the previous Quarter.
  - For further detail see Section 4.3.

## 4.1 Summary – Quarter Ending March 2021

### Quarterly Planned vs Incurred Cost Variances:

MFGGen	
Cumulative Planned: \$5,409M	Q1 2021 Planned: \$61M
Cumulative Incurred: \$5,380M	Q1 2021 Incurred: \$49M
Variance: -\$29M (-0.5%)	Variance: -\$17M (-19.7%)

- Planned expenditure by month was set in September 2020.
- During Q1 2021, the variance in planned vs. incurred cost is primarily due to lower use of contingency, as well as lower than planned expenditure on turbines and generators and balance of plant contracts, as well as Owners costs.
- See Section 4.2 and Annex B for further detail.

## 4.1 Summary – Quarter Ending March 2021

### Quarterly Planned vs Incurred Cost Variances:

LITL	
Cumulative Planned: \$3,670M	Q1 2021 Planned: \$51M
Cumulative Incurred: \$3,616M	Q1 2021 Incurred: \$8M
Variance: -\$54M (-1.5%)	Variance: -\$43M (-84.3%)

LTA	
Cumulative Planned: \$872M	Q1 2021 Planned: \$2M
Cumulative Incurred: \$868M	Q1 2021 Incurred: \$0M
Variance: -\$4M (-0.5%)	Variance: -\$2M (-100.0%)

- The planned expenditure by month was set in June of 2020.
- During Q1 2021, the variance of planned vs incurred cost is primarily due to lower use of the LITL and LTA contingency, as well as lower than planned expenditure on Owners costs, synchronous condensers and converter station contracts.
- See Section 4.2 and Annex B for further detail.

## 4.1 Summary – Quarter Ending March 2021

### Earned Progress: (As of December 2019)

- 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 2021

### Power Development<sup>1</sup>

- Turbines and Generators














Unit	Status
1	<ul style="list-style-type: none"><li>• Operation of the unit is ongoing</li><li>• Monthly head cover and weld inspections are being made</li><li>• A planned outage will be taken to replace generator stator bar, head cover modifications, and welding rework ; will be scheduled with Operations likely in July/August timeframe</li></ul>
2	<ul style="list-style-type: none"><li>• Head cover modifications and welding rework (including inner head cover, intermediate head cover and discharge ring is complete</li><li>• Overspeed testing complete on April 20; post overspeed inspections ongoing</li><li>• Based on vibration data collection from unit 2, Andritz has confirmed the design of the head cover modification</li><li>• Release for service expected in late May 2021</li></ul>
3	<ul style="list-style-type: none"><li>• Dry commissioning activities ongoing; wet commissioning to commence by mid may 2021</li><li>• Welding rework is complete; head cover modifications nearing completion</li><li>• Release for service expected in late July 2021</li></ul>
4	<ul style="list-style-type: none"><li>• Installation activities ongoing</li><li>• Welding rework ongoing; head cover modifications planned for May 2021</li><li>• Release for service expected in September 2021</li></ul>

- Technical risk associated with welding rework and head cover modifications activities is diminishing. Schedule risk remains; Power Development is working with Andritz to optimize schedule for remaining work.

<sup>1</sup> Some activities in this and the following Power Development slides have occurred since March 2021.

## 4.1 Summary – Quarter Ending March 2021

Power Development Summary Schedule (CH0030)

Activity	Remaining Scope	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Comments
Turbines and Generators	Unit 1 - Commissioning and Trial Operations						Ready for Operation Achieved - Dec 2020
	Unit 1 - Commercial Power (Ready for Operation)						
	Unit 2 - Pre Commissioning Tests						Ready for Operation - May 2021
	Unit 2 - Commissioning and Trial Operations						
	Unit 2 - Commercial Power (Ready for Operation)						
	Unit 3 - Assembly and Installation						Ready for Operation - Jul 2021
	Unit 3 - Pre Commissioning Tests						
	Unit 3 - Commissioning and Trial Operations						
	Unit 3 - Commercial Power (Ready for Operation)						
	Unit 4 - Assembly and Installation						Ready for Operation - Sep 2021
	Unit 4 - Pre Commissioning Tests						
	Unit 4 - Commissioning and Trial Operations						
	Unit 4 - Commercial Power (Ready for Operation)						

## 4.1 Summary – Quarter Ending March 2021

- Balance of Plant
  - Cahill-Ganotec (CG) is completing balance of plant systems; currently at approximately 96% complete
  - Work has now resumed after a short pause due to the COVID-19 outbreak
  - Unit 3 - electrical walk downs and completions ongoing
  - Unit 4 – electrical scope nearing completion
  - Completion of architectural scope ongoing
  - Punch list clearance
- Hydro – Mechanical
  - Intake
    - Commissioning for intakes 1 through 4 is being completed in coordination with commissioning and start up activities for each unit
    - Condition of intake gate secondary concrete will be assessed as commissioning progresses

## 4.1 Summary – Quarter Ending March 2021

- 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. Witness examination was completed in November 2020; final submissions have been made, hearings to present final submissions are expected in July with final decisions expected in Q3, 2021. Other project residual contingency, funds are not held within the September 2020 budget should net damages be awarded in Astaldi's favour.
- Focus areas for Q2, 2021 include commissioning of units 2 and 3, and completion of installation of unit 4. Forecast expenditure for Q2, 2021 is estimated at approximately \$70 Million.



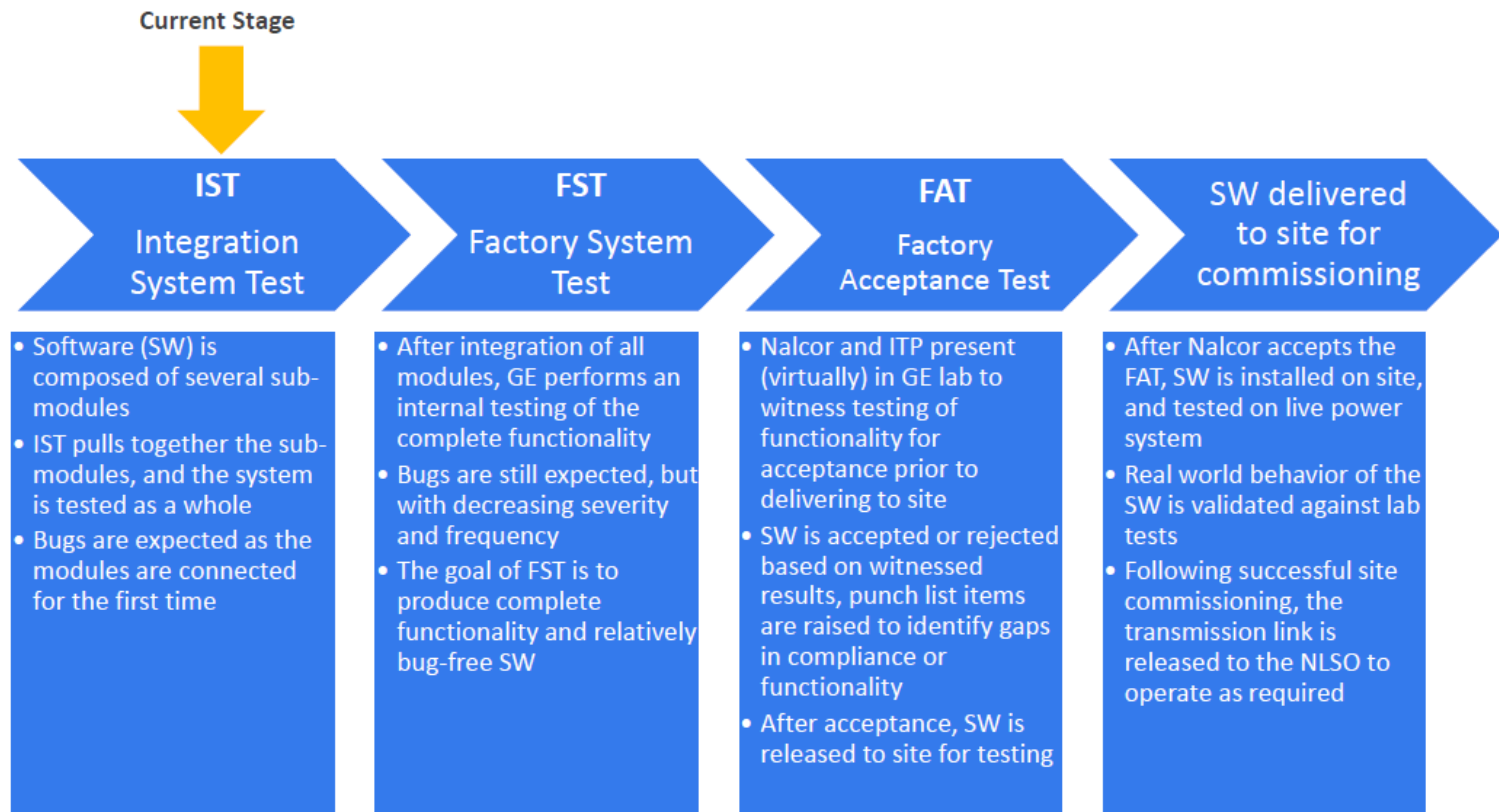
## 4.1 Summary – Quarter Ending March 2021

- Power Supply <sup>1</sup>:
  - Interim Bipole Commissioning
    - Interim bipole trial operations started on March 19, 2021
    - The 30 consecutive day trial operations clock was reset on April 1, 2021 following a system trip
    - The LITL experienced and pole 2 trip on April 29, 2021; 29 days into the the 30 consecutive day trial operations period; there was no loss of load and the controls system operated properly and transferred the load to pole 1; GE Grid is investigating the cause of trip and if it will result in a trial operations clock reset
    - During the trial operations period, the LITL was operated at various power transfer levels based on grid conditions. Maximum power transfer during the operations period was 225 MW as per Ge Grid contractual requirements
  - Valve Hall Remediation Final Plan
    - GE Grid has advised that their supplier started beam manufacturing in France and Germany factories in April 2021
    - GE Grid plans to replace pole 2 beams first, followed by pole 1
    - Beams are scheduled to start shipping from Europe to NL in May 2021; pole 2 beam replacement work is to commence in June 2021; pole 1 beam replacement work is to commence in July 2021
    - All work is schedule to be completed by early August 2021

<sup>1</sup> Some activities in this and the following Power Supply slides have occurred since March 2021.

## 4.1 Summary – Quarter Ending March 2021

### FINAL BIPOLE SOFTWARE TESTING STAGES



## 4.1 Summary – Quarter Ending March 2021

- Final Bipole Software

- All remaining functions for the final bipole software have been developed
- Final bipole software is currently in the IST phase of testing; additional IST bug fixing and integration has taken longer than anticipated and GE Grid has used one out of three weeks of schedule float allotted; schedule to move to from IST to FST stage is the second week of May 2021
- No change in overall schedule at this point as GE Grid still has two weeks of float
- April 28, 2021 ITP audit was delayed and has been reschedule for May 6, 2021

- Bipole Software Schedule

Interim Bipole Software		
GE Milestones	GE Current Schedule	LCP Current Schedule
Interim Software to Site	October 29, 2020	October 29, 2020
Dynamic Commissioning: Complete	March 10, 2021	March 10, 2021
Trial Operations: Start (Low Load) - Complete	March 19, 2021	March 19, 2021
Trial Operations: Complete* (Low Load)	April 19, 2021	May 25, 2021
Final Bipole Software		
Final Software to Site	July 29, 2021	July, 29 2021
Dynamic Commissioning: Complete	September 7, 2021	September 14, 2021
Trial Operations: Start (at available power)	September 7, 2021	September 15, 2021
Trial Operations: Complete** (at available power)	December 9, 2021	November 14, 2021

Trial operations is complete after 30 consecutive days of power transfer without a system trip.

\*LCP has an allowance of 77 days to complete Interim Bipole Trial Operations. GE Grid has included 30 days in their schedule to complete Trial Operations.

\*\*LCP has an allowance of 60 days to complete Final Bipole Trial Operations. GE Grid has included 90 days in their schedule to complete Trial Operations, as per their contractual requirements.

## 4.1 Summary – Quarter Ending March 2021

- Synchronous Condensers

SC3	SC2	SC1
<ul style="list-style-type: none"> <li>Dynamic commissioning continuing</li> <li>Unit has been rotating and synced to the grid</li> <li>Balancing ongoing</li> </ul>	<ul style="list-style-type: none"> <li>Elliptical bearing installed</li> <li>Auxiliaries reconnected, electrical connections ongoing</li> <li>Manually rotated</li> </ul>	<ul style="list-style-type: none"> <li>4 lobe bearing at American Babbitt &amp; Bearing for elliptical bearing redesign</li> <li>Scheduled to be shipped back to SOP in mid May</li> </ul>
Commissioning Complete: May 15, 2021	Commissioning Complete: July 25, 2021	Commissioning Complete: Sept 24, 2021

- LITL Summary Schedule (March 2021 IPS)

Activity	Remaining Scope	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Comments
Transmission	LIL Bipole Commissioning (Interim Software)							Trial Operation (Interim) May 2021
	LIL Bipole Trial Operations (Interim Software)							
	Beam Manufacturing							Final Valve Hall Remediation June 2021
	Beam Replacement							
	LIL Bipole Commissioning (Full Function Software)							Trial Operation (Final) Nov 2021
	LIL Bipole Trial Operations (Full Function Software)							
	Dynamic Commissioning Sync Condenser (Unit 3)							3 Units Ready Sept 2021 (Elliptical Bearing Approach)
	Dynamic Commissioning Sync Condenser (Unit 2)							
	Dynamic Commissioning Sync Condenser (3rd Unit)							

- The focus for Q2 2021 is on continued completions, commissioning and integration of operations; and the forecast expenditure is estimated at approximately \$40 Million.

## 4.2 Project Expenditures

March 2021 (\$000)	Project Revised Budget September 2020	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>	\$1,165,768	\$1,125,502	\$1,119,597	(\$5,905)	96.5%	96.0%	-0.5%
<b>Feasibility Engineering</b>	\$35,847	\$35,847	\$35,847	\$0	100.0%	100.0%	0.0%
<b>Environmental &amp; Regulatory Compliance</b>	\$40,706	\$40,248	\$40,246	(\$2)	98.9%	98.9%	0.0%
<b>Aboriginal Affairs</b>	\$52,301	\$50,541	\$50,623	\$82	96.6%	96.8%	0.2%
<b>Procurement &amp; Construction</b>	\$8,703,799	\$8,592,308	\$8,511,990	(\$80,318)	98.7%	97.8%	-0.9%
<b>Commercial &amp; Legal</b>	\$119,345	\$105,784	\$104,706	(\$1,078)	88.6%	87.7%	-0.9%
<b>Contingency</b>	\$59,205	\$0	\$0	\$0	0.0%	0.0%	0.0%
<b>TOTAL</b>	\$10,176,970	\$9,950,230	\$9,863,009	(\$87,221)	97.8%	96.9%	-0.9%

March 2021 (\$000)	Project Revised Budget September 2020	Incurred Cumulative Costs March 2021	Project Final Forecast Cost March 2021	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>	\$1,165,768	\$1,119,597	\$1,164,707	\$1,060
<b>Feasibility Engineering</b>	\$35,847	\$35,847	\$35,847	\$0
<b>Environmental &amp; Regulatory Compliance</b>	\$40,706	\$40,246	\$40,706	\$0
<b>Aboriginal Affairs</b>	\$52,301	\$50,623	\$52,301	\$0
<b>Procurement &amp; Construction</b>	\$8,703,799	\$8,511,990	\$8,704,153	(\$355)
<b>Commercial &amp; Legal</b>	\$119,345	\$104,706	\$119,345	\$0
<b>Contingency</b>	\$59,205	\$0	\$59,911	(\$706)
<b>TOTAL</b>	\$10,176,970	\$9,863,009	\$10,176,970	\$0

## 4.3 Contingency

March 2021 (\$000)	Project Revised Budget September 2020	Project Forecast Cost December 2020	Project Forecast Cost March 2021	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	\$59,205	\$56,321	\$59,911	\$3,590	\$706

## 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)	September 2020
<i>Expenditure Category</i>	
NE-LCP Owners Team, Admin and EPCM Services	\$634,838
Feasibility Engineering	\$16,865
Environmental & Regulatory Compliance	\$28,230
Aboriginal Affairs	\$51,508
Procurement & Construction	\$4,703,316
Commercial & Legal	\$80,978
Contingency	\$44,240
<b>Muskkrat Falls Generation Total</b>	<b>\$5,559,974</b>
Labrador-Island Transmission Link (in \$ thousands)	September 2020
<i>Expenditure Category</i>	
NE-LCP Owners Team, Admin and EPCM Services	\$397,565
Feasibility Engineering	\$18,679
Environmental & Regulatory Compliance	\$11,664
Aboriginal Affairs	\$625
Procurement & Construction	\$3,266,059
Commercial & Legal	\$29,350
Contingency	\$13,546
<b>Labrador-Island Transmission Link Total</b>	<b>\$3,737,488</b>
Labrador-Transmission Assets (in \$ thousands)	September 2020
<i>Expenditure Category</i>	
NE-LCP Owners Team, Admin and EPCM Services	\$133,365
Feasibility Engineering	\$303
Environmental & Regulatory Compliance	\$812
Aboriginal Affairs	\$168
Procurement & Construction	\$734,424
Commercial & Legal	\$9,017
Contingency	\$1,419
<b>Labrador Transmission Assets Total</b>	<b>\$879,508</b>
<b>Muskkrat Falls Capital Cost Budget Total</b>	<b>\$10,176,970</b>

Contingency Budget (in \$ thousands)	September 2020
<b>Sub-Project:</b>	
<b>Muskkrat Falls Generating Facility</b>	<b>\$44,240</b>
<b>Labrador-Island Transmission Link</b>	<b>\$13,546</b>
<b>Labrador Transmission Assets</b>	<b>\$1,419</b>
<b>Total Project</b>	<b>\$59,205</b>

## II. Project Milestone Schedule

Muskrat Falls Generating Facility	Sep 2020 Planned Dates
North Spur Works Ready for Diversion	Oct-16
River Diversion Complete	Feb-17
Reservoir Impoundment Complete	Sep-19
Powerhouse Unit 1 Commissioned - Ready for Operation	Oct-20
First Power from Muskrat Falls	Sep-20
Powerhouse Unit 2 Commissioned - Ready for Operation	Dec-20
Powerhouse Unit 3 Commissioned - Ready for Operation	May-21
Powerhouse Unit 4 Commissioned - Ready for Operation	Sep-21
Full Power from Muskrat Falls	Sep-21
Commissioning Complete - Commissioning Certificate Issued	Oct-21

Labrador-Island Transmission Link	Sep 2020 Planned Dates
SOBI Cable Systems Ready	Dec-16
Soldiers Pond Switchyard Ready to Energize	Aug-17
Ready for Power Transmission (LTA)	Apr-18
Muskrat Falls Converter Station Ready to Energize (Pole 1)	May-18
HVdc Transmission Line Construction Complete	Nov-17
Soldier's Pond Converter Station Ready to Energize (Pole 1)	May-18
1ST Power Transfer (Pole 1)	Jun-18
Soldiers Pond Synchronous Condenser Ready for Operation	Aug-21
Ready for Power Transmission (Low Load Testing Complete Pole 1)	Jun-19
Muskrat Falls and Soldiers Pond Converter Stations - Bipole Dynamic Testing Complete	Sep-21
Commissioning Complete - Commissioning Certificate Issued	Oct-21

Labrador Transmission Assets	Sep 2020 Planned Dates
HVac Transmission Line Construction Complete	Jun-17
Churchill Falls Switchyard Ready to Energize	Feb-18
Muskrat Falls Switchyard Ready to Energize	Apr-18
Ready for Power Transmission	Apr-18
Commissioning Complete - Commissioning Certificate Issued	Oct-21

Date Certain – Nov-2021

## 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 2021 (\$000)	Project Revised Budget September 2020	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	\$634,838	\$613,063	\$610,372	(\$2,691)	96.6%	96.1%	-0.4%
Feasibility Engineering	\$16,865	\$16,865	\$16,865	\$0	100.0%	100.0%	0.0%
Environmental & Regulatory Compliance	\$28,230	\$27,822	\$27,864	\$42	98.6%	98.7%	0.1%
Aboriginal Affairs	\$51,508	\$49,790	\$49,915	\$125	96.7%	96.9%	0.2%
Procurement & Construction	\$4,703,316	\$4,630,700	\$4,604,455	(\$26,245)	98.5%	97.9%	-0.6%
Commercial & Legal	\$80,978	\$70,605	\$70,042	(\$563)	87.2%	86.5%	-0.7%
Contingency	\$44,240	\$0	\$0	\$0	0.0%	0.0%	0.0%
<b>TOTAL</b>	<b>\$5,559,974</b>	<b>\$5,408,845</b>	<b>\$5,379,513</b>	<b>(\$29,332)</b>	<b>97.3%</b>	<b>96.8%</b>	<b>-0.5%</b>

March 2021 (\$000)	Project Revised Budget September 2020	Incurred Cumulative Costs March 2021
<i>Description</i>	<i>A</i>	<i>B</i>
NE-LCP Owners Team, Admin and EPCM Services	\$634,838	\$610,372
Feasibility Engineering	\$16,865	\$16,865
Environmental & Regulatory Compliance	\$28,230	\$27,864
Aboriginal Affairs	\$51,508	\$49,915
Procurement & Construction	\$4,703,316	\$4,604,455
Commercial & Legal	\$80,978	\$70,042
Contingency	\$44,240	\$0
<b>TOTAL</b>	<b>\$5,559,974</b>	<b>\$5,379,513</b>

## II. Labrador Island Transmission Link

March 2021 (\$000)	Project Revised Budget September 2020	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	\$397,565	\$379,652	\$377,778	(\$1,874)	95.5%	95.0%	-0.5%
Feasibility Engineering	\$18,679	\$18,679	\$18,679	\$0	100.0%	100.0%	0.0%
Environmental & Regulatory Compliance	\$11,664	\$11,614	\$11,571	(\$43)	99.6%	99.2%	-0.4%
Aboriginal Affairs	\$625	\$584	\$542	(\$42)	93.4%	86.7%	-6.7%
Procurement & Construction	\$3,266,059	\$3,231,823	\$3,180,351	(\$51,472)	99.0%	97.4%	-1.6%
Commercial & Legal	\$29,350	\$26,787	\$26,795	\$8	91.3%	91.3%	0.0%
Contingency	\$13,546	\$0	\$0	\$0	0.0%	0.0%	0.0%
<b>TOTAL</b>	<b>\$3,737,488</b>	<b>\$3,669,138</b>	<b>\$3,615,715</b>	<b>(\$53,423)</b>	<b>98.2%</b>	<b>96.7%</b>	<b>-1.4%</b>

March 2021 (\$000)	Project Revised Budget September 2020	Incurred Costs Cumulative March 2021
<i>Description</i>	<i>A</i>	<i>B</i>
NE-LCP Owners Team, Admin and EPCM Services	\$397,565	\$377,778
Feasibility Engineering	\$18,679	\$18,679
Environmental & Regulatory Compliance	\$11,664	\$11,571
Aboriginal Affairs	\$625	\$542
Procurement & Construction	\$3,266,059	\$3,180,351
Commercial & Legal	\$29,350	\$26,795
Contingency	\$13,546	\$0
<b>TOTAL</b>	<b>\$3,737,488</b>	<b>\$3,615,715</b>

### III. Labrador Transmission Assets

March 2021 (\$000)	Project Revised Budget September 2020	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	\$133,365	\$132,787	\$131,447	(\$1,340)	99.6%	98.6%	-1.0%
Feasibility Engineering	\$303	\$303	\$303	\$0	100.0%	100.0%	0.0%
Environmental & Regulatory Compliance	\$812	\$812	\$811	(\$1)	100.0%	99.9%	-0.1%
Aboriginal Affairs	\$168	\$167	\$166	(\$1)	99.4%	98.8%	-0.6%
Procurement & Construction	\$734,424	\$729,785	\$727,184	(\$2,601)	99.4%	99.0%	-0.4%
Commercial & Legal	\$9,017	\$8,392	\$7,869	(\$523)	93.1%	87.3%	-5.8%
Contingency	\$1,419	\$0	\$0	\$0	0.0%	0.0%	0.0%
<b>TOTAL</b>	<b>\$879,508</b>	<b>\$872,246</b>	<b>\$867,780</b>	<b>(\$4,466)</b>	<b>99.2%</b>	<b>98.7%</b>	<b>-0.5%</b>

March 2021 (\$000)	Project Revised Budget September 2020	Incurred Costs Cumulative March 2021
<i>Description</i>	<i>A</i>	<i>B</i>
NE-LCP Owners Team, Admin and EPCM Services	\$133,365	\$131,447
Feasibility Engineering	\$303	\$303
Environmental & Regulatory Compliance	\$812	\$811
Aboriginal Affairs	\$168	\$166
Procurement & Construction	\$734,424	\$727,184
Commercial & Legal	\$9,017	\$7,869
Contingency	\$1,419	\$0
<b>TOTAL</b>	<b>\$879,508</b>	<b>\$867,780</b>

## 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 (December 2019)

- >99.3% complete



## II. Muskrat Falls Generation (December 2019)

- >98.5% complete

### III. Labrador Island Transmission Link (December 2019)

- >99.97% complete

## IV. Labrador Transmission Assets (December 2019)

- 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 2021	Planned Date September 2020	March 2021 Actual/Forecast
Project Sanction	17-Dec-12	Complete
North Spur Works Ready for Diversion	5-Oct-16	Complete
River Diversion Complete	15-Feb-17	Complete
Reservoir Impoundment Complete	4-Sep-19	Complete
Powerhouse Unit 1 Commissioned - Ready for Operation	31-Oct-20	Complete - 22-Dec-20
First Power from Muskrat Falls	22-Sep-20	Complete
Powerhouse Unit 2 Commissioned - Ready for Operation	31-Dec-20	31-May-21*
Powerhouse Unit 3 Commissioned - Ready for Operation	31-May-21	30-July-21*
Powerhouse Unit 4 Commissioned - Ready for Operation	30-Sep-21	30-Sep-21
Full Power from Muskrat Falls	30-Sep-21	30-Sep-21
Commissioning Complete - Commissioning Certificate Issued	1-Oct-21	15-Nov-21*
Date Certain	November 2021	November 2021

\* Updated forecast from last reporting period

## II. Labrador Island Transmission Link

March 2021	Planned Date September 2020	March 2021 Actual/forecast
Project Sanction	17-Dec-12	Complete
SOBI Cable Systems Ready	9-Dec-16	Complete
Soldiers Pond Switchyard Ready to Energize	24-Aug-17	Complete
Ready for Power Transmission (LTA)	27-Apr-18	Complete
Muskrat Falls Converter Station Ready to Energize (Pole 1)	10-May-18	Complete
HVdc Transmission Line Construction Complete	27-Nov-17	Complete
Soldier's Pond Converter Station Ready to Energize (Pole 1)	16-May-18	Complete
1ST Power Transfer (Pole 1)	11-Jun-18	Completion of 45 megawatt heat run
Soldiers Pond Synchronous Condenser Ready for Operation	31-Aug-21	24-Sep-21*
Ready for Power Transmission (Low Load Testing Complete Pole 1)	4-Jun-19	Complete
Muskrat Falls and Soldiers Pond Converter Stations - Bipole Dynamic Testing Complete	30-Sep-21	14-Nov-21*
Commissioning Complete - Commissioning Certificate Issued	1-Oct-21	15-Nov-21*
Date Certain	November 2021	November 2021

\* Updated forecast from last reporting period

### III. Labrador Transmission Assets

March 2021	September 2020 Planned Date	March 2021 Actual/Forecast
Project Sanction	17-Dec-12	Complete
HVac Transmission Line Construction Complete	27-Jun-17	Complete: Turnover of HVac TL and all subsystems complete
Churchill Falls Switchyard Ready to Energize	14-Feb-18	Complete
Muskrat Falls Switchyard Ready to Energize	2-Apr-18	Complete
Ready for Power Transmission	27-Apr-18	Complete
Commissioning Complete - Commissioning Certificate Issued	1-Oct-21	15-Nov-21*
Date Certain	November 2021	November 2021

\* Updated forecast from last reporting period

# End of Report