# CONSTRUCTION REPORT Muskrat/LTA Project Finance Agreement

Date: <u>20-July-2016</u>

#### THE TORONTO-DOMINION BANK

AS COLLATERAL AGENT 66 Wellington Street West 9th Floor Toronto, Ontario M5K 1A2

#### MWH CANADA INC.

AS INDEPENDENT ENGINEER
Suite 740, 1185 W. Georgia Street
Vancouver, BC V6E 4E6

#### Ladies and Gentlemen:

We refer you to the amended and restated financing agreement dated as of July 16, 2015 entered into among Muskrat Falls Corporation ("Muskrat") and Labrador Transmission Corporation ("Labrador Transco"), as borrowers, Muskrat Falls/Labrador Transmission Assets Funding Trust (the "Funding Vehicle"), as lender, and The Toronto-Dominion Bank, as collateral agent (the "Collateral Agent") (said agreement, as same may be amended, supplemented or restated from time to time is hereinafter referred to as the "Muskrat/LTA Project Finance Agreement").

We also refer you to the amended and restated master definitions agreement entered into among, *inter alia*, the Collateral Agent, BNY Trust Company of Canada, as issuer trustee of the Funding Vehicle, Computershare Trust Company of Canada, as security trustee, Nalcor Energy, Her Majesty The Queen In Right of the Province of Newfoundland and Labrador, Muskrat, as a credit party, and Labrador Transco, as a credit party (said agreement, as same may be amended, supplemented or restated from time to time is hereinafter referred to as the "MDA").

We furthermore refer you to the MF/LTA Request Regarding the Commissioning Date and the Date Certain addressed to the Collateral Agent by the Credit Parties on July 19, 2016 and agreed to by the Collateral Agent on July 19, 2016 (the "**Date Certain Agreement**").

Unless otherwise defined herein or unless there be something in the subject or the context inconsistent therewith, all capitalized terms and expressions used herein shall have the same meaning as that ascribed to them from time to time in the MDA and the Date Certain Agreement.

This Construction Report is delivered to you pursuant to subsection 7.4.2 and Section 11.3 of the Muskrat/LTA Project Finance Agreement in respect of the month ending on 30-June-2016 (the "Applicable Month").

Subject to the Date Certain Agreement, I, Gilbert Bennett, the undersigned, the Vice-President of Devco, and Vice-President of Muskrat, in my capacity as an officer and without personal liability, do hereby certify the matters set forth in Section A below, and subject to the Date Certain Agreement, I, Gilbert Bennett, the undersigned, the Vice-President of Devco, and Vice-

President of Labrador Transco, in my capacity as an officer and without personal liability, do hereby certify the matters set forth in Section B below:

#### A. MUSKRAT MATTERS

- 1. I have conducted such investigations as I have deemed necessary to provide the information set out in this report and in so doing I have verified all engineering related matters with a licensed professional engineer working on our behalf in respect of the MF Plant.
- 2. Attached hereto as Part I of Schedule "A" is a true and accurate table detailing the Hard Costs incurred during the Applicable Month with respect to the MF Plant by and compared as against the MF Project Budget.
- 3. Attached hereto as Part I of Schedule "B" is a true and accurate analysis of the Cost to Complete the MF Plant, as it relates to Hard Costs, as at the end of the Applicable Month.
- 4. Attached hereto as Part I of Schedule "C" is a true and accurate analysis of the Cost Variances for the MF Plant, as they relate to Hard Costs, as at the end of the Applicable Month, with a narrative explanation as to any variances from the MF Project Budget.
- 5. The estimated Commissioning Date is currently 01-June-2020.
- 6. There are no material disputes with any Material Project Participant related to the MF Plant and any related claims against Muskrat, other than as set out in Part I of Schedule "E" hereto.
- 7. Attached hereto as Part I of Schedule "F" is a true and accurate report describing the progress of the construction of the MF Plant since the Previous Construction Report and compared as against the established milestones in the MF Project Schedule.
- 8. The MF Plant is being built substantially in all respects in accordance with the MF Project Plans and Good Utility Practice.
- 9. Subject to Sections 9.5 and 9.14 of the Muskrat/LTA Project Finance Agreement, I have no reason to believe that the MF Plant is being built in violation of any Applicable Laws or Authorizations pertaining to the MF Plant in effect at the time of performance of the relevant work.
- 10. Subject to Sections 9.5 and 9.14 of the Muskrat/LTA Project Finance Agreement, all Authorizations which, under Applicable Law, as at the date hereof are necessary to have been obtained in connection with the MF Plant and the work currently being performed on the MF Plant, have been obtained and are in full force and effect and do not contain any condition which could prevent or adversely affect the ability of the Credit Parties of attaining Commissioning by the Date Certain.
- 11. Subject to Sections 9.5 and 9.14 of the Muskrat/LTA Project Finance Agreement, all Material Project Participants related to the MF Plant and other Persons participating or

working toward the Commissioning of the MF Plant, to the best of my Knowledge, are not in material default with respect to any of their respective obligations which would delay Commissioning beyond the Date Certain and Muskrat is not in material default in the payment of any sums due to such Persons in accordance with the terms agreed upon or in the fulfilment of any of its obligations with respect to such Persons, save and except with respect to such payments or obligations which Muskrat shall be contesting diligently and in good faith and in respect of which, in the event that such contestation should prove unsuccessful, no Lien shall be created or result upon or with respect to any of its Assets, except for Permitted Encumbrances.

12. Attached hereto as Part I of Schedule "G" is a true and complete copy of each of the Additional Material Project Documents entered into by Muskrat since the Previous Construction Report.

#### B. LABRADOR TRANSCO MATTERS

- 13. I have conducted such investigations as I have deemed necessary to provide the information set out in this report and in so doing I have verified all engineering related matters with a licensed professional engineer working on our behalf in respect of the LTA.
- 14. Attached hereto as Part II of Schedule "A" is a true and accurate table detailing the Hard Costs incurred during the Applicable Month with respect to the LTA and compared as against the LTA Project Budget.
- 15. Attached hereto as Part II of Schedule "B" is a true and accurate analysis of the Cost to Complete for the LTA, as it relates to Hard Costs, as at the end of the Applicable Month.
- 16. Attached hereto as Part II of Schedule "C" is a true and accurate analysis of the Cost Variances for the LTA, as they related to Hard Costs, as at the end of the Applicable Month, with a narrative explanation as to any variances from the LTA Project Budget.
- 17. The estimated Commissioning Date is currently 01-June-2020.
- 18. There are no material disputes with any Material Project Participant related to the LTA and any related claims against Labrador Transco, other than as set out in Part II of Schedule "E" hereto.
- 19. Attached hereto as Part II of Schedule "F" is a true and accurate report describing the progress of the construction of the LTA since the Previous Construction Report and compared as against the established milestones in the LTA Project Schedule.
- 20. The LTA is being built substantially in all respects in accordance with the LTA Project Plans and Good Utility Practice.
- 21. Subject to Sections 9.5 and 9.14 of the Muskrat/LTA Project Finance Agreement, I have no reason to believe that the LTA is being built in violation of any Applicable Laws or

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Authorizations pertaining to the LTA in effect at the time of performance of the relevant work.

- 22. Subject to Sections 9.5 and 9.14 of the Muskrat/LTA Project Finance Agreement, all Authorizations which, under Applicable Law, as at the date hereof are necessary to have been obtained in connection with the LTA and the work currently being performed on the LTA, have been obtained and are in full force and effect and do not contain any condition which could prevent or adversely affect the ability of the Credit Parties of attaining Commissioning by the Date Certain.
- 23. That, subject to Sections 9.5 and 9.14 of the Muskrat/LTA Project Finance Agreement, all Material Project Participants related to the LTA and other Persons participating or working toward the Commissioning of the LTA, to the best of our Knowledge, are not in material default with respect to any of their respective obligations which would delay Commissioning beyond the Date Certain and Labrador Transco is not in material default in the payment of any sums due to such Persons in accordance with the terms agreed upon or in the fulfilment of any of its obligations with respect to such Persons, save and except with respect to such payments or obligations which Labrador Transco shall be contesting diligently and in good faith and in respect of which, in the event that such contestation should prove unsuccessful, no Lien shall be created or result upon or with respect to any of its Assets, except for Permitted Encumbrances.
- 24. Attached hereto as Part II of Schedule "G" is a true and complete copy of each of the Additional Material Project Documents entered into by Labrador Transco since the Previous Construction Report.

Signed at St. John's, Newfoundland and Labrador, this 20th day of July, 2016.

Name: Gilbert Bennett, P. Eng.

Title: Vice-President of Muskrat Falls

Corporation

Name: Gilbert Bennett, P. Eng.
Title: Vice-President of Labrador

**Transmission Corporation** 

Name: Gilbert Bennett, P. Eng. Title: Vice-President of Devco

#### SCHEDULE "A"

#### Part I - Hard Costs for the MF Plant

Schedule "A" - Summary of Project Budget - Hard Costs
Lower Churchill Project-Phase 1
Muskrat Falls Generation
Period Ending 30-June-2016

		Project Budget	Planne	d Costs	Incurre	Incurred Costs	
Description	Initial Project Budget		Current Period	Project-to-Date	Current Period	Project-to-Date	
NE-LCP Owners Team, Admin and EPCM Services	\$378,969	\$536,423	\$13,584	\$337,061	\$13,584	\$337,061	
Feasibility Engineering	\$18,345	\$17,626	-\$323	\$17,626	-\$323	\$17,626	
Environmental & Regulatory Compliance	\$20,312	\$25,825	\$165	\$19,230	\$165	\$19,230	
Aboriginal Affairs	\$13,314	\$15,370	\$404	\$8,329	\$404	\$8,329	
Procurement & Construction	\$2,719,626	\$3,927,984	\$106,858	\$2,050,847	\$106,858	\$2,050,847	
Commercial & Legal	\$20,457	\$42,431	\$185	\$16,086	\$185	\$16,086	
Contingency	\$94,255	\$235,755	\$0	\$0	\$0	\$0	
Total	\$3,265,278	\$4,801,412	\$120,872	\$2,449,178	\$120,872	\$2,449,178	

Note 1: Costs in CAD (\$ Thousands)

Note 2: Initial Project Budget represents baseline set at Financial Close in November 2013

Note 3: Project Budget represents Authorization for Expenditure (AFE) approved by the Board of Directors on June 29, 2016

Note 4: Analysis and statements made with regard to variances are reflective of Project Budget, not Initial Project Budget

#### Analysis:

Incurred Costs for the Current Period and Project-to-Date are aligned with the incurred cost flow for the 2016 revised Authorization for Expenditure (AFE) approved by the Board of Directors of Muskrat during the period.

The net negative Planned and Incurred Cost for the Current Period under "Feasibility Engineering" is as a result of the alignment with the AFE to Final Forecast Cost.

The incurring of the Contingency is reflected within the incurred and future incurred costs in the above categories as and where the work is performed.

#### Part II - Hard Costs for the LTA

Schedule "A" - Summary of Project Budget - Hard Costs
Lower Churchill Project-Phase 1
Labrador Transmission Asset (LTA)
Period Ending 30-June-2016

	Initial Duningt		Planne	d Costs	Incurred Costs	
Description	Initial Project Budget	Project Budget	Current Period	Project-to-Date	Current Period	Project-to-Date
NE-LCP Owners Team, Admin and EPCM Services	\$76,238	\$145,848	\$1,542	\$103,231	\$1,542	\$103,231
Feasibility Engineering	\$256	\$363	\$143	\$363	\$143	\$363
Environmental & Regulatory Compliance	\$710	\$811	\$0	\$811	\$0	\$811
Aboriginal Affairs	\$188	\$188	\$0	\$0	\$0	\$0
Procurement & Construction	\$626,869	\$704,884	\$10,480	\$570,327	\$10,480	\$570,327
Commercial & Legal	\$2,030	\$3,891	\$16	\$2,372	\$16	\$2,372
Contingency	\$14,030	\$21,571	\$0	\$0	\$0	\$0
Total	\$720,322	\$877,557	\$12,181	\$677,104	\$12,181	\$677,104

Note 1: Costs in CAD (\$ Thousands)

Note 2: Initial Project Budget represents baseline set at Financial Close in November 2013

Note 3: Project Budget represents Authorization for Expenditure (AFE) approved by the Board of Directors on June 29, 2016

Note 4: Analysis and statements made with regard to variances are reflective of Project Budget, not Initial Project Budget

#### Analysis:

Incurred Costs for the Current Period and Project-to-Date are aligned with the incurred cost flow for the 2016 revised Authorization for Expenditure (AFE) approved by the Board of Directors of Labrador Transco during the period.

The incurring of the Contingency is reflected within the incurred and future incurred costs in the above categories as and where the work is performed.

#### **SCHEDULE "B"**

#### Part I - Muskrat Cost to Complete

# Schedule "B" - Summary of Cost to Complete Lower Churchill Project-Phase 1 Muskrat Falls Generation Period Ending 30-June-2016

Description	Initial Project Budget	Project Budget	Incurred Costs Project-to-Date	Final Forecast Cost (FFC)	Cost to Complete
NE-LCP Owners Team, Admin and EPCM Services	\$378,969	\$536,423	\$337,061	\$536,423	\$199,362
Feasibility Engineering	\$18,345	\$17,626	\$17,626	\$17,626	\$0
Environmental & Regulatory Compliance	\$20,312	\$25,825	\$19,230	\$25,825	\$6,595
Aboriginal Affairs	\$13,314	\$15,370	\$8,329	\$15,370	\$7,041
Procurement & Construction	\$2,719,626	\$3,927,984	\$2,050,847	\$3,927,984	\$1,877,137
Commercial & Legal	\$20,457	\$42,431	\$16,086	\$42,431	\$26,345
Contingency	\$94,255	\$235,755	\$0	\$235,755	\$235,755
Total	\$3,265,278	\$4,801,412	\$2,449,178	\$4,801,412	\$2,352,235

Note 1: Costs in CAD (\$ Thousands)

Note 2: Initial Project Budget represents baseline set at Financial Close in November 2013

Note 3: Project Budget represents Authorization for Expenditure (AFE) approved by the Board of Directors on June 29, 2016

Note 4: Analysis and statements made with regard to variances are reflective of Project Budget, not Initial Project Budget

#### Analysis:

The Final Forecast Cost has been updated to align with the 2016 revised Authorization for Expenditure (AFE) approved by the Board of Directors of Muskrat during the current period, resulting in an approximate increase of \$995M in the overall Cost to Complete, compared to the previous period.

The majority of this increase is contained in the category of "Procurement & Construction" as a result of the increase in Final Forecast Cost, and continues to remain significant as construction activities for work in progress are ongoing, and the remaining major construction contract for MF (CH0031) is pending award.

The Cost to Complete for "Owners Team, Admin and EPCM Services", "Aboriginal Affairs", and "Commercial & Legal" has increased from last month as a result of the increases in Final Forecast Cost for these categories.

The Cost to Complete for "Feasibility Engineering" remains unchanged from the last reporting period.

The Cost to Complete for "Environmental & Regulatory Compliance" has decreased from last month due to the incurred costs this period.

The Cost to Complete for "Contingency" has increased as a result of the increase in Final Forecast Cost for this category.

#### Part II - Labrador Transco Cost to Complete

#### Schedule "B" - Summary of Cost to Complete Lower Churchill Project-Phase 1 Labrador Transmission Asset (LTA)

Period Ending 30-June-2016

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Description	Initial Project Budget	Project Budget	Incurred Costs Project-to-Date	Final Forecast Cost (FFC)	Cost to Complete	
NE-LCP Owners Team, Admin and EPCM Services	\$76,238	\$145,848	\$103,231	\$145,848	\$42,617	
Feasibility Engineering	\$256	\$363	\$363	\$363	\$0	
Environmental & Regulatory Compliance	\$710	\$811	\$811	\$811	\$0	
Aboriginal Affairs	\$188	\$188	\$0	\$188	\$188	
Procurement & Construction	\$626,869	\$704,884	\$570,327	\$704,884	\$134,557	
Commercial & Legal	\$2,030	\$3,891	\$2,372	\$3,891	\$1,520	
Contingency	\$14,030	\$21,571	\$0	\$21,571	\$21,571	
Total	\$720,322	\$877,557	\$677,104	\$877,557	\$200,453	

Note 1: Costs in CAD (\$ Thousands)

Note 2: Initial Project Budget represents baseline set at Financial Close in November 2013

Note 3: Project Budget represents Authorization for Expenditure (AFE) approved by the Board of Directors on June 29, 2016

Note 4: Analysis and statements made with regard to variances are reflective of Project Budget, not Initial Project Budget

#### Analysis:

The overall Final Forecast Cost currently aligns with the 2016 revised Authorization for Expenditure (AFE) approved by the Board of Directors of Labrador Transco during the current period, and remains unchanged from the previous reporting period. Specifically at the category level:

The Cost to Complete for "Owners Team, Admin and EPCM Services" has decreased from last month as result of the decrease in Final Forecast Cost for this category.

The Cost to Complete for "Feasibility Engineering", "Environmental & Regulatory Compliance", and "Aboriginal Affairs" remains unchanged from the last reporting period.

The Cost to Complete for "Procurement & Construction" has increased from last month due to the increase in Final Forecast Cost for this category, and continues to remain significant as construction activities for work in progress are ongoing.

The Cost to Complete for "Contingency" has decreased as a result of the decrease in Final Forecast Cost for this category.

The Cost to Complete for the remaining category has decreased from last month by the incurred cost this period, as the Final Forecast Cost remains unchanged from the last reporting period.

#### SCHEDULE "C"

#### Part I - Muskrat Cost Variances

#### Schedule "C" - Summary of Cost Variances Lower Churchill Project-Phase 1 Muskrat Falls Generation Period Ending 30-June-2016

Description	Initial Project Budget	Project Budget	Final Forecast Cost (FFC)	Variance
NE-LCP Owners Team, Admin and EPCM Services	\$378,969	\$536,423	\$536,423	\$0
Feasibility Engineering	\$18,345	\$17,626	\$17,626	\$0
Environmental & Regulatory Compliance	\$20,312	\$25,825	\$25,825	\$0
Aboriginal Affairs	\$13,314	\$15,370	\$15,370	\$0
Procurement & Construction	\$2,719,626	\$3,927,984	\$3,927,984	\$0
Commercial & Legal	\$20,457	\$42,431	\$42,431	\$0
Contingency	\$94,255	\$235,755	\$235,755	\$0
Total	\$3,265,278	\$4,801,412	\$4,801,412	\$0

Note 1: Costs in CAD (\$ Thousands)

Note 2: Initial Project Budget represents baseline set at Financial Close in November 2013

Note 3: Project Budget represents Authorization for Expenditure (AFE) approved by the Board of Directors on June 29, 2016

Note 4: Analysis and statements made with regard to variances are reflective of Project Budget, not Initial Project Budget

#### Analysis:

The Final Forecast Cost has been updated to align with the 2016 revised Authorization for Expenditure (AFE) approved by the Board of Directors of Muskrat during the current period, resulting in an increase of \$1,115,447 in the overall Final Forecast Cost. The approved AFE budget is the result of a Quantitative Cost and Schedule Risk Analysis that was completed for Muskrat Falls Generation based upon an assessment of risks to project completion and an analysis of the associated impact on cost and schedule . The revised project budget of \$4,801,412 is the high end (P75) of the probabilistic range of most likely outcomes resulting from this Risk Analysis. The approved AFE (2016) is based upon the assumption that the Contractor for the powerhouse (Astaldi) will remain on the project.

The main component of this variance is an increase of \$817,693 in the category of "Procurement & Construction", followed by increases of \$126,386 in the category of "Owners Team, Admin and EPCM Services", \$2,056 in the category of "Aboriginal Affairs", \$12,191 in the category of "Environmental & Regulatory Compliance", and a decrease of \$323 in the category of "Feasibility Engineering", amended from the last reporting period as a result of the impacts indicated above.

The primary drivers for the increased budget are: poor Contractor performance which has resulted in an increased requirement for more direct project management, additional costs to other Contractors due to the schedule delays, along with increased services to accommodate additional manpower at the Muskrat Falls site; market conditions and pressures which is increasing the price of the work and the contracts required for Muskrat Falls Generation, including labour productivity matters as well as foreign exchange impact, which has now been

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incorporated into the capital cost; and design enhancements and interfaces which have accounted for scope changes and the need for additional quantity of materials.

The Final Forecast Cost for "Environmental & Regulatory Compliance" remains unchanged from the last reporting period.

The Final Forecast Cost for "Contingency" has increased by a net amount of \$157,444 from the last reporting period as a result of the analysis of this category during the AFE revision.

#### Part II - Labrador Transco Cost Variances

#### Schedule "C" - Summary of Cost Variances Lower Churchill Project-Phase 1 Labrador Transmission Asset (LTA)

Period Ending 30-June-2016

Description	Initial Project Budget	Project Budget	Final Forecast Cost (FFC)	Variance
NE-LCP Owners Team, Admin and EPCM Services	\$76,238	\$145,848	\$145,848	\$0
Feasibility Engineering	\$256	\$363	\$363	\$0
Environmental & Regulatory Compliance	\$710	\$811	\$811	\$0
Aboriginal Affairs	\$188	\$188	\$188	\$0
Procurement & Construction	\$626,869	\$704,884	\$704,884	\$0
Commercial & Legal	\$2,030	\$3,891	\$3,891	\$0
Contingency	\$14,030	\$21,571	\$21,571	\$0
Total	\$720,322	\$877,557	\$877,557	\$0

Note 1: Costs in CAD (\$ Thousands)

Note 2: Initial Project Budget represents baseline set at Financial Close in November 2013

Note 3: Project Budget represents Authorization for Expenditure (AFE) approved by the Board of Directors on June 29, 2016

Note 4: Analysis and statements made with regard to variances are reflective of Project Budget, not Initial Project Budget

#### Analysis:

The overall Final Forecast Cost is in alignment with the 2016 revised Authorization for Expenditure (AFE) approved by the Board of Directors of Labrador Transco during the current period, and remains unchanged from the previous reporting period; however, changes at the specific category level are outlined below. A Quantitative Cost and Schedule Risk Analysis was completed for Labrador Transmission Asset based upon an assessment of risks to project completion and an analysis of the associated impact on cost and schedule. The high end (P75) of the probabilistic range of most likely outcomes resulting from this Risk Analysis confirmed that the current Project budget is sufficient to complete the project scope.

The main component of the change is in relation to an increase of \$14,552 in the category of "Procurement & Construction", followed by increases of \$143 in the category of "Feasibility Engineering", and a decrease of \$10,554 in the category of "Owners Team, Admin and EPCM Services", amended from the last reporting period as a result of the impacts indicated above.

The Final Forecast Costs for "Environmental & Regulatory Compliance", "Aboriginal Affairs", and "Commercial & Legal", remain unchanged from the last reporting period.

The Final Forecast Cost for "Contingency" has decreased by a net amount of \$4,140 from the last reporting period as a result of the transfers noted above in direct relation to the analysis of these categories during the AFE revision.

#### SCHEDULE "D"

#### Part I - Muskrat Estimated Commissioning Date

The estimated Commissioning Date is 01-June-2020 set forth in the MF Project Schedule.

#### Part II - Labrador Transco Estimated Commissioning Date

The estimated Commissioning Date is 01-June-2020 set forth in the LTA Project Schedule.

#### SCHEDULE "E"

#### Part I - Muskrat Material Disputes

As part of ongoing commercial discussions between Devco and the CH0007 Contractor with respect to the cost to complete the work scope, the CH0007 Contractor has submitted its justification for the incremental cost it seeks to recover from Muskrat.

During the previous period, the CH0032 Contractor for Supply and Install Powerhouse & Spillway Hydro-Mechanical Equipment submitted a formal Statement of Claim with the Newfoundland and Labrador Provincial Court to recover costs associated with the schedule delay of their scope. The CH0032 Contractor also submitted an injunction against Devco's ability to collect on the Letter of Credit.

#### Part II - Labrador Transco Material Disputes

There are currently no material disputes with any Material Project Participant, or related claims against Labrador Transco.

### SCHEDULE "F"

# **Part I - MF Plant Construction Progress**

Milestone Description	Initial Project	Planned (1) Actual/Forecast		Status
	Schedule			
Project Sanction	17-Dec-2012	17-Dec-2012	17-Dec-2012	Actual
North Spur Works Ready for Diversion	30-Nov-2015	31-Oct-2016	31-Oct-2016	
River Diversion Complete (to 25m)	9-Nov-2016	15-Dec-2016	15-Nov-2016	
Reservoir Impoundment Complete (to 39m)	19-Nov-2017	1-Aug-2019	5-Dec-2018	
First Power from Muskrat Falls	30-Dec-2017	2-Aug-2019	1-Apr-2019	
Powerhouse Unit 1 Commissioned - Ready for Operation	30-Dec-2017	19-Sep-2019	29-Apr-2019	
Powerhouse Unit 2 Commissioned - Ready for Operation	18-Feb-2018	3-Dec-2019	23-Jul-2019	
Powerhouse Unit 3 Commissioned - Ready for Operation	21-Apr-2018	9-Mar-2020	28-Oct-2019	
Powerhouse Unit 4 Commissioned - Ready for Operation	22-May-2018	14-May-2020	1-Feb-2020	
Full Power from Muskrat Falls	22-May-2018	14-May-2020	1-Feb-2020	

Milestone Description	Initial Project Schedule	Planned (1)	Actual/Forecast	Status
Commissioning Complete - Commissioning Certificate Issued	1-Jun-2018	01-Jun-2020	01-Jun-2020	
Date Certain	28-Feb-2019	Beyond 01-Jun-2020	Beyond 01-Jun-2020	Refer to the Date Certain Agreement

- (1) Reflects Project Schedule associated with the Project Budget established on June 29, 2016
- (2) Reflects latest published forecast with any potential schedule risk beyond this outlined in the Status update.

As noted above, a Quantitative Cost and Schedule Risk Analysis was completed for Muskrat Falls Generation based upon an assessment of risks to project completion and an analysis of the associated impact on cost and schedule. The revised Planned dates in the table above reflect the high end (P75) of the probabilistic range of most likely outcomes resulting from this Risk Analysis. The approved AFE (2016) is based upon the assumption that the Contractor for the powerhouse (Astaldi) will remain on the project.

Devco, and the Contractor for CH0007, continue to collaborate in the implementation of organizational and production changes at the construction management level and the review of the Muskrat Falls Generation work plan will remain an ongoing activity. This month the Project schedule has been updated to reflect the current forecast of the Muskrat Falls scope. The current forecast dates are reflected in the Milestone Table above.

#### Construction Narrative:

During the period, the CH0007 contractor responsible for the Intake, Powerhouse, Spillway, and Transition Dams made progress in the following areas:

- Concrete pour and placement activities continued during the period, along with formwork and rebar placement.
- Concrete placement for planned elements in the spillway discharge liner was completed, and drilling of rock anchors commenced.
- Concrete aggregate crushing operation remobilized.
- Installation of crane rail embedment plates continued.

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Manufacturing of the Turbines and Generators under CH0030 is proceeding and is at 82% complete. The last shipment of components from China is currently in transit to Goose Bay, and is scheduled to arrive early August.

Manufacturing of the primary anchor materials for the intake, powerhouse and spillway is continuing under contract CH0032 for the Supply and Installation of Hydro-Mechanical Equipment. Spillway installation is near completion, which is significant for activities associated with river diversion; hoist towers and gate installation is ongoing, and second stage concrete is fully completed.

Construction activities under CH0024 for Construction of Reservoir Clearing – North and South Banks continued during the period. Approximately 22 hectares in three of the harvesting blocks were cleared, and work continued on the south side of the river, currently being accessed via river barges.

Excavation of the South Dam continued under CH0009 for Construction of North and South Dams during the period. Launch of the temporary bridge has been completed, along with construction of the by-pass road; batch plant and crusher erection activities continued; lowering of cofferdams 2 and 3 continued, and lowering of cofferdam 1 and drilling/blasting to remove the riverside RCC cofferdam commenced; screening and hauling of imperious fills to stockpiles continued, and stockpiling of rockfill along riverside commenced.

Construction activities continued during the period at the North Spur under CH0008 for Construction of North Spur Stabilization Works. Excavation continues, along with embankment construction in both the upstream and downstream areas. Work in the Kettle Lakes Area and on the Northwest Cut-Off Wall commenced.

There is continued schedule pressure with the CH0032 contractor with respect to the target dates for River Ready for Diversion. Recovery and mitigation plans are ongoing with the CH0032 and CH0009 Contractors, however despite this slippage the river diversion schedule is not considered to be at significant risk. The schedule for stabilization works currently aligns with the revised 2016 Authorization for Expenditure, and is not critical for the planned Winter Headpond (elev. 25 m) milestone date.

## **Part II - LTA Construction Progress**

Milestone Description	Initial Project Schedule	Planned (1)	Actual/Forecast	Status
Project Sanction	17-Dec-2012	17-Dec-2012	17-Dec-2012	Actual
HVac Transmission Line Construction Complete	8-Jun-2016	31-Oct-2016	19-Sep-2016	HVac construction between MF and CF completed this month; 735kV interconnect at CF is only remaining construction scope
Churchill Falls Switchyard Ready to Energize	31-May-2017	17-Jun-2017	3-May-2017	
Muskrat Falls Switchyard Ready to Energize	31-May-2017	15-Sep-2017	5-Jun-2017	
Ready for Power Transmission	31-May-2017	31-Oct-2017	22-Jul-2017	
Commissioning Complete- Commissioning Certificate Issued	1-Jun-2018	01-Jun-2020	01-Jun-2020	
Date Certain	28-Feb-2019	Beyond 01-Jun-2020	Beyond 01-Jun-2020	Refer to the Date Certain Agreement

<sup>(1)</sup> Reflects Project Schedule associated with the Project Budget established on June 29, 2016.

<sup>(2)</sup> Reflects latest published forecast with any potential schedule risk beyond this outlined in the Status update.

MF/LTA CONSTRUCTION REPORT
PERIOD ENDING 30-JUNE-2016

As noted above, a Quantitative Cost and Schedule Risk Analysis was completed for Labrador Transmission Asset based upon an assessment of risks to project completion and an analysis of the associated impact on cost and schedule. The revised Planned dates in the table above reflect the dates required to meet the new planned dates for power transmission of LIL.

#### Construction Narrative:

Work is continuing on the preparation of management, technical, and commercial deliverables under Contract CD0502 for Construction of AC Substations, along with civil works and building services activities at the Muskrat Falls and Churchill Falls sites. At Churchill Falls, mass backfilling around gantries and equipment foundations continued, along with work on the CF extension outside of the CF(L)Co fence line; the pre-engineered control building is currently in transit to site. At Muskrat Falls, cutting and demolition activities continued at the GIS building, and framework assembly commenced.

Assembly and dressing of the transformer units continued at Churchill Falls during the period under PD0537 for Supply of Power Transformers, AC Substations; assembly and dressing at Muskrat Falls is scheduled to commence by late July/early August.

The Labrador marshalling yard operation is ongoing and supporting the HVac transmission line construction activities. All materials have been received for HVac transmission line.

Construction activities for the HVac Transmission Line in Labrador under CT0319 continued during the period. As previously reported, by the end of May 100% of the required foundations, anchor installation, testing, tower assembly and erection, and conductor stringing on the 315 kV line from Churchill Falls to Muskrat Falls was completed. Slack span connections to the gantries at each end are remaining. Although installation of all quantities has been completed, reclamation and rework on some foundations is ongoing and expected to be completed in August. Preparations have commenced for the upcoming construction work of the 735kV interconnect at Churchill Falls.

#### SCHEDULE "G"

#### Part I - Muskrat Additional Material Project Documents

There were no Additional Material Project Documents entered into since the Previous Construction Report.

#### Part II - Labrador Transco Additional Material Project Documents

There were no Additional Material Project Documents entered into since the Previous Construction Report.