

Muskrat Falls Corporation - Revised Capital & Financing Cost Master AFE's

1. Master Authorization for Expenditure ("AFE")

The Master AFE's for direct capital costs and financing related costs for the Muskrat Falls generation facility are attached in Appendix A for Board of Directors review and approval.

Master AFE LCPMF-2013-01 was previously approved by the Nalcor Energy Board of Directors in January 2013 and subsequently transferred to Muskrat Falls Corporation in November 2013 through the approval of its Board of Directors. This approval provided for the release of necessary funding, the allocation of which being managed by the President and CEO, for execution of work scope leading to in-service of the Muskrat Falls generation facility.

The attached Master AFE LCPMF-2013-01 Supplement #1 represents an update to the previously approved AFE. It reflects an update to direct capital costs, which was previously based on the Decision Gate 3 ("DG3") estimate, as well as a transfer of approved financing cost funding to a separate Master AFE MF-FIN-2014-01 that relates solely to financing related costs and interest during construction ("IDC").

An update to the Muskrat Falls direct capital cost estimate of \$2,901 million established at DG3 was completed as part of determining the \$3,265 million Project Budget baseline as defined in the MF/LTA Project Finance Agreement executed by Muskrat Falls Corporation on November 29, 2013. The increase of \$364 million from the DG3 estimate to the Project Budget baseline was driven by:

- Strategic investment in construction productivity enhancement and risk reduction measures (approximately two-thirds of the overall variance);
- Market conditions reflective of current buoyant local / national market contributed to a large portion of the remaining cost growth, largely given the productivity and risk concerns expressed by contractors undertaking the Powerhouse, Intake and Spillway concrete works and the Hydro-Mechanical installation works; and
- Design enhancements to improve reliability 13%, mainly impacting the concrete works.

2. Work Scope

A summary of the scope of work associated with this Master AFE LCPMF-2013-01 is contained in Appendix B.

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3. Cost

The cost estimate for the two Master AFE's are outlined below:

Master AFE LCPMF-2013-01 Supplement #1 Cost Estimate

<i>(\$ Millions CAD)</i>	Muskrat Falls
Project Budget Capital Cost Estimate ⁽¹⁾	
Owners Team, Admin & EPCM Services	\$ 379.0
Feasibility Engineering	\$ 18.3
Environmental & Regulatory Compliance	\$ 20.3
Aboriginal Affairs	\$ 13.3
Procurement & Construction	\$ 2,719.6
Commercial & Legal	\$ 20.5
Contingency	\$ 94.3
Master AFE Value	\$ 3,265.3
Approved Funding to Date	\$ 2,975.5
Less: Transfer to Financing AFE ⁽²⁾	\$ (74.3)
Total	\$ 2,901.2
New Funding Requested	\$ 364.1

Master AFE MF-FIN-2014-01 Cost Estimate

<i>(\$ Millions CAD)</i>	Muskrat Falls
Financing Cost Estimate	
Underwriting Fees	\$ 6.7
Collateral & Fiscal Agent Fees	\$ 0.5
Trustee & Administrator Fees	\$ 0.3
Credit Rating Agencies	\$ 4.1
Independent Engineer & Insurance Consultant	\$ 3.7
Legal & Financial Advisory	\$ 9.9
Administrative & Other Related Costs	\$ 1.0
Interest During Construction (Net)	\$ 313.2
Master AFE Value	\$ 339.3
Less: Transfer from Capital Cost AFE ⁽²⁾	\$ (74.3)
New Funding Requested	\$ 265.0

(1) Represents Project Budget (Hard Cost) baseline established in the MF/LTA Project Finance Agreement executed by Muskrat Falls Corporation on November 29, 2013.

(2) Funding for Project Debt Financing approved in original Master AFE LCPMF-2013-01.

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The work will be carried out under the authority of the President and CEO, as granted by the Board's approval of these Master AFE's, and in the case of LCPMF-2013-01, will be performed within the confines of the work scope as outlined in Appendix A and the Project documents noted herein. Work entailing a material change from project scope, as outlined in the basis of design (summarized in Appendix B) or increases in the approved Master AFE will require further authorization by the Board of Directors.

4. Schedule

The key milestone dates for the construction and development of the Muskrat Falls generation facility are as follows:

<u>Milestone Description</u>	<u>Date</u>
Project Sanction	17-Dec-2012
North Spur Works Ready for Diversion	30-Nov-2015
River Diversion Complete	09-Nov-2016
Reservoir Impoundment Complete	19-Nov-2017
Powerhouse Unit 1 Commissioned - Ready for Operation	30-Dec-2017
First Power from Muskrat Falls	30-Dec-2017
Powerhouse Unit 2 Commissioned - Ready for Operation	18-Feb-2018
Powerhouse Unit 3 Commissioned - Ready for Operation	12-Apr-2018
Powerhouse Unit 4 Commissioned - Ready for Operation	22-May-2018
Full Power from Muskrat Falls	22-May-2018
Commissioning Complete - Commissioning Certificate Issued	01-Jun-2018

APPENDIX A: AFE LCPMF-2013-01

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APPENDIX A – AFE MF-FIN-2014-01

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APPENDIX B – SCOPE OF WORK**Muskrat Falls Generation - Work Scope**

Muskrat Falls Generation includes the following sub-components which are broken down under the following principal areas of the development:

- a) 22 km of access roads, including upgrading and new construction, and temporary
- b) bridges;
- c) A 1,500 person accommodations complex (for the construction period);
- d) A north roller compacted concrete (RCC) overflow dam;
- e) A south rock fill dam;
- f) River diversion during construction via the spillway;
- g) 5 vertical gate spillway;
- h) Reservoir preparation and reservoir clearing;
- i) Replacement of fish and terrestrial habitat;
- j) North spur stabilization works; and
- k) A close coupled intake and powerhouse, including:
 - i. 4 intakes with gates and trash racks
 - ii. 4 turbine/generator units at approximately 206 MW each with associated ancillary electrical/mechanical and protection/control equipment
 - iii. 5 power transformers (includes 1 spare), located on the draft tube deck of the powerhouse
 - iv. 2 overhead cranes each rated at 450 Tonne