Page 1

From:	jamesmeaney@lowerchurchillproject.ca
Sent:	Monday, December 8, 2014 3:08 PM
То:	'Nikolay Argirov' (Nikolay.V.Argirov@mwhglobal.com); Krupski, Joseph
Cc:	Kapoor, Anoop; amanzer@casselsbrock.com; Newman, Charles; xmartis@fasken.com;
	Auburn Warren; Scott Pelley; michael.freeman@tdsecurities.com
Subject:	MF/LTA and LIL Cost Overruns Certificates
Attachments:	MFLTA Cost Overruns Certificate FINAL Dec 8 2014.pdf; LIL Cost Overruns Certificate FINAL Dec 10 2014.pdf; Project Cost Update to MWH - 22-Jul-2014.pdf

Nik/Joe,

Please find attached executed copies of the MF/LTA and LIL Cost Overruns Certificates in accordance with Articles 10.28 of the Project Finance Agreements. I have also included the Muskrat Falls Project Cost Update presentation dated July 22, 2014 which forms part of Schedule B for both certificates.

Note that for just the LIL certificate I have dated it **December 10, 2014**. This is due to the fact that this is the date the various parties have been requested to sign the Letter of Undertaking and Consent, the LIL Holdco COREA security agreement and the LIL Holdco COREA blocked account agreement.

Nik, I would suggest you date your LIL IE Cost Overruns Confirmation Certificate the same so all the documentation lines up. I will also respond to you shortly in a separate email on the 2 questions you had.

Let me know if you have any questions.

Regards,

Jim



MFLTA Cost Overruns Certificate FINAL Dec 8 2014.pdf

LIL Cost Overruns Certificate FINAL Dec 10 2014.pdf

Project Cost Update to MWH - 22-Jul-2014.pdf

James Meaney General Manager Finance PROJECT DELIVERY TEAM Lower Churchill Project t. 709 737-4860 c. 709 727-5283 f. 709 737-1901 e. JamesMeaney@lowerchurchillproject.ca w. muskratfalls.nalcorenergy.com

You owe it to yourself, and your family, to make it home safely every day. What have you done today so that nobody gets hurt?

#### **COST OVERRUNS CERTIFICATE**

Date: December 8, 2014

#### THE TORONTO-DOMINION BANK

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

Gentlemen:

We refer you to the Muskrat/LTA project finance agreement dated as of November 29, 2013 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 master definitions agreement dated as of November 29, 2013 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 "**MIDA**").

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.

This Cost Overruns Certificate is delivered to you pursuant to subsection 10.28.1 of the Muskrat/LTA Project Finance Agreement.

I, James Meaney, the undersigned, the General Manager, Finance of Devco, and General Manager, Finance of Muskrat, in my capacity as an officer and without personal liability, do hereby certify the matters set forth in Section A below, and I, James Meaney, the undersigned, the General Manager, Finance of Devco, and General Manager, Finance 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;
- 2. attached hereto in Part I of Schedule "A" is a true and accurate analysis of the Cost to Complete with respect to the MF Plant as at the date hereof;
- 3. attached hereto in Part I of Schedule "B" is a true and accurate analysis of the Cost Overruns with respect to the MF Plant as at the date hereof, with a narrative explanation as to any variances from the initial MF Project Budget;
- 4. the estimated Commissioning Date is currently June 1, 2018; and
- 5. the Cost Overruns with respect to the MF Plant identified in this Cost Overruns Certificate have been funded in accordance with the terms of the Muskrat/LTA Project Finance Agreement.

#### **B. LABRADOR TRANSCO MATTERS**

- 1. I have conducted such investigations as I have deemed necessary to provide the information set out in this report;
- 2. attached hereto in Part II of Schedule "A" is a true and accurate analysis of the Cost to Complete with respect to the LTA as at the date hereof;
- attached hereto in Part II of Schedule "B" is a true and accurate analysis of the Cost Overruns with respect to the LTA as at the date hereof, with a narrative explanation as to any variances from the Initial LTA Project Budget;
- 4. the estimated Commissioning Date is currently June 1, 2018; and
- 5. the Cost Overruns with respect to the LTA identified in this Cost Overruns Certificate have been funded in accordance with the terms of the Muskrat/LTA Project Finance Agreement.

COST OVERRUNS CERTIFICATE - PAGE 3

Signed at St. John's, Newfoundland and Labrador this 8th day of December, 2014.

Name: James Meaney Title: General Manager, Finance

#### SCHEDULE "A"

#### Part I - Muskrat Cost to Complete

The Cost to Complete for the MF Plant is \$2,529,978,856, derived as follows:

#### Summary of Cost to Complete Lower Churchill Project-Phase 1 Muskrat Falls Generation (MF)

#### **Hard Costs**

Description	Incurred Costs Project-to-Date	Final Forecast Cost (FFC)	Cost to Complete
NE-LCP Owners Team, Admin and EPCM Services	\$234,580,377	\$387,723,289	\$153,142,912
Feasibility Engineering	\$17,948,964	\$17,948,964	\$0
Environmental & Regulatory Compliance	\$17,012,094	\$25,061,595	\$8,049,501
Aboriginal Affairs	\$5,303,509	\$13,314,334	\$8,010,825
Procurement & Construction	\$842,397,098	\$2,776,794,556	\$1,934,397,458
Commercial & Legal	\$13,838,609	\$25,239,216	\$11,400,607
Contingency	\$0	\$125,906,727	\$125,906,727
Total	\$1,131,080,651	\$3,371,988,681	\$2,240,908,030

#### Soft Costs

Description	Incurred Costs Project-to-Date	Final Forecast Cost (FFC)	Cost to Complete
Underwriting Fees	\$6,717,995	\$6,723,317	\$5,322
Collateral & Fiscal Agent Fees	\$73,800	\$465,539	\$391,739
Trustee & Administrator Fees	\$39,517	\$264,891	\$225,374
Credit Rating Agencies	\$3,390,448	\$4,136,107	\$745,659
Independent Engineer & Insurance Consultant	\$859,366	\$3,687,418	\$2,828,052
Legal & Financial Advisory	\$8,223,270	\$9,897,471	\$1,674,201
Administrative & Other Related Costs	\$597,831	\$1,021,048	\$423,217
Interest During Construction (Net)	\$50,491,970	\$313,153,728	\$262,661,758
Innu Payments	\$10,045,000	\$30,160,504	\$20,115,504
Total	\$80,439,197	\$369,510,022	\$289,070,825

#### NOTE:

1. Hard Cost figures above are per the MF/LTA Construction Report dated November 20, 2014.

2. Soft Cost figures above are per the MF/LTA Funding Request dated November 19, 2014.

#### SCHEDULE "A"

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

The Cost to Complete for the LTA is \$624,360,212, derived as follows:

#### Summary of Cost to Complete Lower Churchill Project-Phase 1 Labrador Transmission Assets (LTA)

#### **Hard Costs**

Description	Incurred Costs Project-to-Date	Final Forecast Cost (FFC)	Cost to Complete
NE-LCP Owners Team, Admin and EPCM Services	\$65,636,418	\$99,958,262	\$34,321,844
Feasibility Engineering	\$220,033	\$220,033	\$0
Environmental & Regulatory Compliance	\$656,772	\$667,318	\$10,546
Aboriginal Affairs	\$386	\$188,302	\$187,916
Procurement & Construction	\$200,678,819	\$687,986,129	\$487,307,310
Commercial & Legal	\$2,073,242	\$3,141,286	\$1,068,044
Contingency	\$0	\$39,783,741	\$39,783,741
Total	\$269,265,670	\$831,945,071	\$562,679,401

#### Soft Costs

Description	Incurred Costs Project-to-Date	Final Forecast Cost (FFC)	Cost to Complete
Underwriting Fees	\$1,474,682	\$1,475,850	\$1,168
Collateral & Fiscal Agent Fees	\$16,200	\$102,192	\$85,992
Trustee & Administrator Fees	\$8,671	\$58,147	\$49,476
Credit Rating Agencies	\$752,407	\$996,333	\$243,926
Independent Engineer & Insurance Consultant	\$105,000	\$827,141	\$722,141
Legal & Financial Advisory	\$1,542,013	\$1,859,402	\$317,389
Administrative & Other Related Costs	\$131,810	\$222,485	\$90,675
Interest During Construction (Net)	\$10,094,907	\$70,264,951	\$60,170,044
Total	\$14,125,690	\$75,806,501	\$61,680,811

#### NOTE:

1. Hard Cost figures above are per the MF/LTA Construction Report dated November 20, 2014.

2. Soft Cost figures above are per the MF/LTA Funding Request dated November 19, 2014.

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

#### Part I - Muskrat Cost Overruns

The Cost Overruns for the MF Plant is \$106,711,136, derived as follows:

#### Summary of Cost Overruns Lower Churchill Project-Phase 1 Muskrat Falls Generation (MF)

#### Hard Costs

Description	Initial Project Budget	Final Forecast Cost (FFC)	Cost Overruns
NE-LCP Owners Team, Admin and EPCM Services	\$378,968,667	\$387,723,289	\$8,754,622
Feasibility Engineering	\$18,344,723	\$17,948,964	-\$395,759
Environmental & Regulatory Compliance	\$20,311,595	\$25,061,595	\$4,750,000
Aboriginal Affairs	\$13,314,334	\$13,314,334	\$0
Procurement & Construction	\$2,719,626,411	\$2,776,794,556	\$57,168,145
Commercial & Legal	\$20,456,716	\$25,239,216	\$4,782,500
Contingency	\$94,255,099	\$125,906,727	\$31,651,628
Total	\$3,265,277,545	\$3,371,988,681	\$106,711,136

#### Soft Costs

Description	Initial Project Budget	Final Forecast Cost (FFC)	Cost Overruns
Underwriting Fees	\$6,723,317	\$6,723,317	\$0
Collateral & Fiscal Agent Fees	\$465,539	\$465,539	\$0
Trustee & Administrator Fees	\$264,891	\$264,891	\$0
Credit Rating Agencies	\$4,136,107	\$4,136,107	\$0
Independent Engineer & Insurance Consultant	\$3,687,418	\$3,687,418	\$0
Legal & Financial Advisory	\$9,897,471	\$9,897,471	\$0
Administrative & Other Related Costs	\$1,021,048	\$1,021,048	\$0
Interest During Construction (Net)	\$313,153,728	\$313,153,728	\$0
Innu Payments	\$30,160,504	\$30,160,504	\$0
Total	\$369,510,022	\$369,510,022	\$0

#### NOTE:

- 1. Final Forecast Cost figures above are per the MF/LTA Construction Report dated November 20, 2014 the MF/LTA Funding Request dated November 19, 2014.
- 2. The explanation of cost variances compared to the MF Initial Project Budget is outlined on pages 10-12 of the attached "Muskrat Falls Project Cost Update" document presented to representatives of the Government of Canada and MWH Canada on July 22, 2014.

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

#### Part II - Labrador Transco Cost Overruns

The Cost Overruns for the LTA is \$111,623,144, derived as follows:

#### Summary of Cost Overruns Lower Churchill Project-Phase 1 Labrador Transmission Assets (LTA)

#### Hard Costs

Description	Initial Project Budget	Final Forecast Cost (FFC)	Cost Overruns
NE-LCP Owners Team, Admin and EPCM Services	\$76,238,494	\$99,958,262	\$23,719,768
Feasibility Engineering	\$256,102	\$220,033	-\$36,069
Environmental & Regulatory Compliance	\$709,697	\$667,318	-\$42,379
Aboriginal Affairs	\$188,302	\$188,302	\$0
Procurement & Construction	\$626,869,403	\$687,986,129	\$61,116,726
Commercial & Legal	\$2,030,054	\$3,141,286	\$1,111,232
Contingency	\$14,029,875	\$39,783,741	\$25,753,866
Total	\$720,321,927	\$831,945,071	\$111,623,144

#### Soft Costs

Description	Initial Project Budget	Final Forecast Cost (FFC)	Cost Overruns
Underwriting Fees	\$1,475,850	\$1,475,850	\$0
Collateral & Fiscal Agent Fees	\$102,192	\$102,192	\$0
Trustee & Administrator Fees	\$58,147	\$58,147	\$0
Credit Rating Agencies	\$996,333	\$996,333	\$0
Independent Engineer & Insurance Consultant	\$827,141	\$827,141	\$0
Legal & Financial Advisory	\$1,859,402	\$1,859,402	\$0
Administrative & Other Related Costs	\$222,485	\$222,485	\$0
Interest During Construction (Net)	\$70,264,951	\$70,264,951	\$0
Total	\$75,806,501	\$75,806,501	\$0

#### NOTE:

- 1. Final Forecast Cost figures above are per the MF/LTA Construction Report dated November 20, 2014 the MF/LTA Funding Request dated November 19, 2014.
- 2. The explanation of cost variances compared to the LTA Initial Project Budget is outlined on pages 16-18 of the attached "Muskrat Falls Project Cost Update" document presented to representatives of the Government of Canada and MWH Canada on July 22, 2014.

#### SCHEDULE "B"

Please see attached "Muskrat Falls Project Cost Update" presentation dated July 22, 3014.

#### COST OVERRUNS CERTIFICATE

Date: December 10, 2014

#### THE TORONTO-DOMINION BANK

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

Gentlemen:

We refer you to the LIL project finance agreement dated as of November 29, 2013 entered into among Labrador - Island Link Limited Partnership (the "**Partnership**"), as borrower LIL Construction Project Trust (the "**Intermediary Trust**"), as lender, Labrador – Island Link Operating Corporation ("**Opco**") and Labrador - Island Link General Partner Corporation (the "**General Partner**"), as credit parties, 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 "**LIL Project Finance Agreement**").

We also refer you to the master definitions agreement dated as of November 29, 2013 entered into among, *inter alia*, the Collateral Agent, BNY Trust Company of Canada, as issuer trustee of Labrador-Island Link Funding Trust, BNY Trust Company of Canada, as trustee of the Intermediary Trust, Nalcor Energy, Labrador-Island Link Holding Corporation, Her Majesty The Queen In Right of the Province of Newfoundland and Labrador, the Partnership, as an obligor, Opco, as an obligor, the General Partner, as an obligor, and Computershare Trust Company of Canada, as the security trustee (said agreement, as same may be amended, supplemented or restated from time to time is hereinafter referred to as the "**MDA**").

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.

This Cost Overruns Certificate is delivered to you pursuant to subsection 10.28.1 of the LIL Project Finance Agreement.

I, James Meaney, the undersigned, General Manager, Finance of Devco, and General Manager, Finance of the General Partner, in my capacity as an officer and without personal liability, do hereby certify that:

- 1. I have conducted such investigations as I have deemed necessary to provide the information set out in this report;
- 2. attached hereto as Schedule "A" is a true and accurate analysis of the Cost to Complete as at the date hereof

- 3. attached hereto as Schedule "B" is a true and accurate analysis of the Cost Overruns as at the date hereof, with a narrative explanation as to any variances from the Initial Project Budget;
- 4. the estimated Commissioning Date is currently June 1, 2018; and
- 5. the Cost Overruns identified in this Cost Overruns Certificate have been funded in accordance with the terms of the LIL Project Finance Agreement, save as otherwise provided in the undertaking and consent addressed to the Collateral Agent and Canada by the Partnership on the 10th day of December, 2014 as acknowledged and consented to by the Collateral Agent and Canada on the 10th day of December ,2014.

Signed at St. John's, Newfoundland and Labrador, this 10th day of December, 2014.

Name: James Meaney

Title: General Manager, Finance

#### SCHEDULE "A"

The Cost to Complete for the Labrador-Island Link is \$2,602,242,140, derived as follows:

#### Summary of Cost to Complete Lower Churchill Project-Phase 1 Labrador-Island Transmission Link (LIL)

#### Hard Costs

Description	Incurred Costs Project-to-Date	Final Forecast Cost (FFC)	Cost to Complete
NE-LCP Owners Team, Admin and EPCM Services	\$102,894,886	\$221,238,706	\$118,343,820
Feasibility Engineering	\$21,252,045	\$21,252,045	\$0
Environmental & Regulatory Compliance	\$8,642,345	\$22,305,534	\$13,663,189
Aboriginal Affairs	\$461,082	\$2,244,469	\$1,783,387
Procurement & Construction	\$323,541,183	\$2,441,008,448	\$2,117,467,265
Commercial & Legal	\$12,176,553	\$16,490,164	\$4,313,611
Contingency	\$0	\$61,941,131	\$61,941,131
Total	\$468,968,094	\$2,786,480,497	\$2,317,512,403

#### Soft Costs

Description	Incurred Costs Project-to-Date	Final Forecast Cost (FFC)	Cost to Complete
Underwriting Fees	\$7,748,523	\$7,755,000	\$6,477
Collateral & Fiscal Agent Fees	\$85,000	\$536,190	\$451,190
Trustee & Administrator Fees	\$69,688	\$352,048	\$282,360
Credit Rating Agencies	\$3,711,684	\$4,757,490	\$1,045,806
Independent Engineer & Insurance Consultant	\$510,387	\$4,167,285	\$3,656,898
Legal & Financial Advisory	\$10,002,656	\$11,824,831	\$1,822,175
Administrative & Other Related Costs	\$659,886	\$1,094,905	\$435,019
Interest During Construction (Net)	\$52,541,005	\$329,570,817	\$277,029,812
Total	\$75,328,829	\$360,058,566	\$284,729,737

#### <u>NOTE</u>:

1. Hard Cost figures above are per the LIL Construction Report dated November 20, 2014.

2. Soft Cost figures above are per the LIL Funding Request dated November 19, 2014.

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

The Cost Overruns for the Labrador-Island Link is \$240,325,393, derived as follows:

#### Summary of Cost Overruns Lower Churchill Project-Phase 1 Labrador-Island Transmission Link (LIL)

#### Hard Costs

Description	Initial Project Budget	Final Forecast Cost (FFC)	Cost Overrun
NE-LCP Owners Team, Admin and EPCM Services	\$247,074,444	\$221,238,706	-\$25,835,738
Feasibility Engineering	\$34,012,162	\$21,252,045	-\$12,760,117
Environmental & Regulatory Compliance	\$25,767,534	\$22,305,534	-\$3,462,000
Aboriginal Affairs	\$2,244,469	\$2,244,469	\$0
Procurement & Construction	\$2,135,211,562	\$2,441,008,448	\$305,796,886
Commercial & Legal	\$22,490,079	\$16,490,164	-\$5,999,915
Contingency	\$79,354,854	\$61,941,131	-\$17,413,723
Total	\$2,546,155,104	\$2,786,480,497	\$240,325,393

#### Soft Costs

Description	Initial Project Budget	Final Forecast Cost (FFC)	Cost Overrun
Underwriting Fees	\$7,755,000	\$7,755,000	\$0
Collateral & Fiscal Agent Fees	\$536,190	\$536,190	\$0
Trustee & Administrator Fees	\$352,048	\$352,048	\$0
Credit Rating Agencies	\$4,757,490	\$4,757,490	\$0
Independent Engineer & Insurance Consultant	\$4,167,285	\$4,167,285	\$0
Legal & Financial Advisory	\$11,824,831	\$11,824,831	\$0
Administrative & Other Related Costs	\$1,094,905	\$1,094,905	\$0
Interest During Construction (Net)	\$329,570,817	\$329,570,817	\$0
Total	\$360,058,566	\$360,058,566	\$0

#### NOTE:

- 1. Final Forecast Cost figures above are per the LIL Construction Report dated November 20, 2014 the LIL Funding Request dated November 19, 2014.
- 2. The explanation of cost variances compared to the LIL Initial Project Budget is outlined on pages 13-15 of the attached "Muskrat Falls Project Cost Update" document presented to representatives of the Government of Canada and MWH Canada on July 22, 2014.

COST OVERRUNS CERTIFICATE

#### SCHEDULE "B"

Please see attached "Muskrat Falls Project Cost Update" presentation dated July 22, 3014.

# Muskrat Falls Project Cost Update 22-Jul-2014

**Boundless Energy** 





**Confidential and Commercially Sensitive** 

## Agenda

- Safety Moment
- Background
- Capital Cost Drivers and Forecast
  - Muskrat Falls (MF)
  - Labrador Island Link (LIL)
  - Labrador Transmission Asset (LTA)
- Status of Material Contracts
- Summary



#### Take a MONTONIC TABLE TO TAKE A MARCE TO TAKE

## Starting a fire at a construction site

- Routine activities can start a fire if necessary precautions are not taken
- Vehicles, trucks, ATVs
  - Hot engines and brakes can start fires if vehicles are parked in areas with tall dry grass
  - Tow chains can create sparks and start a fire if allowed to drag on the ground
- Power tools
  - Fuel powered tools must be equipped with working spark arrestors
  - Generator powered tools should be used in areas that are cleared of any combustible material
  - Welding must be done in areas free from debris and fire extinguishers must be present nearby
- Debris burning
  - Checking the weather forecast for sudden gusts of wind
  - Create a safe burning site, away from power lines, buildings, equipment and automobiles (site vertical clearance at least three times, and horizontal clearance twice the height of the debris)
  - Prepare the site, clear the ground around the burn site at least ten feet in all directions
  - Stay with your fire until it is completely out



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## Background

- Project Engineering >98% complete
  - Detailed engineering completed as planned
  - Limited changes expected during the construction phase
- Procurement
  - Contracts awarded/substantially advanced for >90% of project costs
  - Quantity variations and growth accounted for in Transmission Line procurement packages



## Background

- Construction
  - Risk reduction by adopting an EPC instead of an EPCM contract approach on the HVdc Specialties
  - Capping the Labor exposure in the major civil contract in MF using an LMAX value
  - LS contracts for Electro-Mech. And Hydro-Mech.
     Contracts in MF (T&G, Gates, BOP)
  - Interface minimized through award of major contracts to same contractors (T&G, Gates with Andritz)
  - $_{\odot}$  ROW and Access Optimization of the DC line



## Background

- Construction
  - Contract award to contractors with proven productivity and quality records ( AC line clearing, DC specialties earthworks, AC and DC line construction)
  - Self Management for costly service contracts with potential high cost risk (air transportation, camp maintenance)



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#### **Capital Cost Drivers and Forecast** 8,000 7,500 \$6,990 \$169 7,000 \$160 \$129 \$ Millions \$6,532 6,500 6,000 5,500 5,000 **Basis for Prefunded Equity Construction Productivity and** Market Conditions **Design Enhancement to Improve Revised AFE** Performance Enhancement Measures **Quality and System Reliability**

LOWER CHURCHILL PROJECT

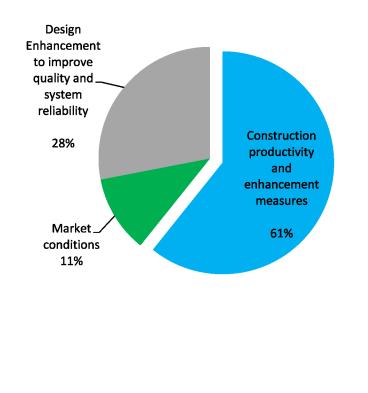


## **Capital Cost Drivers and Forecast**

Asset	Construction productivity and enhancement measures	Market Conditions	Design Enhancement to improve quality and system reliability	Total
MF	\$ 65 M	\$ 12 M	\$ 30 M	\$ 107M
LIL	\$ (11) M	\$ 123 M	\$ 128 M	\$ 241 M
LTA	\$ 75 M	\$ 25 M	\$ 11 M	\$ 111 M
LCP	\$ 129 M	\$ 160 M	\$ 169 M	\$ 458 M



### MF: Construction Productivity and Performance Enhancement Measures

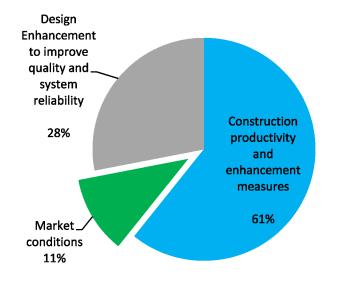


Total growth of \$65 M includes:

- Disputed items for on-going contracts: (SSAR, Bulk excavation) : \$ 6 M
- Cancel growth for the reservoir clearing: (\$ 2M)
- Schedule extension for North Spur and North and South dams from 2 to 3 years program: \$54 M
- Scope optimization for the laboratory services: (\$5M)
- Increase in Environment costs: \$ 4 M
- Increase in Owner costs: \$ 4 M
- Saving on the construction of the camp utility: (\$6 M)
- Compensation for camp readiness and over break concrete: \$ 9 M
- Construction power final contract price: (\$1M)
- Freight forwarding: (\$ 2.5 M)
- Increase in insurance costs: \$5.5 M
- Medical services re evaluation: (\$1 M)



### **MF: Market Conditions**

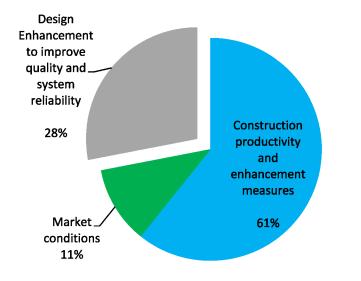


Total growth of \$ 12 M includes:

- Favorable bid prices in some of the procurement and service contracts (Generator step up transformers, Generator circuit breakers, Catering services): \$(44)M
- High prices in some of the service contracts (Ground transportation, Garbage removal): \$13 M
- Cancel of the credit related to the award of the North Spur and the North and South dams to Astaldi: \$43M



## MF: Design Enhancements to Improve Quality and System Reliability



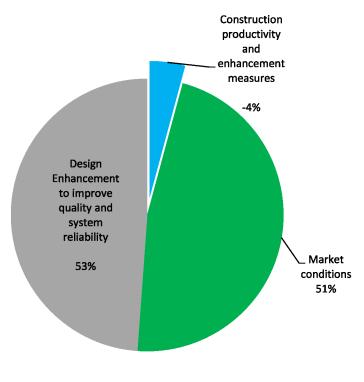
Total growth of \$ 30 M includes:

- Design enhancements related to the North Spur and North and South dams : \$ 28 M
  - Mix design optimization
  - Design development resulting in increased quantities
  - Seepage study
  - Upstream cofferdam optimization
- Several Engineering changes related to design fine tuning in the Spillway and PH concrete contract: \$ 2M



### LIL: Construction Productivity and Performance Enhancement Measures

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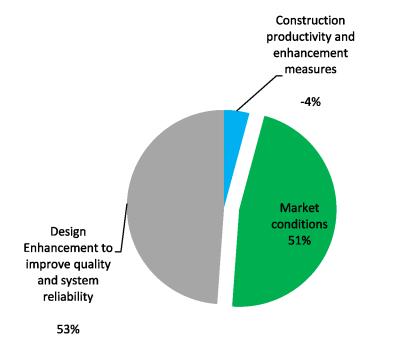
#### Total growth of (\$ 11 M) includes:

- Increase in freight forwarding costs of the DC line equipment to maintain schedules and avoid delivery delays: \$ 18 M
- Re evaluation of the Environment costs: (\$ 3.5 M)
- Re evaluation of the Owner costs (salaries, helicopter costs): (\$21 M)
- Reduction in SP Switchyard earthwork costs: (\$ 12 M)
- Overall saving in the feasibility engineering: (\$2.5 M)
- Overall saving in the insurance cost: (\$6 M)
- Increase in dc TL due to ROW and access optimization because of logistical and site constraints: \$ 23 M
- Contingency reduction: (\$7 M)



LOWER CHURCHILL PROJECT

### **LIL: Market Conditions**

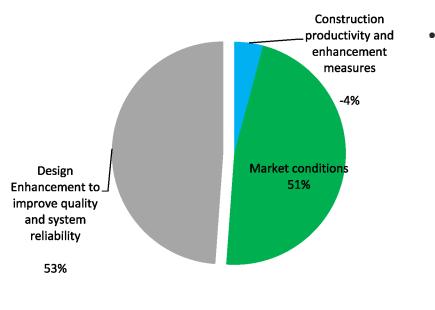


Total growth of \$ 123 M includes:

- Reflection of the current buoyant local / national market, the presence of several sites and logistic challenges related to the site locations contributed to a large portion in increasing the price of the converters civil works: \$ 8 M
- Overall saving in the TL dc equipment costs: (\$9 M)
- Increase in the synch. Condenser cost: \$ 25 M
- Logistical challenges with the DC TL caused by topography highly affecting productivity especially in the Labrador section, limited competition and lack of specialized workers: \$99M



## LIL: Design Enhancements to Improve Quality and System Reliability

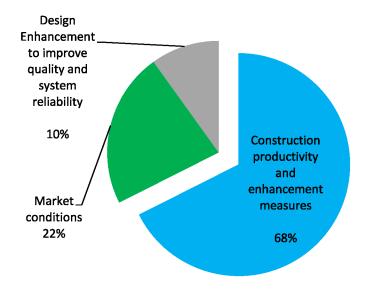


### Total growth of \$ 128 M includes:

- Scope reductions at SP switchyard: (\$10 M)
- Design enhancements of the DC TL : \$ 118 M
  - Increase in DC hardware quantities (insulators, dampers,...)
  - Use of double clamps for OPGW
  - Increase in tower weight and changes in conductors and tower types
  - Use of armour rods
  - Increase in some tower foundations loading
  - Larger guy wires due to change in loads
  - Use of Implo connections
  - Increase number of accesses providing flexibility for long term operations
- Design enhancement of the synch. Condenser: \$ 20M



## LTA: Construction Productivity and Performance Enhancement Measures

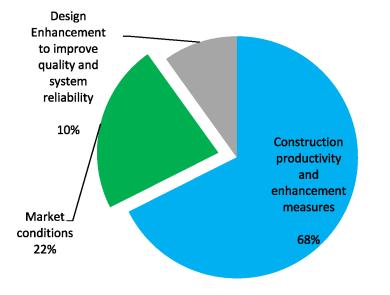


Total growth of \$ 75 M includes:

- Impact from canceling the clearing contract due to lack of resources and productivity and awarding the scope to a different contractor: \$ 14 M
- EPC instead of EPCM approach in the switchyards contract: \$ 30 M
- Increase in insurance costs: \$1 M
- Re evaluation of the Owner costs : \$ 24 M
- Growth related to contingency: \$ 6 M



### **LTA: Market conditions**

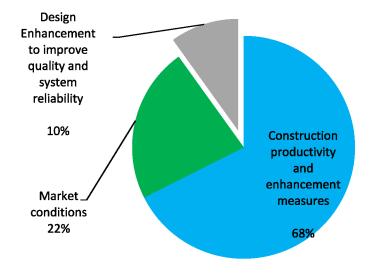


Total growth of \$ 25 M includes:

- Reflection of the current buoyant local / national market, lack of competitiveness and the presence of several sites contributed in increasing the price of the switchyards contract: \$28 M
- Saving on the final contract price of the Transformers supply: (\$3 M)



## LTA: Design Enhancements to Improve Quality and System Reliability



Total growth of \$ 11 M includes:

 Contingency to cover subsurface risks on foundations that can lead to quantity changes in the ac TL construction: \$ 11 M



## **Status of Material Contracts**

#	Package #	Vendor	Package Title	Status	A Project Budget	B Revised AFE	C = B - A Variance	Remarks
1	СТ0327	N/A	Construction of 350 kV HVdc Transmission Line - Section 1 (MF to SOBI to Deer Lake 610 km)	Under Negotiation	\$492,176,817	\$974,561,028	\$482,384,211	<ul> <li>Actual Over run on DC line clearing and construction is \$ 240 M</li> <li>CT 0327 FFC includes several merged contracts ( CT0343, CT0345, CT0346)</li> </ul>
2	CT0346	N/A	Construction of 350 kV HVdc Transmission Line - Section 2 (Central & Eastern NL 470 km)	Merged in CT0327	\$185,579,978	\$ -	\$(185,579,978)	Variance included in CT0327
3	CD0502	N/A	Construction of AC Substations	Bid Evaluation				<ul> <li>Around Active Caused by EPC approach</li> <li>Around from market conditions</li> <li>Around saving for SY optimization</li> </ul>
4	CD0534	N/A	Construction of Synchronous Condensers at Soldiers Pond	Bid Evaluation				<ul> <li>Around <b>Constraints</b></li> <li>Constraints</li> <li>Constraint design enhancement</li> </ul>
5	СН0009	N/A	Construction of North and South Dams	RFP to be issued	_			<ul> <li>As per latest estimates, mainly due to quantity variations and design optimization</li> </ul>
6	PH0016	ABB	Supply of Generator Circuit Breakers	Awarded	\$5,045,372	\$1,714,628	\$(3,330,744)	Favorable bid prices
7	PH0014	ABB	Supply of Generator Step-up Transformers	Awarded	\$20,547,836	\$15,250,470	\$(5,297,366)	Favorable bid prices



## **Status of Material Contracts**

#	Package #	Vendor	Package Title	Status	A Project Budget	B Revised AFE	C = B - A Variance	Remarks
8	CH0002- 001	Liannu	Supply and Install Accommodations Complex Buildings	Awarded	\$151,826,189	\$145,997,042	\$(5,829,147)	<ul> <li>Mainly due to better than estimated productivity in the utility section of the contract</li> </ul>
9	SH0018	Labrador Catering	Provision of Catering, Housekeeping & Janitorial Services (MF)	Awarded	\$136,800,943	\$101,127,376	\$(35,673,567)	<ul> <li>Mainly due to better than estimated rates compared to the budget</li> </ul>
10	CH0006- 001	IKC-ONE	Construction of Bulk Excavation Works	Complete	\$147,239,655	\$148,182,731	\$ 943,076	<ul> <li>Overall over run considering disputed items and final value of the contract</li> </ul>
11	LC-SB-003	Nexans	Submarine Cable Design, Supply and Install	Awarded	\$129,989,747	\$129,989,747	\$-	
12	CH0024- 001	Johnson's	Construction of Reservoir Clearing - North Bank	Awarded	\$131,170,400	\$129,170,400	\$(2,000,000)	Growth cancelled
13	CH0030	Andritz	Supply and Install Turbines and Generators	Awarded				<ul> <li>Growth transferred to contingency</li> </ul>
14	CH0032	Andritz	Supply and Install of Powerhouse Hydro-Mechanical Equipment	Awarded				Growth transferred to contingency



## **Status of Material Contracts**

#	Package #	Vendor	Package Title	Status	A Project Budget	B Revised AFE	C = B - A Variance	Remarks
15	CT0319	Valard	Construction of 315 kV HVac Transmission Line (MF to CF)	Awarded	\$259,084,236	\$258,799,807	\$ (284,429)	Growth adjustment
16	CD0501	Alstom	Supply and Install of Converters and Cable Transition Compounds	Awarded				<ul> <li>Over run due to civil works high prices reflective of the market and logistical challenges of several sites</li> </ul>
17	SM0714	SLI	Engineering, Procurement and Construction Management (EPCM) Services	Awarded	\$359,318,706	\$359,318,706	\$ -	
18	СН0007	Astaldi	Construction of Intake & Powerhouse, Spillway and Transition Dams	Awarded	\$1,024,292,550	\$1,081,107,548	\$ 56,814,998	<ul> <li>\$ 43 M due to cancelling the credit related to the award of the NS and the north and south dams</li> <li>\$ 2M transfer from CD0501</li> <li>\$ 11 M related to additional cost of over break concrete for extra excavation and several ECN's, compensation for camp readiness</li> </ul>
19	CH0008	N/A	Construction of North Spur Stabilization Works	Bid Evaluation	\$ 70,581,127	\$89,001,927	\$ 18,420,800	<ul> <li>As per latest estimates, mainly due to quantity variations and market conditions related to high construction risk</li> </ul>
20	CH0031	N/A	Supply and Install Mechanical and Electrical Auxiliaries (MF)	RFP issued			\$ -	
			BALANCE OF SCOPE		\$1,780,284,599	\$1,742,860,458	\$ (37,424,141)	
			CONTINGENCY		\$ 187,639,828	\$224,517,514	\$ 36,877,686	Contingency adjustment after forecast     re evaluation
					\$6,531,754,580	\$6,990,414,249	\$ 458,659,669	



## **Summary**

Asset	Basis for Prefunded Equity	Growth	Revised AFE
MF	\$ 3,265 M	\$ 107 M	\$ 3,372 M
LIL	\$ 2,546 M	\$ 241 M	\$ 2,787 M
LTA	\$ 720 M	\$ 111 M	\$ 831 M
LCP	\$ 6,532 M	\$ 458 M	\$ 6,990 M <sup>(1)</sup>

(1) Includes \$ 224 M in Contingency ( 4.2% of FTC as per end of June)

