

**From:** Tim Calver  
**To:** [David Steele](#); [David Leather](#); [Michael Kennedy](#); [Paul Hickey](#)  
**Subject:** RE: MF deck  
**Date:** Tuesday, September 6, 2016 2:04:45 PM  
**Attachments:** [Proposal for final report - DRAFTv3 06 09 2016.pptx](#)  
[image001.jpg](#)

---

Updated deck from today's call attached. Talk track on rationale for report to follow.

**Tim Calver** | Executive Director | UK&I Advisory

Ernst & Young LLP  
Office: +44 (0) 118 928 1100 | Mobile: +44 (0) 798 949 4192 | [tcalver@uk.ey.com](mailto:tcalver@uk.ey.com)

---

**From:** Tim Calver  
**Sent:** Tuesday, September 06, 2016 11:58 AM  
**To:** David Steele <[David.Steele@ca.ey.com](mailto:David.Steele@ca.ey.com)>; David Leather <[dleather@uk.ey.com](mailto:dleather@uk.ey.com)>; Michael Kennedy <[Michael.Kennedy@ca.ey.com](mailto:Michael.Kennedy@ca.ey.com)>; Paul Hickey <[Paul.D.Hickey@ca.ey.com](mailto:Paul.D.Hickey@ca.ey.com)>  
**Subject:** MF deck

All,

Please find attached draft deck. Key topics to discuss:

- Appropriateness of scope and associated cost (Neal Argent raised a question of comparability of this to the cost and scope of the interim report – i.e. does this make the original report look v expensive)
- I've made some assumptions on our respective time across the project plan – happy to take any questions to clarify my thinking here
- Resourcing – where will the 2 SM/M resources come from. Sam W is committed on another project and there is a desire to move to more local resourcing
- The project is now split into 2 (MFG and the transmission scope). This isn't reflected in the structure of our plan but we may want to acknowledge this and to adapt in flight if the organisations are separate
- I haven't included cost for specialist schedule or QRA resource. My personal view was that this was of limited value last time, but we could have a contingency to cover this

Speak later. David L has asked we do a conference call, so I will update the invite.

Thanks

Tim

**Tim Calver** | Executive Director | UK&I Advisory

Ernst & Young LLP



Apex Plaza, Forbury Road, Reading RG1 1YE, United Kingdom

Office: +44 (0) 118 928 1100 | Mobile: +44 (0) 798 949 4192 | [tcalver@uk.ey.com](mailto:tcalver@uk.ey.com)

Website: <http://www.ey.com>

Assistant: Eva Karlikova | Phone: +44 (0) 121 535 2826 | [ekarlikova@uk.ey.com](mailto:ekarlikova@uk.ey.com)

# **Review of Muskrat Falls Cost, Schedule and Related Risks**

## **Plan for Delivery of October Report**

- 
- ▶ In March 2016, EY produced an Interim Report to assess the reasonableness of the Muskrat Falls Project's cost and schedule forecast (the September 2015 forecast) and to identify opportunities to address any material/critical risks.
  - ▶ Since this report was issued, Nalcor has completed its rebaselining exercise for the Project, establishing a new forecast cost and schedule, based on a full QRA and which takes account of the risks highlighted in EY's Interim Report and Nalcor's own reporting.
  - ▶ The Oversight Committee will be reporting by the end of October and GNL have requested a plan from EY to complete a further report in line with this timescale.
  - ▶ This document presents EY's plan to complete the requested cost, schedule and risk review of Nalcor's rebaseline forecast by the end of October to align with Oversight Committee reporting timescales.
  
  - ▶ EY's proposed scope includes the following:
    - ▶ The Report will be in a format and level of detail similar to the Interim Report, assessing reasonableness of Nalcor's updated cost and schedule forecast and related risks
    - ▶ The Report will also review progress against the recommendations made in EY's Interim Report, including changes made to Governance since the last report
    - ▶ The Report will include identified material risks to Nalcor's updated cost and schedule forecast and where possible provide high level quantification of the cost and/or schedule risks
    - ▶ EY will retain detailed working papers documenting EY's review and analysis of the major contracts, the overall cost and schedule position for the Project, the QRA process and its output, and the resulting contingency assessment prepared by Nalcor
  
  - ▶ The Report approach assumes and reflects the following:
    - ▶ All necessary data to conduct the review is available from mid September
    - ▶ The Nalcor team provide full cooperation and transparency to EY in conducting its review
    - ▶ The Report will require full analysis and quality management procedures due to the subject matter, required confidence level from Government, and because it will be publicly released.
  - ▶ EY's Report will not provide an independent forecast of cost or schedule. This is the role of the executive management team of the Project.

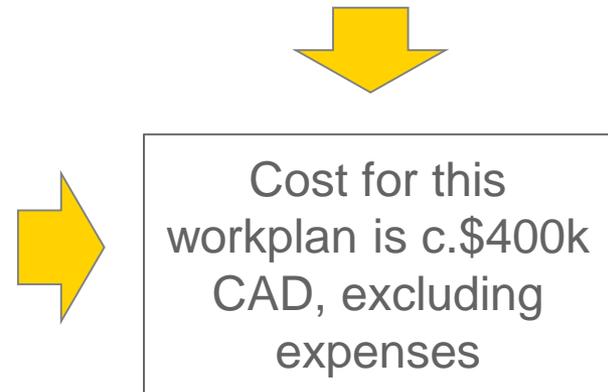
# Workplan and associated cost to produce October report

CIMFP Exhibit P-03382

Page 5

12/09/2016	13/09/2016	14/09/2016	15/09/2016	16/09/2016	17/09/2016	18/09/2016	19/09/2016	20/09/2016	21/09/2016	22/09/2016	23/09/2016	24/09/2016	25/09/2016	26/09/2016	27/09/2016	28/09/2016	29/09/2016	30/09/2016	01/10/2016	02/10/2016	03/10/2016	04/10/2016	05/10/2016	06/10/2016	07/10/2016	08/10/2016	09/10/2016	10/10/2016	11/10/2016	12/10/2016	13/10/2016	14/10/2016	15/10/2016	16/10/2016	17/10/2016	18/10/2016	19/10/2016	20/10/2016	21/10/2016	22/10/2016	23/10/2016	24/10/2016	25/10/2016	26/10/2016	27/10/2016	28/10/2016	29/10/2016	30/10/2016
WEEK ONE					WEEK TWO					WEEK THREE					WEEK FOUR					WEEK FIVE					WEEK SIX					WEEK SEVEN																		
Engagement planning, data request and data room review Confirmation from Nalcor of data availability					Detailed Contract Review LTA and LIL QRA Review Review of TTO and Commissioning cost and schedule forecast Review of PM and indirect costs					Detailed Contract Review cont. Deep dive Astaldi and MFG review incl QRA Review of Cost and schedule contingency Review of total cost base Review of IPS					Completion of analysis from previous weeks First drafting or supporting documents and reports Validation of data with Nalcor					Q&A with Nalcor Resolve outstanding issues Full drafting of report and supporting documents Validation of report with Nalcor Present to Client					Validation with Client and Nalcor Finalisation of report and supporting documents																							

Team Member	Role
David Steele	Local Engagement Partner
Mike Kennedy	Delivery Partner
David Leather	Quality Partner/Astaldi review
Tim Calver	Engagement Lead
Senior Manager	SMR on major programme cost, schedule and risk
Senior Consultant	SMR on schedule and cost analysis



# Appendix – Additional supporting details

CIMFP Exhibit P-03382

Page 6



# Main activities to produce October Report (1)

CIMFP Exhibit P-03382

Page 7

Activity	Detail
<p><b>Preparation, definition of data requirements, planning of meetings and logistics with Nalcor</b></p>	
<p><b>Detailed review of cost, schedule and risk for 10 major contracts</b></p>	<p>All contracts have more than six months further progress (Interim report was based on December 2015 reports) with the associated cost, schedule and risk impacts. Specific focus on:</p> <ul style="list-style-type: none"> <li>- Astaldi CH007 (Astaldi bridge agreement impact, estimate to completion, formwork collapse impact)</li> <li>- Andritz CH0030 &amp; 32 (knock on impact of Astaldi delay)</li> <li>- Valard 327 (Delay impact, non-conformance impact on DC cable)</li> <li>- Alstom 501,502,534</li> </ul>
<p><b>Updated review of progress on remaining contracts not covered above</b></p>	<p>There is more than six months of progress since last report (Interim report was based on December 2015 reports) and potential for impacts to cost, schedule and risk. This is expected to be a light touch activity</p>
<p><b>Review of total cost base forecast</b> (including all unallocated sums, growth provisions etc.)</p>	<p>EY reviewed this at a high level only since there were material cost issues (e.g. Astaldi) completely unaddressed in the overall cost forecast. With an updated cost forecast from Nalcor, a more granular review on this is proposed versus the interim report</p>
<p><b>Review of Integrated Programme Schedule</b></p>	<p>This was done for LTA/LITL as part of the Interim Report but not for MFG as there was no approved schedule. Significant changes to schedule are expected since the last report</p>

# Main activities to produce October Report (2)

CIMFP Exhibit P-03382

Page 8

Activity	Detail
<b>Detailed review of QRA process for LTA, LITL, MFG</b>	<p>A complete and updated QRA will have been performed for all areas of the project. Specific areas of focus: Individual quantitative risk inputs to QRA</p> <ul style="list-style-type: none"><li>- QRA process</li><li>- QRA output and process to feed into cost and schedule forecast and contingency / management reserve</li></ul> <p>The QRA process is a critical area of recommendations in EY's interim report</p>
<b>Detailed review of cost and schedule contingency</b>	<p>For the interim report, Nalcor's contingency was not based on QRA and was not related to specific risks. EY will review the scope elements inside the contingency figures and their derivation from QRA and SQRA processes</p> <p>This is critical in assessing whether EY's recommendations have been implemented</p>
<b>Review of TTO and commissioning cost and schedule forecast</b>	<p>EY gave this limited focus as it was not required to conclude on Sept 2015 forecast. A high level review is proposed as Nalcor's plans will have developed significantly in the elapsed time</p>
<b>Review of Project Management and indirect costs forecast</b>	<p>EY did a high-level review of Project Management costs, but did not get full transparency on these areas. This will be a major component of delay costs and needs to be assessed in sufficient detail</p>
<b>Review of Implementation of EY recommendations from Interim Report</b>	<p>This is referenced above in respect of QRA, contingency etc and will also include changes to Project Governance made since last report</p>