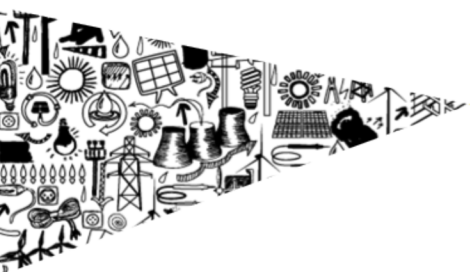


# Government of Newfoundland and Labrador

## Review of Government protocols to oversee the Muskrat Falls Project

25 July 2014





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**Charles Bown**  
Deputy Minister, Department of Natural Resources  
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P.O. Box 8700  
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25 July 2014

Dear Mr. Bown,

Please find enclosed our final report regarding a proposed oversight protocol related to the Muskrat Falls Project.

The work was conducted in accordance with our Agreement. Our scope and procedures were limited to those described in that Agreement. This report is intended solely for the use of the Government of Newfoundland and Labrador. It is not intended to be and should not be used by any other party.

We greatly appreciated the opportunity to be of service to you and the Government of Newfoundland and Labrador.

Sincerely,

David Steele  
Partner

Richard Noble  
Associate Partner

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1

## Executive Summary

### 1.1 Background

The Government of Newfoundland and Labrador ("Government") has initiated oversight protocols for the Muskrat Falls Project (the "Project"). This includes establishing an Oversight Committee and continuing efforts to define the Oversight Committee's terms of reference and related protocols.

EY has been engaged by the Government to conduct a third party assessment of the Oversight Committee's protocols under development. Program managers and other specialist resources from EY's Major Capital Projects practice were engaged to bring the necessary experience to deliver on this mandate. Over the course of the engagement, EY reviewed the documents provided by Government, interviewed Oversight Committee members and met with Nalcor representatives to understand the Project environment and governance landscape. EY provided recommendations based on our experience with other projects of comparable scale and complexity. These recommendations were presented at a meeting with the Oversight Committee.

Additional work was performed which included further meetings with Nalcor representatives to review the information available at Nalcor and develop a more detailed understanding of the assurance available through the Project Controls group, the Independent Engineer and other entities involved in the Project.

We understand that the Government's objective is to provide reliable and transparent oversight on the cost and schedule performance of the Project and to establish an effective communication channel to Cabinet and the general public. We were informed that other components of effective project oversight related to health, safety and environment, quality, regulatory compliance and benefits tracking are specifically excluded from the mandate of the Oversight Committee. It is also clear that it is not the Government's intention to play a role in the day to day management of the Project.

This report summarizes the work performed and the recommendations for the Oversight Committee.

### 1.2 Recommendations

The key conventional measure of project success is whether it delivers on its intended objectives on time and within budget. The project oversight and assurance functions are intended to monitor progress towards achieving those success criteria and also to reduce or eliminate surprises. Our recommendations are geared towards the Government's role in achieving this mandate while avoiding unnecessary duplication of effort.

The roles of different stakeholders as well as the Government's objectives have been considered to make the following key recommendations:

**1. The Oversight Committee should review cost and schedule performance, forecasts and risk management in addition to the validity of costs incurred**

- ▶ In order to assess progress towards achieving the cost and schedule objectives, the Oversight Committee has to be confident that the Project is performing to the baseline plans and estimates, that it is being well managed with appropriate processes and controls and also that risks are being identified and proactively managed.





# 1

## Executive Summary

- ▶ These forward-looking assessment areas along with historical cost information will provide the Government with a full picture to perform its oversight mandate.
- 2. The Oversight Committee should be supported by specialized skills**
- ▶ The Oversight Committee brings seasoned public sector executives with a clear understanding of the Government's needs and protocols. It has also appointed an Executive Director to coordinate its working efforts.
  - ▶ However, the Project is particularly large and complex, with significant specialized areas. Analysis performed by an efficient working group comprising the Executive Director and other major capital projects specialist resources would provide the Oversight Committee members with the insight necessary to robustly execute on their mandate.
- 3. The Oversight Committee should align its information request with conventional project controls and assurance practices as well as Nalcor's reporting rhythm**
- ▶ The level of detail required by the Government and the timing of information flow should align with the Project's reporting structure and rhythm. Meetings with Nalcor confirmed that the information requests detailed in this report are already produced at Nalcor as part of its project management processes and systems.
  - ▶ The Oversight Committee should proactively work with Nalcor to address any information deficiencies which may arise that would limit visibility into project performance and forecasts.

Related details of these and other recommendations are included in subsequent sections of this report.

### 1.3 Next Steps

The Project stakeholders are all at different stages of developing their oversight and assurance programs. Oversight and assurance mechanisms should be aligned to minimize unnecessary duplication of efforts and disruption to the Project.

- ▶ The Government should work collaboratively with Nalcor and the other stakeholders to finalize the information provisioning and protocols for oversight and reporting.
- ▶ The Oversight Committee terms of reference should also be finalized.
- ▶ The Government should explore opportunities to establish appropriate mechanisms to leverage information provided by the Independent Engineer.
- ▶ The Working Group should be established to support the Oversight Committee.
- ▶ Immediate preparations should be made for the development of the Oversight Committee's first report.



# 2

## Scope and Approach

The Government requested EY to conduct an assessment of the Oversight Committee's protocols under development to:

- ▶ Provide recommendations on the Oversight Committee's governance structure and processes
- ▶ Conduct a gap assessment of the Government's Information Request List, which is an initial list of items the Oversight Committee would periodically request from various stakeholders

Our approach included reviewing the documents related to initial thinking on the Government's protocols and certain agreements defining the relationships between different Project stakeholders. Additionally, we also interviewed stakeholders from the Government and Nalcor to gain further understanding of the oversight objectives as well as the current assurance mechanisms in play.

The activities conducted as part of this engagement included:

- ▶ Collecting data and scheduling interviews
- ▶ Analyzing data and conducting interviews
- ▶ Drafting the preliminary report
- ▶ Meeting with Nalcor
- ▶ Presenting the preliminary report, collecting feedback
- ▶ Issuing the final report

EY conducted two subsequent meetings with Nalcor to review what information was available through management processes and systems at Nalcor and what additional assurance could be gained by the Oversight Committee through the Independent Engineer's and Internal Audit's activities and reporting.

EY would like to thank the members of the Government of Newfoundland and Labrador and Nalcor who participated openly and collaboratively in this assessment process. We have listed the individuals who were interviewed in Section 5.0 of the report.

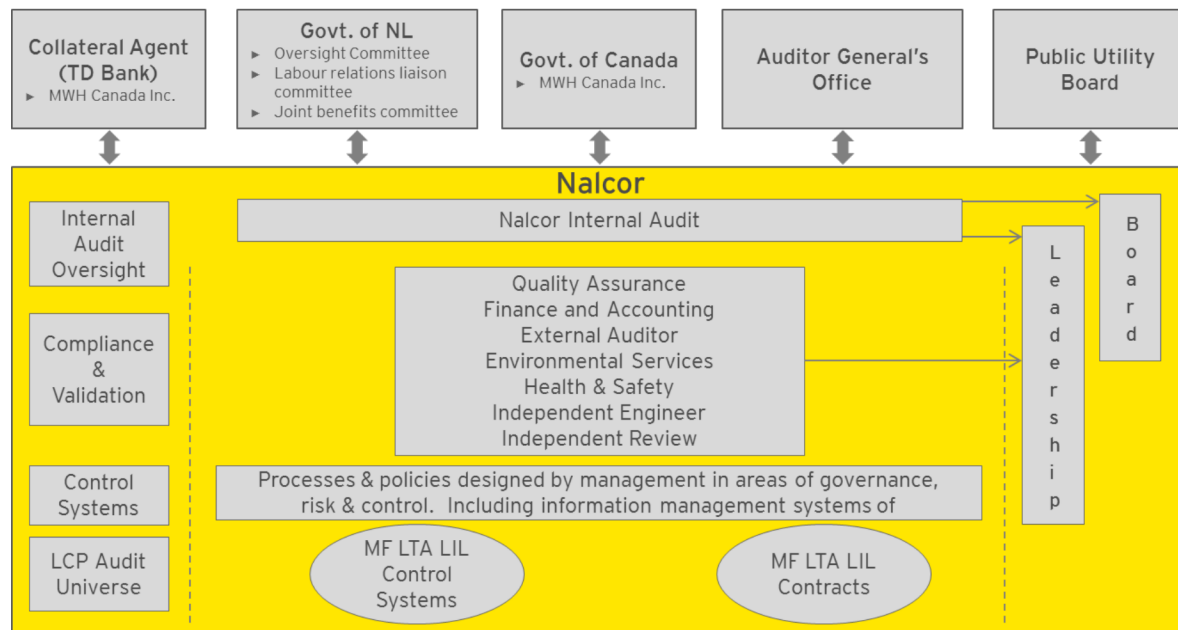


# 3 Guidelines Used in Developing Recommendations

The complex stakeholder landscape for the Project represented in the diagram below makes it imperative to clearly define and communicate the role of each stakeholder. Key considerations for effective oversight on the Project include:

- ▶ Ensuring there are no gaps and considering overlaps in the extent of oversight
- ▶ Minimizing duplication of effort while ensuring independent oversight
- ▶ Leveraging appropriate skill sets for analysis required to support effective oversight
- ▶ Streamlining information sharing and communication protocols

Our recommendations have been developed with these considerations in mind.





# 4

## EY Recommendations for Improving Oversight Protocols

### 4.A - The Oversight Committee should review cost and schedule performance, forecasts and risk management in addition to the validity of costs incurred

Since the Oversight Committee's role is focused on the Project's cost and schedule performance, we recommend that its mandate should address whether:

- ▶ The Project cost and schedule is well managed:
  - ▶ Have the management process and controls been well designed?
  - ▶ Is there adequate adherence to the management processes and controls?
  - ▶ Are contracts being managed diligently?
  - ▶ Do the financial draws comply with established processes?
- ▶ The Project is meeting the cost and schedule objectives:
  - ▶ How do schedule performance and forecast compare to the plan?
  - ▶ How do cost performance and forecast compare to the baseline?
  - ▶ Are the cost and schedule forecasts consistent with current performance?
  - ▶ Do the cash flow forecasts adequately reflect the Project's funding requirements?
- ▶ The cost and schedule risks are being reasonably anticipated and managed:
  - ▶ Are risks being sufficiently identified and addressed?
  - ▶ Is there adequate contingency in place to address the outstanding project risks?

Structuring the mandate to address the performance of existing controls as well as the anticipation of future risks will result in more effective oversight. Such a proactive role by the Government will have a favorable impact on the overall project performance.

### 4.B - Oversight Committee should be supported by specialized skills

A meaningful cost and schedule oversight would require monitoring exposure across multiple indicators of project performance such as earned value, engineering and construction productivity, management of critical path, manpower histograms, forecasting techniques and risk identification, quantification and management. These indicators serve as early warning systems for identifying gaps in project performance and can be effectively used as inputs for meaningful oversight. However, specialized skills are required in different areas of engineering, construction and project management to connect the dots between different project performance indicators.

The graphic below illustrates a potential operating model, whereby the Oversight Committee is supported by a Working Group comprising professionals with the required skill sets for detailed analysis of project information. The level of engagement of each skill set will vary from time to time based on the subject matter at hand and the communication and reporting protocols of the Oversight Committee and other ad hoc requirements.



# 4

## EY Recommendations for Improving Oversight Protocols

Oversight Committee	
<p><b>Committee Members</b></p> <ul style="list-style-type: none"> <li>▶ Clerk of the Executive Council (Chair)</li> <li>▶ Deputy Minister of Finance</li> <li>▶ Assistant Deputy Minister of Finance</li> <li>▶ Director of Debt Management</li> <li>▶ Deputy Minister of Natural Resources</li> <li>▶ Associate Deputy Minister of Natural Resources</li> <li>▶ Assistant Deputy Minister of Natural Resources</li> <li>▶ Deputy Minister of Justice (or designate)</li> </ul>	<p><b>Roles and Responsibilities</b></p> <ul style="list-style-type: none"> <li>▶ Review and approve periodic reports and communications</li> <li>▶ Communicate and escalate high risks/issues as necessary</li> <li>▶ Interact with Nalcor Senior Management                             <ul style="list-style-type: none"> <li>▶ Communicate and resolve issues</li> <li>▶ Provide input to Nalcor on Government requirements</li> </ul> </li> <li>▶ Communicate with Cabinet and other stakeholders</li> </ul>
Working Group	
<p><b>Members</b></p> <p><b>Required skills to consider:</b></p> <ul style="list-style-type: none"> <li>▶ Project Management &amp; Controls, Engineering Management, Procurement/Contracts Management, Contract Risk, Construction Management, Internal Audit/ Assurance, Project Governance/Risk Management, Finance/Transactions</li> </ul> <p><b>Required size:</b></p> <ul style="list-style-type: none"> <li>▶ TBD - will depend on the finalization of the mandate and terms of reference</li> </ul>	<p><b>Roles and Responsibilities</b></p> <ul style="list-style-type: none"> <li>▶ Perform the analysis required to develop reporting and recommendations for the Oversight Committee</li> <li>▶ Solicit additional inputs from Government entities and assurance providers as required</li> <li>▶ Review reconciliation of funds disbursed for project costs</li> <li>▶ Liaise with Nalcor Internal Audit and other assurance providers to:                             <ul style="list-style-type: none"> <li>▶ Review outputs from project assurance activities</li> <li>▶ Communicate oversight observations, input and recommendations</li> <li>▶ Monitor critical corrective actions</li> </ul> </li> <li>▶ Support the Oversight Committee's communications to Cabinet and other stakeholders</li> </ul>



# 4

## EY Recommendations for Improving Oversight Protocols

### 4.C - Oversight Committee should align its information request with conventional project controls and assurance practices and Nalcor's reporting rhythm

The original Information Request List provided to EY by the Oversight Committee contained most of the key cost and schedule information needs. EY has refined the Request List and identified additional cost, schedule and other information requirements and metrics for Government's consideration to meet the stated objective of providing oversight to cost and schedule performance. The data requirements listed below are typical metrics and documents which exist in mega-projects. Meetings with Nalcor confirmed the existence and availability of the items listed.

Review and analysis of this information will further improve visibility into project performance and mechanisms that are in place to achieve successful cost and schedule outcomes.

#### ▶ Cost Information

- ▶ Baseline Budget with Basis of Estimate (DG3 Estimate) and June 2014 revision
- ▶ Cost report showing in period and cumulative data for the following: Budget (Baseline, Changes, Cost to Complete, Final Forecast Cost, Variance)
- ▶ Contingency draw log, report of planned vs. consumed contingency
- ▶ Performance graphs showing performance, trend and/or forecast
- ▶ Contract and Work Package level cost reporting including: original commitments, changes, revised commitments, invoiced and incurred to date
  - ▶ Detail should be provided for all material contracts, with summary level for all other contracts
  - ▶ Cost Performance Index (CPI) (period and cumulative), where that information is being tracked on a contract
- ▶ Rolling cash flow - forecast and planned versus actual
- ▶ PFA Funding Request/Log for tracking funding draws (including record of all Liens as noted in the McInnes Cooper report)
- ▶ Variance analysis and corrective action for all material cost variances

#### ▶ Schedule Information

- ▶ Schedule Development & Control Plan including Schedule Specification, Basis of Schedule and Assumptions
- ▶ Integrated Program Schedule (IPS) report to Level 3, including: Schedule milestone report showing Baseline Finish, Actual/Forecast Start and Finish, Schedule Performance Index (where available), Variance, % Complete, Critical and Sub-Critical Path, Predecessor/Successor and Float analysis - with further Levels of detail available as requested
- ▶ Performance Graph showing performance, trend and forecast where available for the program as a whole and each Material Contract/Work Package
- ▶ Variance and analysis and corrective action for all material schedule variances





# 4

## EY Recommendations for Improving Oversight Protocols

### ▶ Other Information

- ▶ Standard Project monthly progress reports (including Health & Safety, Environment, Community/Stakeholder, Scope & Change, Cost, Schedule, Quality, Risk and Contract reports)
- ▶ Progress reporting of material contractors
- ▶ Resource profile and graphs/histograms (planned versus actual/forecast)
- ▶ Project Work Breakdown Structure (WBS) and dictionary
- ▶ Project policies, plans and procedures
- ▶ Project execution and contracting strategies
- ▶ Monthly Project risk register with further levels of detail available as requested
- ▶ PCNs & Change request/order log(s)
- ▶ Claims log
- ▶ Project assurance plans - including internal and third party assurance
- ▶ Relevant assurance reports as issued including Quality Management Metrics
- ▶ Independent Engineer reports
- ▶ Notification of the award of:
  - ▶ Material contracts
  - ▶ Summary of awards (value) of other contracts
- ▶ Issues log or other established reports for recording and managing issues
- ▶ Nalcor financial statements
- ▶ Summary of Deviation Alert Notices (DANs) for the program, with further levels of detail available as requested

The above list is not exhaustive, but should form the baseline required by the Oversight Committee to fulfill its mandate. Other information may be required as the Oversight Committee conducts its oversight role and as the Project progresses and as cost and schedule position develops.

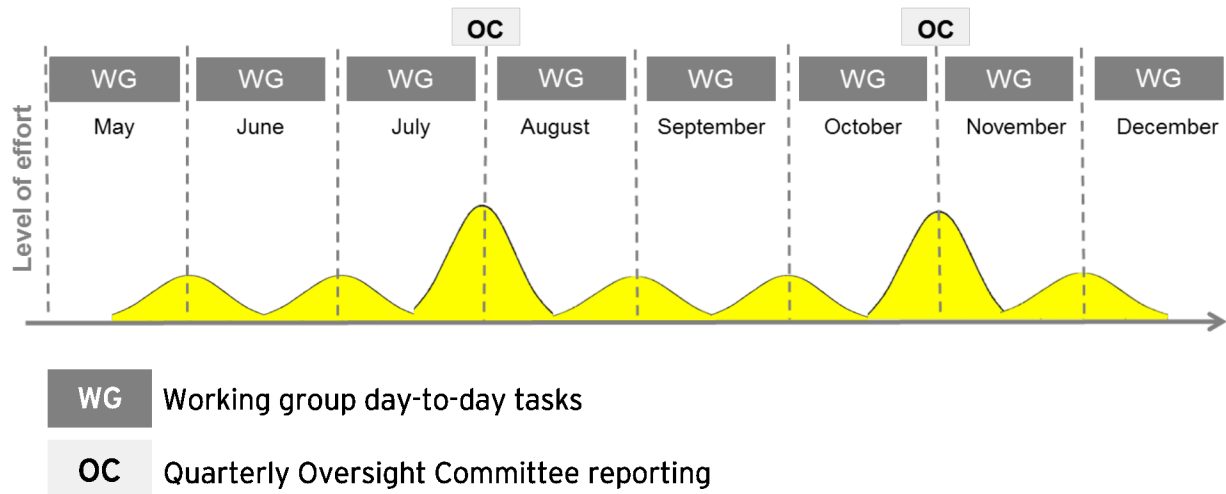


# 4

## EY Recommendations for Improving Oversight Protocols

### Alignment of reporting rhythm between Government and Nalcor

The Government and Nalcor should align the planned communication and information flow with the Project's standard internal reporting rhythm to avoid unnecessary duplication of information generation where possible. The diagram below illustrates a potential rhythm of business for the Government's Oversight Committee and Working Group, and the change in effort required to support the periodic monitoring and reporting activities.







## 5

## Acknowledgements

As stated in Section 2.0, our approach included conducting structured interviews with members of the Oversight Committee. We also met with representatives from Nalcor to review the information request listing in this report. We would like to acknowledge and thank the individuals listed below for their participation in the interviews.

Name	Title	Department/ Entity
Julia Mullaley	Clerk of the Executive Council & Secretary to the Cabinet	Executive Council
Tracy King	Assistant Secretary to Cabinet	Executive Council
Craig Martin	Executive Director	Executive Council
Charles Bown	Deputy Minister	Natural Resources
Tracy English	Associate Deputy Minister	Natural Resources
Paul Morris	Assistant Deputy Minister	Natural Resources
Randy Pelletier	Solicitor	Justice
Donna Brewer	Deputy Minister	Finance
Peter Au	Assistant Deputy Minister	Finance
Paul Myrden	Director Debt Management Division	Finance
Derrick Sturge	Chief Financial Officer	Nalcor
Gilbert Bennett	Vice President, Lower Churchill Project	Nalcor
Paul Harrington	Project Director, Lower Churchill Project	Nalcor
James Meaney	GM Finance, Lower Churchill Project	Nalcor
Robert Hull	GM Finance, Nalcor	Nalcor
Mark Bradbury	Internal Audit	Nalcor
Ed Bush	Project Controls Manager, Lower Churchill Project	Nalcor

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