

**From:** [gbennett@nalcoreenergy.com](mailto:gbennett@nalcoreenergy.com)  
**To:** [lanceclarke@nalcoreenergy.com](mailto:lanceclarke@nalcoreenergy.com); [pharrington@nalcoreenergy.com](mailto:pharrington@nalcoreenergy.com)  
**Subject:** Fw: Deloitte Risk Review  
**Date:** Wednesday, March 13, 2013 4:55:13 PM  
**Attachments:** [.png](#)  
[LCP SOW - 2013.03.08 - DRAFT.pdf](#)

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Gentlemen:

Comments and input invited...

G



**Gilbert J. Bennett, P. Eng.**  
**Vice President, Lower  
Churchill Project**  
**Nalcor Energy**  
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----- Forwarded by Gilbert Bennett/NLHydro on 2013-03-13 04:54 PM -----

From: "Thon, Scott" <[Scott.Thon@snclavalin.com](mailto:Scott.Thon@snclavalin.com)>  
To: "Gilbert Bennett" <[GBennett@nalcoreenergy.com](mailto:GBennett@nalcoreenergy.com)>  
Date: 2013-03-12 12:38 AM  
Subject: Deloitte Risk Review

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Gilbert,

Further to our discussion and now that you have landed on the organization chart, it would be a good time to assess the risks of the new organization so we can build mitigation plans around any areas of concern.

Please see attached, a proposal to make a quick assessment (2 weeks) as a "bolt on" to their effectiveness work. They have assembled a broad team from across Canada including key players from their "major project" group in Calgary.

Appreciate you sharing the organization chart with our team today, we are laying off staff as instructed.

Will need feedback on whether we should continue our work on pulling folks from our International Construction group and our Mining & Metallurgy Division.

I will set up another call to follow up.

Scott

Begin forwarded message:

**From:** "Allen, Jane D (CA - Toronto)" <[janallen@deloitte.ca](mailto:janallen@deloitte.ca)>  
**Date:** 8 March, 2013 15:24:06 MST  
**To:** "Thon, Scott" <[scott.thon@snclavalin.com](mailto:scott.thon@snclavalin.com)>  
**Cc:** "Ingram, Michael (CA - Toronto)" <[miingram@deloitte.ca](mailto:miingram@deloitte.ca)>  
**Subject:** Statement of Work

Hello Scott. Please let us know if this captures what we discussed.

Jane Allen  
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DRAFT

March 8, 2013

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**Private and confidential**

SNC-Lavalin  
Attn: Scott Thon  
Acting Executive Vice-President, Power  
2275 Upper Middle Rd. East  
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Oakville, Ontario  
L6H 0C3

Re: Lower Churchill Project Organization Review and Risk Assessment

Dear Scott,

Following our recent discussion, Deloitte is pleased to submit this addendum letter which outlines the additional services (the "Additional Services") to be provided to SNC-Lavalin (the "Client") in accordance with the Statement of Work between Deloitte LLP ("Deloitte") and the Client dated November 26, 2012 (the "Engagement Letter"). These Additional Services (as described further below) shall be subject to the terms and conditions of the Engagement Letter. Please consider this addendum letter as a draft, which we will finalize after you have had a chance to review it and discuss any changes with us that you might like us to make.

Supplementing the work of the Team Effectiveness Program, SNC-Lavalin is seeking an independent assessment of the Lower Churchill Project's ("LCP") organizational structure together with a review of the project risks and project risk management framework. SNC-Lavalin's objective for this work is to obtain clarity in relation to the challenges created by the current organizational structure and the potential impact of these challenges on the project delivery, together with an overall assessment of the project's risk identification and risk management approach.

Deloitte has composed a team from our national Capital Projects practice that includes experienced engineering and construction practitioners with hands-on risk management, project management, and consulting experience on large capital projects. Our advisors have extensive experience in the independent development and evaluation of large, multi-disciplined capital projects.

We thank you for the opportunity to submit this proposal. Should you have any questions regarding our proposal and attached appendices, please do not hesitate to contact Michael Ingram at (416) 601-6361 or myself at (416) 874-3136.

Yours very truly,

A handwritten signature in black ink, appearing to read "Jane Allen".

Jane Allen  
Partner  
Deloitte

## Background

SNC-Lavalin is the engineering, procurement, and construction management (EPCM) consultant for Muskrat Falls and the Labrador-Island Transmission Link which form the key elements of Phase One of the Lower Churchill Project.

Deloitte has worked with SNC-Lavalin and Nalcor on the Lower Churchill Project since June 2012 through the Team Effectiveness Program. Through our previous work and our awareness of ongoing project challenges, we met with representatives from SNC-Lavalin to discuss current issues with the Lower Churchill Project and to provide you with information about our Capital Projects practice.

In response to our recent discussion, you have asked us to submit a proposal to conduct an independent assessment of the project team structure and associated risk management framework. This work will build on the Team Effectiveness Program already underway, but will look more strategically at how the project is structured, using our industry experience to identify gaps and key challenges, and provide recommendations to strengthen the effectiveness and efficiency of the project organization.

## Scope of Services and Approach

We will adopt our proven and structured approach to perform a review of the current project organization and conduct a project risk assessment.

Our approach has been developed over time as we have performed similar assessments and reviews on a variety of capital projects. We will conduct a comprehensive consultation and review process to identify key challenges and will report our related recommendations to strengthen the effectiveness and efficiency of the organization structure being utilized to deliver the project.

We will also conduct a comprehensive risk assessment to identify and prioritize issues related to the current project delivery method through a review of documentation and discussions with key project stakeholders.

For this work to be successful, we envisage the requirement for the full, open and honest participation of the Nalcor project executives. We understand that Nalcor are a vital part of the project and thus it will be important to recognize the significance of their role. Our approach is summarized below:

### **1. Obtain and review project documentation**

We will meet with our colleagues on the Team Effectiveness Program to develop a detailed understanding of their work and key issues identified during the Program.

On completion of this discussion, we will develop an initial work plan based on our experience of similar engagements, and our knowledge of the project to date, and review the intended work plan with our SNC-Lavalin Project Sponsor. Based on the review of our proposed work plan, we will further develop our detailed execution plan for the engagement and compile a list of documentation required together with potential interview candidates.

We will obtain and review key project documents, information on policies, procedures and guidelines for responsibilities as well as other project specific information. During the Team Effectiveness work to complete a Project Predictive Assessment, the team obtained a number of the project documents listed below but we have included a tentative list of documents to be reviewed for completeness:

- Project Execution Plan
- Contractual Overview/Summary Structure
- EPCM contract

- Organization charts
- Roles & responsibilities, project RACI, and details of the management control framework
- Project management policies, procedures, standards, manuals, and directives
- Project risk management plan, risk matrices, and assessments
- Initial and updated project budgets and estimates as they relate to project risk/risk contingencies
- Project status reports
- Baseline and current project schedule

## **2. Meet with key project stakeholders**

An important element of our work involves meeting with key project stakeholders to obtain an understanding of the level of integration and interaction between project team members and the key risks associated with the current structure.

When undertaking a review of this nature elsewhere, we often target 8 to 12 interviews to gain a broad perspective on the project. We will work with our SNC-Lavalin Project Sponsor and Nalcor representative, if appropriate, to agree on the key project stakeholder interviewees but as an example, a tentative list of candidates may include the following:

- Nalcor Executives
- VP for Lower Churchill
- Project Director
- Project Manager
- Project Controls Manager
- Scheduler
- Risk Manager

As part of this phase, and in addition to developing our own list of potential project risks, we will work with the project stakeholders to obtain their opinions on project risks. We will leverage their knowledge to assess the risk's probability of occurrence and the cost and/or schedule impact that the risk may have on the project.

## **3. Facilitate a project risk assessment discussion/workshop**

We envisage that as part of this work, a project risk workshop may be required to discuss project risks in an open and collaborative forum with the project team. The purpose of this meeting is to collate views on project risks from project team members and to ensure that parties have an opportunity to input to the identification and assessment of project risks. The discussion will also consider the probability and impact of the risks and confirm that all risks were assessed in a consistent and objective manner. This workshop will assist in the prioritization of risks during the reporting of our findings.

We will revisit the requirement for this workshop after our initial review of the project documentation in discussion with our SNC-Lavalin Project Sponsor.

## **4. Prepare a draft report**

We will prepare and submit a draft report which will summarize our review process, risk assessment methodology, findings (including risks), and recommendations. Our report will highlight any gaps, issues, omissions, or discrepancies identified during the review process.

## 5. Discuss the report findings with SNC-Lavalin and issue a final report

Whilst we will be guided by SNC-Lavalin management, we anticipate including Nalcor in the report review process in order to obtain their comments on the report findings. Once all parties have had a chance to provide comments, we will meet with our SNC-Lavalin Project Sponsor to review findings and comments on our draft report. We will finalize our report in accordance with what has been agreed on during our discussion and issue a final report.

### Timing

We anticipate that we would be able to begin work on this engagement promptly once we have received approval to proceed. Based on the proposed approach and our past experience of conducting similar engagements, we envisage that this work will take approximately two weeks to complete the documentation review and interviews with a further week to prepare and issue our draft report. This timescale is indicative and will depend on the availability of project stakeholders and documentation.

### Our Team

We have previously provided you with resumes of individuals from our Capital Projects team and have summarized below our proposed team for this work. The individuals listed below will not all be full time on the project but will form part of the internal quality review process and project oversight.

Team	Qualifications	Role
<b>Jane Allen,</b> Partner	<ul style="list-style-type: none"> <li>Power &amp; Utilities Leader with more than 25 years of experience in the energy industry focusing on business strategy and performance improvement</li> <li>Has experience across the utilities value chain from resource management to retail strategy, and has worked with some of the world's largest energy companies: Hydro One, NB Power, BCTC, Ontario Ministry of Energy, Ontario Power Generation, Atomic Energy of Canada Ltd., Bruce Power, Irving Oil, Toronto Hydro, Bluewater Power, TransAlta, Distributors Association</li> <li>Developed new processes for major capital project management at a nuclear design and construction company</li> <li>Developed strategy and implementation plan for major transmission and distribution company to improve asset information by providing mobile data collection technology for field workers</li> </ul>	Engagement Partner
<b>Guy Lembach,</b> Partner	<ul style="list-style-type: none"> <li>Leads the Canadian Capital Project Services practice.</li> <li>20 years of experience as a professional engineer and a practicing lawyer in the engineering and construction field.</li> <li>Has advised on large capital projects in the Energy and Resources industry addressing various project development and construction issues, including evaluating and developing project management process and controls, performing construction cost and schedule assessments.</li> <li>Experience performing project related assessments for Sherritt International, Mosaic Company, Cameco, Enbridge Pipelines, Ontario Power Generation, and Bruce Power</li> </ul>	QA Partner
<b>Michael Ingram,</b> Senior Manager	<ul style="list-style-type: none"> <li>Leads Deloitte's Eastern Canada Capital Project Services group and has 25 years of experience in the construction and engineering profession, with several years spent at the executive level in a Crown Corporation</li> <li>Worked in numerous sectors including nuclear power, oil and gas, hydro, electrical distribution, transportation, mining, forest products, water treatment, waste management, pharmaceutical, manufacturing, consumer products and information technology</li> <li>Lead all aspects of operations including health and safety programs, project management, engineering, field maintenance, quality, technical resourcing, customer relations, sales and marketing</li> <li>Amassed considerable experience in risk management, project and construction management, project oversight and construction claims</li> <li>Was the Chief Risk Assessment Officer for AECL where he assessed project performance on behalf of the executive and Board, assessing key risks and identifying areas of improvement</li> <li>Extensive experience in risk management having developed, implemented and managed comprehensive risk management programs in both the construction and engineering sectors</li> </ul>	Project Lead

Team	Qualifications	Role
<b>Peter McNay,</b> Senior Manager	<ul style="list-style-type: none"> <li>Peter is a Senior Manager in the Canadian Capital Projects practice.</li> <li>Peter has broad experience of program management, and capital program reviews and has over 18 years of construction industry experience, including ten years with Deloitte UK and Deloitte Canada. Peter has also worked in industry as a site engineer for a contractor, a project manager for a construction consultant and a project manager and development manager for the development division of a financial organization.</li> <li>Peter's current clients include a large Energy &amp; Resources client where he is reviewing aspects of the construction and infrastructure related to a \$1.4bn facility expansion.</li> </ul>	Project Team Member
<b>David Wittenberg,</b> Senior Associate	<ul style="list-style-type: none"> <li>Senior Associate with Deloitte's Capital Project practice in Toronto, Ontario</li> <li>5 years of experience in the fields of Engineering and Construction with time spent both on structural design and construction project management</li> <li>Has performed multiple risk assessments on a diverse set of large capital projects</li> <li>Has performed project organizational reviews and reorganizations which include developing organization structures and position descriptions</li> <li>Has implemented industry leading risk management practices on a diverse set of large capital projects.</li> </ul>	Project Team Member

## Fees

Our fees will be based on the amount of professional time required to complete our work. Based on a period of two to three weeks, we estimate the fee to be in the range of CAD\$75,000 to CAD\$100,000 depending upon the level and duration of input required. Any travel, accommodation and out of pocket expenses will be charged at cost in addition to our professional fees and are not included in these fees. The summary of fees by resource is included below:

Resource Category	Unit	Quantity	Rate	Cost
Partner	Hour	8	\$444.60	\$3,556.80
Senior Manager	Hour	60	\$322.05	\$19,323.00
Senior Manager	Hour	120	\$322.05	\$38,646.00
Senior Associate	Hour	120	\$210.90	\$25,308.00
<b>TOTAL</b>		<b>442</b>		<b>\$86,833.80</b>

Our fees do not include reasonable engagement-related expenses. These expenses will include, but are not limited to, airfare, hotel, and meals while traveling. Expenses will be stated separately on all invoices.

We have provided an estimate of travel and out of pocket expenses in Appendix A.

## Internal Approval

Given this work is supplementary to the Team Effectiveness Program which has previously received Audit Committee pre-approval, we do not envisage the requirement for a further approval. However, if it is subsequently determined that further Audit Committee approval is required, we will obtain this before proceeding with the Project Organization Review and Risk Assessment.

## Invoicing

Invoices will be submitted by Deloitte at the beginning of each month for the work completed during the previous month.

## Terms and Conditions

The Additional Services are being provided under the terms and conditions of the previously agreed Engagement Letter.



## Acknowledgement

This letter reflects the agreement between SNC-Lavalin and Deloitte relating to the Additional Services and is supplementary to the Team Effectiveness Program. Please confirm your acceptance of the Additional Services by signing both copies of this letter in the space provided below and returning one signed copy of the letter to us.

Agreed to and accepted by Deloitte:

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Title: Partner \_\_\_\_\_

Date: \_\_\_\_\_

Agreed to and accepted by SNC-Lavalin

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**APPENDIX A – TRAVEL AND OUT OF POCKET EXPENSES ESTIMATE**

Expense Category	UOM	Quan	Rate	Cost
Flights				
Partner Flights (Toronto)	Flight	2	\$1,400.00	\$2,800.00
Senior Manager Flights (Toronto & Calgary)	Flight	4	\$1,400.00	\$5,600.00
Senior Assoc. Flights (Toronto)	Flight	2	\$1,400.00	\$2,800.00
Accommodation				
Partner Hotel	Nights	2	\$180.00	\$360.00
Senior Manger Hotel	Nights	15	\$180.00	\$2,700.00
Senior Assoc. Hotel	Nights	10	\$180.00	\$1,800.00
Ground Transport				
Partner ground transport	Taxi	2	\$25.00	\$50.00
Senior Manager ground transport	Taxi	12	\$25.00	\$300.00
Senior Assoc ground transport	Taxi	4	\$25.00	\$100.00
Per Diem				
Partner per diem	Day	2	\$60.00	\$120.00
Senior manager per diem	Day	15	\$60.00	\$900.00
Senior Assoc. per diem	Day	10	\$60.00	\$600.00
<b>Total</b>				<b>\$18,130.00</b>