

September 30, 2018

To: Kate O'Brien, Barry Learmonth

From: Richard Westney

Re: Followup to questions raised during teleconference interview on 11 September 2018

Kate/Barry

As promised, I have followed up our interview on 11 September to provide you with additional background information. I gathered additional information by reviewing the Grant Thornton (GT) report, Nalcor's Project Risk Management Plan (Doc. No. LCP-PT-MD-0000-RI-PL-0001-01) and the various Westney work products for DG3. In addition, I met with various Westney team members to review their recollection of meetings, workshops, and informal discussions.

I have prepared this memo to address three key topics:

- The role of Westney Consulting Group

Westney's role was limited to that of "risk advisor". It is important that this be clearly understood, as it frames the discussion of the remaining topics.

- Best practice for the use of cost and schedule probabilistic analysis in investment decision-making

Westney's advice to Nalcor management was consistent with our role as well as with best practice.

- Potential (or possible perception of) conflict of interest by participating in the DG3 IPR

Westney's participation in the IPR was consistent with generally accepted good practices for "project assurance."

#### **I. Role of Westney Consulting Group**

I concur with Grant Thornton's description of Westney's role and responsibilities as part of Nalcor's overall project risk management program. GT's description is shown below.

"... we concluded that Nalcor was responsible for selecting the risk ranges (with input from Westney), and Westney was responsible for using those ranges to provide a range of possible outcomes from their Monte Carlo simulation."

Source: *Forensic Audit Report to the Commission of Inquiry Respecting the Muskrat Falls Project*, July 16, 2018, Grant Thornton LLP, page 57.

This is also consistent with Nalcor's 59-page Project Risk Management Plan, which describes in detail how the company and project team were organized to manage risks. The Plan provides "LACTI charts" for Risk Identification & Organization, Risk Assessment and Prioritization, Risk Response, and Risk


Monitoring & Control. The chart for Risk Assessment and Prioritization is shown below. It shows the extensive organizational capability Nalcor invested in risk management, and clearly identifies Westney's "risk advisor" role as "providing technical input".

**LACTI Chart for Risk Assessment and Prioritization**

<u>Description of Activity</u>	LCP Executive Committee	LCP Project Director	LCP Risk Resolution Team <sup>1</sup>	LCP Risk Coordinator	Sub-Project Risk Coordinators	Risk Owner	Risk Advisor (Westney)	Sub-Project Project Manager or Deputy	Nalcor ERM Committee LCP Rep.	LCP Change Management Lead
Conduct Preliminary Risk Rankings	I	A	I	C	L	C	T	I		
Develop List of Key Risks to be Overseen by Risk Resolution Team / LCP Executive Committee	C	A/C	C	L	C	C	T	C	I	
Determine Schedule for Risk Assessments (Tactical-, Strategic-, and Time-Risk Assessments)	I	A	C	L	C	C	T	C		
Conduct Risk Assessments (including discussion and evaluation of key individual risks)	C	A	C	L	C	C	T	C		
Update Lists of Key Risks based on Intelligence Gathered from LCP Executive Committee, Risk Resolution Team, Risk Workshops, Contractors, and General Surveillance	C	A	C	L	C	C	T	C	I	C

<b>Legend:</b> L LEADS - Who leads the activity A ACCOUNTABILITY - Who has accountability for the activity C CONSULTED - Who needs to be consulted during the activity T <u>TECHNICAL - Who provides technical input on the activity</u> I INFORMED - Who should be informed, but is not actively participating in the activity										
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Source: *Project Risk Management Plan* (Doc. No. LCP-PT-MD-0000-RI-PL-0001-01), page 32

The LACTI charts for the other elements of risk management are similar, with Westney's role being essentially "technical".

It is worth noting that, given our role as a technical advisor, Westney's risk analysis work product was generally included as an attachment or appendix to a Nalcor report; this is an indication of Nalcor's overall responsibility for project risk management and endorsement of the Westney analysis results.

## II. Best practice for the use of cost and schedule probabilistic analysis in investment decision-making

The GT report provides a considerable amount of discussion of what level of cumulative cost and schedule probability Nalcor management should have used in communicating with financial stakeholders. I'd like to offer a few thoughts to supplement the comments made during my interview:

- As you know from my interview, I do not support the proposition that there is a single, “best practice” for selecting the P factor for a mega-project. Much of that decision depends on the risk appetite, financial situation, strategic priorities, cost of capital etc. of the financial stakeholders. Moreover, the financial strategy for ensuring that strategic risks can be funded will vary. And, of course, these answers may also vary between public and private ownership. For these reasons, Westney risk studies generally do not recommend a specific P factor for strategic investment decisions.
- As also discussed briefly in my interview, there appears to be confusion as to the difference between funding a project and setting the budget for project teams.
  - There is general agreement that the budget for a project manager and team should be P50, including contingency for tactical risks. This provides a reasonable target for the team and, since contingency is for variations that are likely to occur, it is expected to be spent. Of course, this approach also addresses the well-founded concern that setting budgets above P50 can reduce the level of emphasis on cost control.
  - The level of corporate funding is a different matter. Again, there is general agreement that the funding for the potential impact of strategic risks (e.g., via management reserve), is not usually released to a project team. So management may select P75 (for example) to use in the funding strategy, while still setting the project budget at P50. Should strategic risks be experienced, management reserve may be used to fund increases to the project budget as/when needed.

As you know from my interview, I did acknowledge that it might well be appropriate to fund a public mega-project, such as LCP, at a P factor greater than 50. My discussions with the Westney team also confirmed that, during discussions with Nalcor, our view was that a P factor of at least P75 would be appropriate, as would a funding strategy for strategic risks. Our discussions of schedule risk were similar.

So, did Westney conform to best practice in this regard? I note that GT refers to the AACE Recommended Practice to offer the following quote in connection with their explanation of the “P factor”

*“AACE 42R-08 states that management can decide how much risk they are willing to accept and therefore how much contingency will be required.”*

Source: *Forensic Audit Report to the Commission of Inquiry Respecting the Muskrat Falls Project*, July 16, 2018, Grant Thornton LLP, page 59.

A closer examination of 42R-08 reveals important text not included in the above quote:

“ ... best practice for risk analysis and contingency estimating is to produce a distribution of possible outcomes so that management can decide how much risk they are willing to accept and therefore how much contingency will be required.”

Source: *Risk Analysis and Contingency Determination Using Parametric Estimating*, AACE International Recommended Practice No. 42R-08, dated January 26, 2009, Page 6 of 8.

Given that our primary responsibility was “using (Nalcor’s) ranges to provide a range of possible outcomes from their Monte Carlo simulation” I think it is clear that our work conformed to best practice according to AACE.

### **III. Potential conflict of interest resulting from participation in the Independent Project Review (IPR)**

The GT report suggests that my participation in the IPR could potentially be viewed as creating the possibility of a conflict of interest.

“We note that one of the IPR team members was a founder of Westney Consulting (“Westney”). Westney was also engaged by Nalcor to participate in the risk assessment of the Project. Potentially, this could be viewed as a conflict of interest (whether actual or perceived.)

Source: *Forensic Audit Report to the Commission of Inquiry Respecting the Muskrat Falls Project*, July 16, 2018, Grant Thornton LLP, page 8.

To judge this, it is helpful to understand the types of “project assurance” reviews that projects undertake when preparing for the Final Investment Decision (FID). Project Assurance refers to the activities that project teams undertake to “assure” financial stakeholders that the project has been sufficiently defined and planned such that there is a reasonable certainty that the expected business goals will be achieved.

Among the typical assurance activities are pre-FID assurance reviews, for which generally-accepted good practices include:

- Reviews that focus on the overall project
  - Peer Reviews – to gain the insights from “peers” within and/or from outside the operating company
  - Readiness Reviews – to determine the “readiness” of project definition and planning as defined by the documents to be used to support the investment decision
- Reviews that focus on a specific aspect of the project
  - Independent Third Party Reviews – to gain an expert opinion on a specific aspect of a project
  - Certified Verification Agent (CVA) reviews – to conform to statutory or other requirements for an independent expert to validate a specific aspect of the project’s design or plans

The “IPR” terminology used by Nalcor, is very common in the industry, and is essentially the same as the Readiness Review. This can be seen from the description of the scope and objectives outlined in the Decision Gate 3 Independent Project Review Charter (LCP-PT-MD-0000-PM-CH-0003).

Good practice for Readiness Reviews generally involves:

- A small team of experts who have some familiarity with the project but are not members of the core or extended project team
- An effort over a short period of time, including document reviews, interviews, and presentations from project leaders in various disciplines
- A report to management describing findings and observations

With regard to my agreeing to Nalcor’s request to serve as one of five members of the DG3 IPR team, I note that, with the possible exception of Bernie Osiowy, the other members of the IPR team also had some level of prior engagement with the project. I did not (nor did anyone else to my knowledge) consider my level of independence to be materially different than that of the others, nor did the balance between “independence” and “familiarity” appear to any of us to be different than other similar reviews in which we had participated.

Regarding the process of reviewing the documents, it should be noted that all documents were the responsibility of Nalcor. Since Westney was in an advisory role, any review of Westney work product (i.e., the quantitative risk analysis) was in the context of an overall document prepared by Nalcor.

It must be noted that the final IPR report represented the consensus view of all team members; I was never in a position to be the sole judge of the quality of work by Westney Consulting Group.

Finally, if I assume that GT’s concern is that the perception that an IPR team member who was less than independent would be likely to view Nalcor’s work in an inappropriately positive light, I suggest that (as discussed in my interview) my documented objections to proposed changes to the IPR report are a clear indication of my commitment to an unbiased report.