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Rec. No.: L010-S011-200-170331-00199

October 15, 2012

SNC-Lavalin Inc. 272 Torbay Road St. John's , NL A1A 4E1

Attention:

Mr. Normand Bechard

Subject:

**Lower Churchill Phase 1 Development** 

Agreement LC-G-002

Engineering, Procurement and Construction Management (EPCM) Services

**Component 1: Engineering Execution Schedule** 

#### Dear Normand:

In a meeting held in Montreal on 09 October 2012, a presentation was made by the SLI Montreal team wherein a proposed new engineering plan, related to the delivery of the detailed Approved for Construction (AFC) concrete and reinforcing drawings for the Powerhouse / Intake structure, was tabled. The information showed that the noted AFC deliverables will be completed much later than is currently planned - they will not be completed until ~ July 2014.

This new information is very disconcerting and alarming.

### **Lower Churchill Project: Overall Contracting Strategy**

As elucidated repeatedly since the mobilization of the EPCM team, the overall contracting strategy for the Lower Churchill Project is predicated on obtaining cost certainty to the greatest extent possible at the time of contracts' awards. In this regard, development of contract packages has been heavily focused on EPC and Lump Sum type of contracts. Where necessary, Fixed Unit Price contracts have been considered and are being put in place. Consistent with lessons learnt, in order to minimize cost exposure by reducing contractor's risk premiums for definition and performance uncertainty, we have championed a strategy wherein, to the extent possible, Approved for Construction Drawings should be included in RFP documents. While we have not, to date, been able to fully meet this requirement, and while it is still the desired state of affairs, we have jointly reached alignment on the notion of AFC comparable documentation being issued with the RFPs (or at least during the bid period), with formal AFC issuance shortly following contracts' awards.

Project document LCP-PT-0000-PM-ST-0002-01 "Overarching Contracting Strategy" clearly defines these requirements. Several presentations have been made to the joint Nalcor/SLI team to roll-out



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this philosophy, and it has been a primary driver in the planning that has been jointly performed. The project baseline schedule is aligned with this approach, including the production of engineering deliverables.

## **Engineering Deliverables Listing**

An intensive effort was expended in Q1 2012 to identify the engineering deliverables that would be required to construct the Components of the Lower Churchill Project. The deliverables are ostensibly linked to contract packages, and the schedule for the production of the deliverables is ostensibly aligned with the approach that most AFC documents are to be issued during the bid phase or shortly following contract award.

In the referenced meeting held in Montreal, it became very apparent that the AFC document requirements to optimally enable the construction of the power/intake structure have never been fully thought out until now. This is a serious engineering planning / management deficiency and is resulting in a situation that could have significant negative commercial implications for this portion of the project.

### **Turbine Model Work**

Considerable effort and expenditure was expended to have the turbine modeling work performed early. The result of this endeavor was the receipt of intake/powerhouse water passage geometry in the very early stages. Water passage geometry information generated from the model work, (as it turns out from the successful Turbine and Generator supplier - Andritz), was provided to the design team in the very early design days. In addition to this work, a program was put in place wherein all 3 of the T&G bidders performed detailed engineering of the water passages. Again, the result was the provision to the design team of the final water passages geometry, for the most part, some months ago. All this work was done in an effort to "get the jump" on the detailed engineering work.

It appears that the opportunity that this early work provided has not been, for the most part, realized to any significant extent.

## CH0007: Construction of Intake & Powerhouse, Spillway and Transitions Dams

Contract CH0007 is by far the largest contract that is planned to be awarded for the Lower Churchill Project. The bidders are world-class, sophisticated and commercially astute. Regarding contract CH0007, the intention is that most AFC deliverables will be issued by August / September 2013. The project baseline schedule that has been arrived at and agreed is aligned with this. That timeline, although not optimal, is considered to offer a considerable degree of commercial risk mitigation.

The commercial implications of the new information regarding the schedule for AFC deliverables cannot be commercially favourable and are, in fact, very likely to be strongly unfavourable. We may



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be exposed to significant commercial risk. In addition, there would need to be significant additional commercial management and administration by ourselves.

# **Engineering Delivery Management**

It is very clear that a primary contributor to the situation that we now find ourselves in a serious lack of focus on engineering delivery and inadequate engineering planning. Regarding engineering progress reporting, it has become very clear that the reporting to date is suspect, and is of limited value from a management perspective. The reasons for this are multifaceted, but that is the fact of the matter. This reality goes beyond the engineering program being executed in the Montreal office. In short, we do not have confidence as to where we are.

### **Action Plan**

It is recognized that the technical expertise needed to complete the detailed engineering for the powerhouse / intake structure resides within SLI. However, to alleviate our overall concerns with the late delivery of this and other Component 1 engineering scopes, we now require a "stepchange" in the delivery approach. We need a recovery plan. Engineering delivery will need to become a primary focus area and will require, among other things, rigorous management and oversight. We need to gain the confidence that engineering delivery is on track across the entire project. The importance of this cannot be overemphasized.

In that regard, I will be calling dedicated and focused sessions both in St. John's and in Montreal to collectively and collaboratively find solutions.

I look forward to and appreciate your full support.

Sincerely,

Ron Power

General Project Manager

Muskrat Falls & Labrador - Island Transmission Link

RP/rp

cc:

**Paul Harrington** 

Joe Salim