


From: Manzer, Alison <amanzer@casselsbrock.com>
Sent: Thursday, November 21, 2013 9:39 AM
To: jamesmeaney@nalcenergy.com
Subject: FW: LOWER CHRUCHILL; NALCOR; RESPONSE TO GOVERNMENT QUESTIONS OF NOVEMBER 12, 2013; QUESTIONS 2. SCHEDULING [IWOV-Legal.FID1640195]
Attachments: 20131118084257893.pdf

Heafds up #2.

	<p>Alison Manzer</p> <p>Direct: 416 869 5469 • Fax: 416 350 6938 • amanzer@casselsbrock.com</p> <p>2100 Scotia Plaza, 40 King Street West, Toronto, Ontario, Canada</p> <p>www.casselsbrock.com</p>
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From: Reynold Hokenson [mailto:Reynold.A.Hokenson@mwhglobal.com]

Sent: Wednesday, November 20, 2013 10:18 PM

To: Krupski, Joseph (Joseph.Krupski@NRCan-RNCan.gc.ca)

Cc: Newman, Charles; Manzer, Alison; Abudulai, Suhuyini; Mary Edwards; Celeste Christensen; Nikolay Argirov; Howard Lee; James Loucks; Richard Howell

Subject: FW: LOWER CHRUCHILL; NALCOR; RESPONSE TO GOVERNMENT QUESTIONS OF NOVEMBER 12, 2013; QUESTIONS 2. SCHEDULING

Hi Joseph,

Please find below (and attached for easy reference a Nalcor document prepared by Jason Keene), MWH's response to your question pertaining to "2. Scheduling" as repeated below with our responses. Under separate transmittals, we intend to respond to your other questions on "5. Contingency" and "6. Cost" in a similar manner. As mentioned in another email, I believe that our response regarding Questions 1., 3., and 4. may be suitably addressed in the Draft IE's Report submitted to Government on November 15, 2013. We will wait to receive any comments pertaining to these questions since we believe they have been generally addressed, but may need further clarification, if warranted.

2. *Scheduling: Extensive time has been spent on the scheduling issue, and we believe at this point in time it is suitable to focus on an assessment of the construction scheduling and its achievability rather than methodology.*

MWH RESPONSE: We don't want to get bogged down in methodology issues at the expense of commenting directly on the developed conclusions and analysis, either. In fact, we expressed this sentiment directly to Nalcor when we reviewed their risk assessment/contingency recommendation analysis. While they applied an unorthodox methodology based on our

perspective, we made it clear that we were flexible to other approaches and would translate their methodology to our standard practice. As such, we looked past methodology differences and provided comments that benchmarked their contingency recommendation versus our legacy experience. While cost estimate metrics (i.e., unit costs, contingency levels, etc.) can be benchmarked against historical norms, there is not a similar technique to evaluate a schedule as being reasonable to some historical project or typical industry norm.

We recognize that there is a difference of view in the scheduling methods, one being fully automated and the other with manual interface, and we understand the difference in these scheduling models.

MWH RESPONSE: While different schedule models or methodologies are possible, the models may not be comparable in terms of accuracy. As such, lower quality schedule models that invoke shortcuts must be evaluated with assumed greater variations in accuracy. For the current IPS, commentary can be developed against the stated conclusions provided a suitable range (-/+ years) is communicated to stakeholders. A tighter range (-/+ months) can be applied to a higher quality schedule if one was to be developed by the project developer.

If there is a specific, independent engineer level, concern or comment that should be made as to the difference between these two scheduling methods we would appreciate hearing that, preferably before the issuance of the report to consider its inclusion in the report.

MWH RESPONSE: The issue of network integrity is significant if we are to comment directly on the conclusions of what the network is predicting. Logic in the form of activity linking and assignment of individual task durations and constraints (i.e., weather, work window, etc.) drives the algorithms that produce the critical path and float calculations. Without a robust activity network, the credibility of the schedule is unknown. We were not able to address the concern/observation in the report since we did not have the time to do so and still deliver the report as CBB requested.

Our concerns however for the report are that we understand whether the schedule as presently outlined, with its milestone key dates, is achievable.

MWH RESPONSE: MWH understand Government's concern. We would be pleased to say that the listed completion dates are reasonable, however, from our perspective MWH simply does not have sufficient information in the form of a credible mathematical network to allow us to express the opinion, unless a large range (-/+ years) is applied to the listed key dates.

As an instance, we note the river diversion was delayed one year, but the related construction achievement dates were only moved out four months, we would like commentary as to whether completion dates remain reasonable based upon the scheduling milestones that have been identified.

MWH RESPONSE: Other similar issues such as the following: install all-weather structure and 6 -month award delay for CH007 all should impact the

schedule, but we see very limited protraction with the current update. As such, MWH would have to assume, without the benefit of vetting a more robust network to tell us otherwise, that the listed dates are not reasonable. Since this statement is not founded on fact, we are reluctant to be definitive.

The focus that would be most useful at this point in time would be general comment on the achievability of the schedule and its reasonableness;

MWH RESPONSE: MWH simply can't tell and has taken a conservative approach in our draft IE's Report.

advice as to any controls which might be suitable, particularly given the contractors chosen,

MWH RESPONSE: MWH can outline a series of recommendations that we believe will lead to better schedule communication and mitigation against potential claims.

we do not believe that a continued focus on a difference in methodology for scheduling is useful other than if specific impacts can be identified and outlined.

MWH RESPONSE: In our opinion, there is really not a difference in methodology. The difference, in our opinion, relates to quality.

MWH OBSERVATION: A suggestion is offered to read the internal review comments that Jason Kean (PM) provided against the B2 version of the schedule in 2012. His comments are located at the very front of the document that describes the Project Controls Model that Nalcor provided to us last week. We believe that his comments are very similar to our concerns. We have attached Mr. Kean's comments to this communication for ready reference. You may also want to ponder why Mr. Kean's recommendations were not followed and why this document was not shared with MWH earlier since we believed that a P6 CPM was available and could be furnished as our discussions with Nalcor indicated.

Regards,

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November 20, 2013