

From: pharrington@lowerchurchillproject.ca
To: petermadden@lowerchurchillproject.ca
Subject: Re: Comments - IE Report Rev 4
Date: Thursday, November 21, 2013 2:26:53 PM
Attachments: [.png](#)
[IE Report Rev 4 - Nalcor Comments PH 20 oct.xlsx](#)

Peter

i have made some corrections to the whole file not just the red highlights

also cannot open the Gilbert File



IE Report Rev 4 - Nalcor Comments PH 20 oct.xlsx

Paul Harrington

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Peter Madden---11/21/2013 01:39:08 PM---Hello All, I have indicated in RED those that you may want to take another look at before forwarding

From: Peter Madden/NLHydro

To: James Meaney/NLHydro@NLHYDRO, Paul Harrington/NLHydro@NLHydro, Lance Clarke/NLHydro@NLHydro, Gilbert Bennett/NLHydro@NLHydro,

Date: 11/21/2013 01:39 PM

Subject: Comments - IE Report Rev 4

Hello All,

I have indicated in RED those that you may want to take another look at before forwarding.

I was unable to open Gilbert's file due to the new extension. If any of you have better luck please send it to me in the old format!

Peter

[attachment "IE_high_level_comments.xlsx" deleted by Paul Harrington/NLHydro]

[attachment "IE Report Rev 4 - Nalcor Comments.xlsx" deleted by Paul Harrington/NLHydro]

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You owe it to yourself, and your family, to make it home safely every day. What have you done today so that nobody gets hurt?

IE Report (Revision 4) - Nalcor Comments

LCP Rep.	Section/Table	Page(s)	Paragraph/Item	Comment
Paul Harrington	1.1	1	2	It is suggested that the following statement made by MWH should be considered when forming the conclusion, as well: '...this report presents professional opinions that the estimated construction and operations costs are reasonable, and that projected financial results of operations will generate sufficient net revenues to repay debt, including revenues to meet debt service coverage requirements as well as to properly operate and maintain the LCP facilities.'
	1.2.1	1	1	This paragraph is not material to the report.
	1.2.2	1	1	This should state that all available Project documentation was provided to the IE for the review.
	1.2.3	2	2	This protocol is material to contract LC-PM-082 and does not belong in this report.
	1.3	3	2	The CF to MF line is 315 kVac (not 345kVac)
	1.3	3	3	This paragraph is not material to this report. The Maritime Link Project is out of scope.
	1.3.2	4		This section has a number of factual errors and requires a rewrite. Rather than a complete rewrite it may be advisable to refer to the Basis of Design document and include it in the appendices.
	1.3.3	5		This section has a number of errors. The Basis of Design document should be referenced for the revision.
	1.4	6		This section should be revised to refer only to the site visit.
	2.2.3.4	21	2	The assertion that the work is being performed to a high standard is inconsistent with concerns raised in paragraphs 6 and 7 regarding rock support and slope stability. We also understood from specific feedback during the site visit by MWH that all required documentation and access was provided.
	2.2.5	24	3	This paragraph is not material to the report.
	2.2.7	25	1	It is Nalcor's opinion that sufficient data has been provided for the purposes of this assessment regarding adequacy of the design. Remaining analyses are required for enhancement of the existing robust design. A clear statement from MWH with respect to the suitability of the measures taken by Nalcor and if the proposed design is considered reasonable and/or robust, would be helpful.
	3.4	32	4, 5	As discussed in the IE meeting in St John's 6-Nov-2013, whilst we respect that MWH may have had contractual issues in the South American projects it may not be appropriate to be specific to single out this particular Contractor. It would be helpful to perhaps avoid direct references to Astaldi but rather include a more generic statement such as " Nalcor are encouraged to assess contractual risks with specific contractors based on previous project experiences and where deemed necessary to increase Nalcor's Project Management oversight accordingly".
	3.8	39, 40	6	As discussed in the IE meeting in St John's 6-Nov-2013, whilst we respect that MWH may have had contractual issues in the South American projects it may not be appropriate to be specific to single out this particular Contractor. It would be helpful to perhaps avoid direct references to Astaldi but rather include a more generic statement such as " Nalcor are encouraged to assess contractual risks with specific contractors based on previous project experiences and where deemed necessary to increase Nalcor's Project Management oversight accordingly".
	4.1.1	41	2	This paragraph is redundant. We have adjusted the organizational model, which MWH endorses.

	4.1.1	44	Last	Correction: Nalcor is of the opinion that the existing EPCM contract still applies and requires minimal changes which are under consideration.
	4.1.7	51	1	Commentary regarding SNC-Lavalin legal issues are out of scope.
	Table 4-7	71, 77, 79	3, 4, 16, 17, 18, 19	The schedule is a deliverable of Project contractors and will be input into the existing schedule framework at an appropriate level.
	Table 4-8	85	16,17,18	The schedule is a deliverable of Project contractors and will be input into the existing schedule framework at an appropriate level.
	Table 4-13	105	16,17,18	The schedule is a deliverable of Project contractors and will be input into the existing schedule framework at an appropriate level.
	5.1.1	125	7	An AACEI Class 3 Estimate reflects between 10% and 40% level of project definition with a range of expected accuracy of low -10% to -20% and high +10% to +30%. Nalcor engineering was approximately 50% at DG3 and therefore the -10% to +10 % accuracy range is more appropriate.
	5.1.1	125	8	The commentary regarding contingency is incorrect. MWH are aware of the uncapped amount of contingent equity committed to by Gov. NL.
	5.1.1	125	9	Please add the wording that "Nalcor has also used the AACEI recommended practice including 69R-12 and 18R-97" in the first paragraph. The statement that the IE was not provided with actual cost estimate details is incorrect -Nnalcor have provided this information and remain open to any IE review of the estimate detail
	5.1.13	151	3	The following should be removed as incorrect: 'Nalcor advises that in addition, the wages used in the estimates are slightly lower than used for Western Canada, but because Newfoundland has larger union premiums, it will result in lower take-home compensation for those employed in LCP assignments.' Due to overtime precedents created in NL for many trades, the take-home pay will actually increase. This correction will also require changes to the last paragraph on page 151. The Contingent Equity which is guaranteed by the Province is intended to cover the remaining contingency not covered by the Capital cost estimate contingency
	9.2.2	225	3	An AACEI Class 3 Estimate reflects between 10% and 40% level of project definition with a range of expected accuracy of low -10% to -20% and high +10% to +30%. Nalcor engineering was approximately 50% at DG3 and therefore the -10% to +10 % accuracy range is more appropriate.
	9.2.2	225	9	Given the -10% to +10% estimate accuracy range this expected outcome range should be amended to be \$5.6B to \$6.8B
	10.1.9	240	1	An AACEI Class 3 Estimate reflects between 10% and 40% level of project definition with a range of expected accuracy of low -10% to -20% and high +10% to +30%. Nalcor engineering was approximately 50% at DG3 and therefore the -10% to +10 % accuracy range is more appropriate.

	10.1.10	241	2	Agreement LC-PM-082 applies here and states that MWH shall: 1. 'Review the project schedule and each of the construction schedules and determine whether the adequate provisions have been made for design, equipment procurement, fabrication, shipment and installation, start up, testing and commissioning of the Project. Any unknown or variable elements in the schedule will be identified along with potential risks.' MWH should limit their review to this scope of work. MWH have the required experience to review the schedules provided to determine if Nalcor is planning the work appropriately. The detailed scheduling and CPM is the contractor's responsibility and is clearly identified in the contracts. Nalcor's Front End Loading work, early initiation of Aboriginal consultation, early registration of the EA and action to advance the long lead item purchasing, move ahead on early works, and turbine and generator model testing are all a testament to the forward planning that has been carried out and continues to be carried out on this Project which has been identified as best practice by independent reviews.
	10.2	241	1	Nalcor considers the recommendations that have been included in this section to be outside of the scope of the IE. Nalcor believes that there has been enough schedule information provided in order for MWH with their considerable experience to make a determination if the sequence of work, duration of activities is reasonable. Nalcor also reiterates the statement that we require the construction Contractors to carry out the detailed scheduling of the work and at this time Nalcor does not have these details schedules as the Contracts have not been executed and the schedule deliverable has not been provided. Once these schedules are provided for the Material Contracts the IE will have full access to them . nalcor has carried out extensive Front End Loading during the Engineering and Procurement phases of the project and has employed prudent proactive planning to mitigate any threats to the schedule including pre sanction expenditures on long lead purchases, engineering and contracting as well as pro active and early activities to ensure that Environmental processes, Aboriginal agreements and other permitting requirements which could prevent the schedule from advancing are scheduled early and are complete in time
	10.2	241	4	Item 4 is redundant - The monthly construction reports will provide updated cost data. Item 1 Nalcor has considered all necessary bonding and continues to do so as each contract is prepared Item 2 Nalcor will provide all material contract schedules as they are made available from the contractor. Item 3 Nalcor believes that it has furnished to the IE all necessary reports in order for the IE to form an opinion on the reasonableness of Nalcor's stabilization design, Nalcor will provide reports currently under development or planned to be produced wrt the North Spur when they are available
James Meaney	1.2.1	1		This section should make reference to the fact that the IE relationship was "transferred" to Government of Canada through the IE Reliance Agreement executed by Nalcor, Canada and MWH on June 4, 2013
	1.2.2	2	1	Is commentary about initial difficulties with data exchange relevant?
	2.1	7	1	Is any of this commentary relevant? The facts are a site visit was conducted on Sept 24-26 which is appropriately covered in Section 2.2
	2.2.7	25	1	What does the last sentence refer to? What insufficient data is being referred to?
	3.2.3.1	31	Sentence highlighted	Is this referring to the fact that Hatch Study Rev2 is still deemed "draft" pending work unrelated to the determination of firm and average production at Muskrat Falls under the HQ dispatch scenarios?

	Table 4-6	63	6	Remarks based on performance security package included in CH0007 RFP. Does not reflect final package of ~ \$250m in letters of credit / bond which would represent ~ 25% of contract value. Supporting information was sent by Nalcor to MWH/CBB on Nov 7.
	Table 4-6	67	13	Similar comment as above with respect to CH0007 performance security.
	Table 4-9	87	1	As indicated by Nalcor to MWH/CBB in Oct 9 email, contract PH0014 and PH0016 are still in bid evaluation
	Tables 4-9 to 4-14	87-118		Comments on contract status, award dates, etc. throughout this section can be updated based on material contracts update document provided to Canada/CBB/MWH/BF via data room on Nov 19.
	Table 5-16	137-140		Agreed by all parties at 6-Nov-2013 meeting in St John's that this table would be removed from IE report given commercial sensitivities.
	9	223-238		Data in Capital Cost, IDC and Financial Planning sections need to be updated to reflect (i) \$6.5b capital cost update, (ii) Sources & Uses and Debt Service Coverage data in updated financial models from Nalcor Investment Evaluation. The latter was presented by Nalcor to Blair Franklin on Nov 15 and posted to Intralinks data room Nov 20. Nalcor suggests BF could assist MWH with updating this section given their role as financial advisor to Canada.
Lance Clarke	4.1	41		The LCP Team is currently integrated and these issues are not applicable to the Project.
	4.1.4	49		This section is out of context given the integrated organizational model.
	4			It is suggested that for all references to contracts yet to be executed throughout the Report that the wording is revised to: 'awaiting contract completion' (or similar) as oppose to 'No opinion can be furnished' 'information not available' 'information lacking', etc.
	Table 4-2	59		This detail is unnecessary and commercially sensitive.
	Table 4-6	63	6	Nalcor has followed a detailed risk assessment that involved financial advisors, insurance brokers, legal counsel, etc. to arrive at best value for Project security requirements. Please include substantiation regarding the statement on this item.
	Table 4-7	70	2	Comment regarding quality process would be relevant and useful here. Given that direction from Canada indicated no comment on Andritz subcontractors is required, this should be revised.
	Table 4-15	119	1	This contract CH0006 is ready for close-out. This detail is no longer material.
	4.14	123	1	Should be removed.
	5.1.13	151	6	Nalcor disagrees with the first sentence of this paragraph regarding uncertainties of labour costs. The P50 values were a business decision based on our comfort levels with risk. From a labour perspective we believe, and have real-time examples at this stage, that we can mitigate much of the labour risk. It is Nalcor's suggestion that this paragraph be removed.
Ed Bush	5.1.1	126	7	Is there a requirement for the IE for a Class 2 Estimate by Financial Close?
	5.1.1	126	8	IE comments that Project contingency of 6.7% is not sufficient - should be 2 to 4 times that carried.
	5.1.1	126	9	IE states that project contingency is considered spent as result of CH0007. This is not the case. Shoud we clarify? Also referenced in Paul's comments.
	5.1.2	127		This should simply state that this section is pending contract completion.
	5.1.3	127	Body	This section deals with experience of the contractors and suppliers to the LCP. Not sure of the relevance to the section dealing with capital budget.
	5.1.3	128	Table 5-1	No clear opinion provided relative to CH0007.
	5.1.4	128	Body	There is no analysis or commentary on the data presented. The purpose is not clear.
	5.1.4	129	Table 5-2	Much of the table is missing data and is incomplete. These cells should be removed.

	5.1.6	130	Table 5-4	There is no analysis or commentary on the data presented. The purpose is not clear.
	5.1.6	130	Table 5-5	There is no analysis or commentary on the data presented. The purpose is not clear.
	5.1.6	130	Table 5-6	There is no analysis or commentary on the data presented. The purpose is not clear.
	5.1.7	131	Table 5-7	There is no analysis or commentary on the data presented. The purpose is not clear. The comment in the table might be perceived as Nalcor withholding of information.
	5.1.7	131	Table 5-8	There is no analysis or commentary on the data presented. The purpose is not clear. The comment in the table might be perceived as Nalcor withholding of information.
	5.1.7	132	Table 5-9	There is no analysis or commentary on the data presented. The purpose is not clear. The comment in the table might be perceived as Nalcor withholding of information.
	5.1.8	132	Table 5-10	There is no analysis or commentary on the data presented. The purpose is not clear.
	5.1.8	133	Table 5-11	There is no analysis or commentary on the data presented. The purpose is not clear.
	5.1.8	133	Table 5-12	There is no analysis or commentary on the data presented. The purpose is not clear.
	5.1.9	134	Table 5-13	There is no analysis or commentary on the data presented. The purpose is not clear.
	5.1.9	135	Table 5-14	There is no analysis or commentary on the data presented. The purpose is not clear.
	5.1.9	135	Table 5-15	There is no analysis or commentary on the data presented. The purpose is not clear.
	5.1.10	135	Body	The section is entitled "Schedule and Equipment Delivery". The content relates to capital costs. The IE claims to have insufficient information to express an opinion. This is a huge gap in the report.
	5.1.10	141	Table 5-17	There is no analysis or commentary on the data presented. The purpose is not clear.
	5.1.12	149	Table 5-18	There is no analysis or commentary on the data presented. The purpose is not clear.
	5.1.12	149	Table 5-18	IE fails to mention incentives associated with labour productivity. No mention of liquidated damages. They may have commented on these matters elsewhere in the IE report.
	5.2	153	Table 5-20	The table is incomplete. No commentary regarding CH0007. IE refuses to provide opinion without complete contract.
	5.2	152	Body	What constitutes a "Normal" or "Unusual" drawdown payment schedule? Purpose of the analysis is not clear.
	9.2.5	228	Body	Much of the information contained in this section would be better in Section 5 - Capital Budget.
	9.2.6	229	Body	Much of the information contained in this section would be better in Section 5 - Capital Budget. There is table to be added.
	9.2.9	231	Body	IE requests that estimate refinements based on advanced engineering and procurement be completed prior to financial close. This will not be possible.
	9.2.9	231	Table 9-7	Much of the information contained in this section would be better in Section 5 - Capital Budget.
	10.1	240	Item 10.1.10	The IPS has been provided to the IE in P6 format. It included sufficient level of detail in terms of activities, milestones and key dates, linked by logic to allow definition of critical and sub-critical paths and to analyse float. In addition the IE has been provided with a soft copy of a detailed 9000 activity P6 schedule to demonstrate the level of depth and rigour used in development of the IPS. This has not been recognized in the IE report.
Robert Woolgar	2.2.1.3	9	Bullet 4	This has been reconsidered and will not be done as part of the Project.
	2.2.1.3	9	1	The criteria for this decision have not been made available for this review. Table 2-1 4. Notes "During this time the trigger level has been set at El. 10 m. This level will be adjusted as required based on the monitoring program."
	Table 2.1	13	5	Report has been provided to MWH on 7-Nov-2013.
	Table 2.1	14	7	This report will be made available when completed.

	Table 2.1	15	Notes	Consideration should be given to removing/ editing the notes section after the table since not completely consistent with Table.
	Section 2.2.4	24	1	River closure is designed for a river discharge in the range of 2000 m ³ /s to 2560 m ³ /s which provides a confidence of 5% probability of exceedance during the period extending from the last week of June to the end of August.