

**ANSWERS TO UNDERTAKINGS  
FROM INTERVIEW ON AUGUST 27, 2018 WITH BARRY LEARMONTH, COUNSEL  
FOR THE COMMISSION INTO THE INQUIRY RESPECTING MUSKRAT FALLS**

**WITNESS – PAUL WILSON/AL SNYDER/MACK KAST  
DATED: OCTOBER 10, 2010**

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1. Undertaking: Look for Scope of Services Contract with the Government of Newfoundland, revisions 1 through 5.

*Answer: Paul Wilson could only find version 3 of document “NFL2 SCOPE OF SERVICES – Government of Newfoundland – Muskrat Falls DG3 review rev3” in his email and/or document records, which has already been disclosed.*

2. Undertaking: Scope of Services Contract with the Government of Newfoundland, Document 23 – (attached to email 03/12/2012 from Paul Wilson to Charles Bown). Who removed Sections IX – XIII from the final Scope of Work and why?

*Answer: Paul Wilson does not know who removed Sections IX-XIII from the final version dated May 15, 2012 or why.*

3. Undertaking: Reference from Witness Book, Tab 31 - MHI’s Review of the Muskrat Falls and Labrador Island HVdc Link (LIL) and the Isolated Island Options (July 2012) prepared by G. Proteau (draft) – Risk Management 1.4. Who removed reference to expropriation, at whose direction and why?

*Answer: Paul Wilson was unable to locate any further record as to who or why this reference was removed.*

4. Undertaking: Reference from Witness Book, Tab 31 - MHI’s Review of the Muskrat Falls and Labrador Island HVdc Link (LIL) and the Isolated Island Options (July 2012) prepared by G. Proteau (draft) – Section 1.9. Why was the information relating to labour concerns removed from the final draft and at whose direction?

***Answer: Paul Wilson was unable to locate any record (email or document) who or why the information relating to labour concerns was removed from the final draft.***

5. Undertaking: Reference from Witness Book, Tab 33, Section 2.4.2 (page 44) - Email from Paul Wilson to Charles Bown dated 8/2/2012 at 4:37:01 PM with attachment, MHI's Draft Decision Gate 3 review of the Muskrat Falls and Labrador Island HVdc Link and the Isolated Island options dated August 2, 2012. Why is the language in Section 2.4.2 different in final version and at whose direction?

***Answer: Paul Wilson does not recall why this section of text was revised. The email from Paul Wilson to Charles Bown dated September 3, 2012 containing the final draft states, "This final draft contains the Executive Summary, material revised as a result of our meeting with Nalcor and yourself in Winnipeg, plus answers and documents provided subsequent to the last draft."***

6. Undertaking: Reference from Witness Book, Tab 33, Section 2.4.3 (page 45) - Email from Paul Wilson to Charles Bown dated 8/2/2012 at 4:37:01 PM with attachment, MHI's Draft Decision Gate 3 review of the Muskrat Falls and Labrador Island HVdc Link and the Isolated Island options dated August 2, 2012. Why was the language with respect to the labour issues changed and at whose direction?

***Answer: Paul Wilson does not recall why this section of text on labour issues was revised. Similar to answer to undertaking 5, the email from Paul Wilson to Charles Bown dated September 3, 2012 containing the final draft states, "This final draft contains the Executive Summary, material revised as a result of our meeting with Nalcor and yourself in Winnipeg, plus answers and documents provided subsequent to the last draft."***

7. Undertaking: Reference from Witness Book, Tab 33, Section 2.4.8 (page 54) - Email from Paul Wilson to Charles Bown dated 8/2/2012 at 4:37:01 PM with attachment, MHI's Draft Decision Gate 3 review of the Muskrat Falls and Labrador Island HVdc Link and the Isolated Island options dated August 2, 2012. In the second paragraph,

there is a reference to a Nalcor Management Team as utilizing an “experienced consultancy firm”. Please identify who that consultancy firm may have been.

*Answer: The documentation that Nalcor provided Gerry Proteau for his analysis of the transmission line design basis was from SNC Lavalin (Ref: email Gerry Proteau to Paul Wilson June 8, 2012).*

8. Undertaking Reference from Witness Book, Tab 33, Section 2.4.8 (page 54) - Email from Paul Wilson to Charles Bown dated 8/2/2012 at 4:37:01 PM with attachment, MHI’s Draft Decision Gate 3 review of the Muskrat Falls and Labrador Island HVdc Link and the Isolated Island options dated August 2, 2012 (Consolidated DG3 Report). Why does that language differ from the final version and at whose direction was it removed?

*Answer: Paul Wilson was unable to locate any record as to why or at whose direction this reference was removed from the final version.*

9. Undertaking: With reference to information provided to G. Proteau by Nalcor (Pg 48 of transcript); review draft contract and/or contract between GNL and MHI to see whether any reference or intent to perform a “high-level review.”

*Answer: The Scope of Services as outlined in MHI proposal dated May 15, 2012 specifically section a) page 3/13;*

**A review of work performed by Nalcor related to the Muskrat Falls and Labrador Island HVdc Link (LIL) and the Isolated Island Option subsequent to DG2. The level of review shall be sufficient for the Consultant to report on whether Nalcor has performed work with the degree of skill, care and diligence required by customarily accepted professional practices and procedures completed in the performance of similar work. This work will be undertaken by examination of design reports, technical documentation or memos, in direct meetings with Nalcor, or with other data and information provided by Nalcor during meetings and working sessions.**

*And section v on page 5/13.*

**Information required:**

- **Information as listed in the above paragraph**
- **Transmission line design basis**
- **Transmission line updates to the master cost estimate**
- **Transmission line updates to the master project schedule**

*The level of review was clearly stated in the Scope of Work included in MHI's proposal to the GNL and which was part of the final contract. This limited review included any changes after DG2, with information based on meetings with Nalcor and documents provided in those meetings. The text states that MHI will review the work done subsequent to DG2 and with respect to G. Proteau's review of transmission lines, the information listed as required in section v noted above was provided in report or summary documents during the face to face meetings between G. Proteau and Nalcor.*

10. Undertaking: Pg 50 of transcript. Mr Learmonth reads: "Paragraph 2.4.8 "(of G. Proteau's draft report) "you write: The risk of cost escalation during the construction stage is high considering very competitive labour rates and compensation that'll be required to attract qualified contractors and personnel. This escalation risk may not be fully accounted in the Decision Gate 3 estimate." Mr. Learmonth doesn't recall seeing this paragraph in the final report. Why wasn't it included in the final report and if it wasn't, at whose direction was it removed?"

***Answer: Paul Wilson was unable to locate any record as to why this reference was not included in the final report or at whose direction it was removed.***

11. Undertaking: Reference from Witness Book, Tab 40 (page 16) Re: HVdc contingency – Email from Charles Bown to Brian Crawley dated 9/20/2012 at 2:27:50 PM with attachment MHI's Final Draft Decision Gate 3 Review of the Muskrat Falls and Labrador Island HVdc Link and the Isolated Island Options. Why was the reference to Nalcor being cautioned regarding contingency levels in their estimated costs removed in the final version and at whose direction?"

*Answer: Paul Wilson does not recall why this section of text cautioning Nalcor regarding contingency levels in their estimated costs was removed. The email from Paul Wilson to Charles Bown dated September 18, 2012 containing the final draft states “This version contains:*

- *All documents references and bibliography removed except those that are publically available.*
- *All Nalcor’s revisions noted at our last face to face meeting.*
- *...”*

12. Undertaking: Reference from Witness Book, Tab 40 (page 93) Re: HVdc contingency – Email from Charles Bown to Brian Crawley dated 9/20/2012 at 2:27:50 PM with attachment MHI’s Final Draft Decision Gate 3 Review of the Muskrat Falls and Labrador Island HVdc Link and the Isolated Island Options. Verify whether \$6,200,000,000.00 base estimate included a \$500,000,000.00 contingency.

*Answer: The \$6.2B base estimate does not include the \$500M management reserve contingency.*

13. Undertaking: Provide year when Mr. Kast received his Chartered Accountant designation.

*Answer: Mr. Kast became a Chartered Accountant in 1973.*

14. Undertaking: Reference from Witness Book, Tab 46 (page 8) - MHI’s Final Report to Government, Review of the Muskrat Falls and Labrador Island HVdc Link dated October 2012. On the top of the page under Financial Analysis Options, who are the consultants referenced in that paragraph? Specifically, were those consultants Manitoba Hydro consultants or were those consultants from Nalcor?

*Answer: The reference to consultants refers to Nalcor’s consultants.*

15. Undertaking: Reference from Witness Book, Tab 46 (page 9) - MHI's Final Report to Government, Review of the Muskrat Falls and Labrador Island HVdc Link dated October 2012. What is included in the "existing assumptions"?

*Existing assumptions would be all inputs in the CPW analysis, which included the following for each of the two options:*

- *Fixed Charges*
- *Operating Costs*
- *Fuel Costs*
- *Power Purchase Costs*

*The assumptions important to these inputs are:*

- *Plant Investment*
- *Return on Plant Invested (D/E ratio and related cost for each)*
- *Return of Plant Invested (Depreciation)*
- *Operating and Maintenance Expenses (Includes Insurance)*
- *Fuel Costs*
- *Power Purchase Costs (supplemental)*
- *Life Span of Assets/Reinvestments*
- *Escalation rates*
- *Discount rates*
- *Load (Customer Demand/Consumption)*
- *Contingency Costs*

16. Undertaking: Reference from Witness Book, Tab 46 (page 35/36) - MHI's Final Report to Government, Review of the Muskrat Falls and Labrador Island HVdc Link dated October 2012. Statement "sufficient contingency has been allocated to this portion of the project to offset any unforeseen project risks". What percentage of the estimate was attributed to "unforeseen project risks"?

*Answer: This statement is in reference to HVdc cost estimates; Paul Wilson does not have the detail in his project files on what components were included in the \$86.48 million contingency estimate.*

17. On Page 111 of transcript. Mr Learmonth reads “Page 27, third – well, third full paragraph under 2.2.2, Stability Studies. It says: Contingencies examined, including permanent DC pole, et cetera, et cetera – was there a financial amount placed on these contingencies? Undertaking: whether a financial amount place on these contingencies

*Answer: These contingencies refer to modes of operation of the HVdc system and how the HVdc system reacts to system conditions on either the AC or DC system. Section 2.2.4 discusses the modes of operations and notes; “There should be no impact on cost or the CPW analysis. In the worst case, there would be a need for an addition of a filter overvoltage relay.” This cost would be negligible.*

18. Undertaking: Reference from Witness Book, Tab 46 (page 37) - MHI’s Final Report to Government, Review of the Muskrat Falls and Labrador Island HVdc Link dated October 2012. Second paragraph “there is a possibility of additional costs”. Did Manitoba Hydro review those estimates and did Manitoba Hydro know whether in fact Nalcor did average the two highest estimates from the three submitted?

*Answer: Les Recksiedler will have reviewed any bid cost documents provided to MHI by Nalcor at the meeting in Winnipeg. No detailed cost estimates were provided. From Les Recksiedler’s Report draft dated July 22, 2012, “Given that Nalcor verbally indicated that they have used the two higher estimates of three submitted and they were both close to each other, indicates that this approach is reasonable.” This appears to confirm that Nalcor did average the highest estimates from the three submitted.*

19. Undertaking: Reference from Witness Book, Tab 46, Section 2.3.5 (page 37) - MHI’s Final Report to Government, Review of the Muskrat Falls and Labrador Island HVdc

Link dated October 2012. Summary references “the cost estimates for the synchronous condensers appear low when compared to other projects in Canada”. Can Manitoba Hydro (International) say how much lower these estimates were compared to other projects in Canada?

*Answer: Les Recksiedler responds that the \$240 Million was based on a Manitoba Hydro estimate who was in the process of planning for Bipole 3 and had recently received estimates from various suppliers for synchronous condensers for the Riel Converter Station. Thus, MHI thought that their estimate was low. To provide a magnitude of how low, from the draft HVDC report dated 2011-12-08, the following Table describes the estimate that was available and provided for DG2, indicating that the estimate for synchronous condensers was \$48 million lower.*

**Table 1: HVDC Cost Estimate**

	Bench Mark	DG2 Estimate
Converter Stations including electrodes with overload capabilities.	450M	347.9 M + 87.2 M = 435.1 M
Synchronous Condensers	240M	192.4 M

20. Undertaking: Reference from Witness Book, Tab 46, Section 2.4.2 (page 40) - MHI’s Final Report to Government, Review of the Muskrat Falls and Labrador Island HVdc Link dated October 2012. Cost Estimate Evaluation – Does Manitoba Hydro have the detailed report on Decision Gate 3 Transmission Line cost which was referenced?

*Answer: Yes. “CE49, Nalcor, Transmission Line Costing AC/DC July 2012” was included with the exhibits disclosed.*

21. Undertaking: Reference from Witness Book, Tab 46, Section 2.3.5 (page 41) - MHI’s Final Report to Government, Review of the Muskrat Falls and Labrador Island HVdc

Link dated October 2012. “Major risk” – Referenced in the second paragraph – Is the strategic risk referenced in the report?

*Answer: The full paragraph states “At this stage, the major risks to be addressed for the transmission line complex remain as contractor cost, labour availability and productivity. Nalcor has identified this as a major risk and has identified mitigation strategies to attract skilled labour back into the province through a master labour agreement, training, and other self-development programs.”*

*As such, the risk factor identified during MHI’s transmission specialist discussions with Nalcor had been addressed (at least as some level) through the mitigation strategies Nalcor’s Management identified in their project plans.*

*MHI received document CE52 as part of the DG2 review – on page 47 of this document under Strategic Risks, Muskrat Falls Construction Risks are noted. Item 24: Availability and retention of skilled workers, and Item 25: of unskilled construction labour risks are part of strategic risk. Risk review was not part of MHI’s scope and this risk document was not provided to MHI for its DG3 report.*

22. Undertaking: Reference from Witness Book, Tab 46, Section 2.4.8 (page 48) - MHI’s Final Report to Government, Review of the Muskrat Falls and Labrador Island HVdc Link dated October 2012. “The Nalcor project management team is utilizing an experienced consultancy firm to prepare the detailed design, material, and construction cost estimate taken forward to Decision Gate 3”. Who was the consultant referenced?

*Answer: SNC Lavalin*

23. Undertaking: Reference from Witness Book, Tab 46 (page 49) - MHI’s Final Report to Government, Review of the Muskrat Falls and Labrador Island HVdc Link dated October 2012. What recordings or notes were kept, if any?

*Answer: Any “information recorded at the Nalcor staff interviews” referenced in the last paragraph, page 49, would be contained in Gerry Proteau’s notes, if any. These documents were not retained on MHI’s information systems at the time or in my working archive and are therefore unavailable.*

24. Undertaking: Reference from Witness Book, Tab 46, Section 2.6.1 (page 53) - MHI’s Final Report to Government, Review of the Muskrat Falls and Labrador Island HVdc Link dated October 2012. Scope of Work – What documents were reviewed?

*Answer: The following documents are noted in Tom Moffat’s draft report which formed Section 2.6 of the final report on Muskrat Falls Generating Station Development. This report is part of the MHI disclosure.*

*Page 1 of that report notes, “Documents and information reviewed:*

- *Briefing by the Project Director, Deputy Project Director, and Engineering Manager on post DG2 design, schedule and budget changes. Review of the change management process used to manage these changes (2012/06/18)*
- *Overarching Contracting Strategy (LCP – PT-MD-0000-PM-ST-0002-01)*
- *Lower Churchill Project (LCP) – Phase 1 Master Package Dictionary*
- *LCP Phase 1 DG3 Estimate Rev.02*
- *High level MF milestone construction schedules DG2 (LCP MF and IL MS Project JHE 2010-07 05.mpp) and DG3 (LCP Time-Risk Model 06 Jan 2012)*
- *Selected samples of detailed schedule and budget components as provided on computer screens at LCP’s office.*
- *Project Schedule – Overview of the Project Schedule covering the area powerhouse – SNC Lavalin April 8, 2012”*

*Note: In an email to Tom Moffat Sept 28, 2012, two documents to formulate the exhibits were identified as not available on the Project Sharepoint. These two documents were:*

- *Overarching Contracting Strategy (LCP – PT-MD-0000-PM-ST-0002-01)*
- *Lower Churchill Project (LCP) – Phase 1 Master Package Dictionary*

*There was neither an email from Tom Moffat confirming completion of the request, nor are these documents in my archived exhibits.*