

From: petermadden@lowerchurchillproject.ca
To: jamesmeaney@nalcenergy.com
Subject: Re: Consolidated Nalcor comments on MWH IE Report
Date: Friday, June 14, 2013 3:56:21 PM
Attachments: [.png](#)
[IE Report Comment Sheet.doc](#)



IE Report Comment Sheet.doc

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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?

James Meaney---06/12/2013 10:05:42 PM---Hi Peter Can you please send me the list of consolidated questions/comments that we went through on

From: James Meaney/NLHydro
To: Peter Madden/NLHydro@NLHYDRO,
Date: 06/12/2013 10:05 PM
Subject: Consolidated Nalcor comments on MWH IE Report

Hi Peter

Can you please send me the list of consolidated questions/comments that we went through on the call with MWH today.

Thanks

Jim



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**DOCUMENT REVIEW
Comment Sheet**

| Completed by LCP Representative | | | | Completed by LCPDCC | |
|---|-----------|--|-----------|---------------------|--|
| Document Title: | | | | Record Number: | |
| Independent Engineer's Report – Lower Churchill Project | | | | | |
| NE-LCP Document Number: | Revision: | 3 RD Party Document Number: | Revision: | Transmittal Number: | |
| LCP-MW-CD-0000-PM-RP-0001-01 | A1 | | | | |
| LCP Department of Origin: | | Purchase Order/Contract Number: | | Transmittal Date: | |
| | | | | | |
| Distribute Comment Sheet to: | | Date returned to LCPDCC | | | |
| Rey Hokenson | | | | | |

| | |
|----------------------------------|-----------------------------|
| LCP Representative: Peter Madden | Lead Reviewer: James Meaney |
|----------------------------------|-----------------------------|

Comments:

**Jim Meaney
Comments on MWH Draft IE Report dated 3/22/13**

Section 1.1

- Para 1 – State initial capital cost of \$6.2B for MF, LTA and LIL to be consistent with DG3 estimate
- Para 2 – Update to say “...to support the financing of the LCP **that will be** guaranteed by Canada’s....”

Section 1.2.1

- Should J. Meaney also be named as a primary contact?

Section 1.2.2



**DOCUMENT REVIEW
Comment Sheet (Cont'd)**

- Is it necessary to include the last three sentences starting with “Much of the data is protected..”? The first time we were given a full overview of issues MWH was having with the financial models was in email from Dick Howell on 4/27/13, even though the financial models were first rolled out to MWH on 10/23/12? Also expect these issues to be resolved following call with Auburn Warren and Nalcor financial model team.

Section 1.2.3

- Not sure second paragraph is necessary?

Section 1.3

- Para 2 – Description of Phase 1 seems to be missing LTA, the AC transmission connection between MF and CF?

Section 1.4

- Para 1 – I would suggest site visit postponed until Late Spring/Early Summer 2013
- Para 2 – This probably needs to be updated to reflect other work underway at that time– temporary camp, construction power, etc.

Section 2.1

- I would suggest site visit postponed until Late Spring/Early Summer 2013

Section 3.2.3

- Para 1 – Would the last sentence be within MWH’s scope of work?

Section 4.1

- This section needs to be updated in light of organizational changes within LCP Project Team and SNC Lavalin. For example, it’s really the Owner Team, not SNC, that has ultimate responsibility for successfully delivering the project?

Section 4.1.2



**DOCUMENT REVIEW
Comment Sheet (Cont'd)**

- Page 21 – Need to understand why MWH feels a bond for 100% of contract value or LC for 25-30% would have been appropriate when the EPCM contract was executed with SNC? Given organization structure/project delivery model, is there risk in this contract commensurate with that level of coverage? Similar discussion may be needed regarding the view on liability limitation?

Section 4.1.6

- Comment “...reluctance on part of lenders to offer more competitive loans to Nalcor Energy” not relevant given FLG Transaction Structure. Lenders will only be concerned with Canada’s credit, not project specific risks.

Section 4.2

- Chart Section 7 – What is the basis of MWH’s comment “...and normally would not be acceptable to the Government of Canada”?
- Chart Sections 10 and 13 – IKC One has provided a performance bond and payment bond for 100% of contract value. MWH to advise if executed contract or copies of the bonds have still not been provided.

Section 4.3

- Chart Section 6 – Need to give consideration for discussion that was had with MWH during January 2013 meeting in St. John’s on the factors that were influencing the 10% LC level versus 20-30%. Factors included market precedents for contracts of this nature/size from other projects (I believe Lower Mattagami or Niagara Tunnel were given as examples), overall price premium risk of 2 bidders dropping out was much greater than LC coverage differential, holdbacks/payment terms used to supplement performance security tools, etc. Further discussions on this matter would likely be helpful.

Section 4.4

- Chart Section 12 – I believe these computations were done by the LCP/SNC procurement team. Has an RFI been submitted to Peter Madden on this?
- Chart Section 13 – Might be helpful to have Nalcor’s construction contract legal counsel, Aidan Meade from McInnes Cooper, to provide MWH with additional background on how LD’s vs bonuses are treated in Canada?

Section 5.1.2



**DOCUMENT REVIEW
Comment Sheet (Cont'd)**

- During call with Jim, Lance, Nik and Rey on 4/15/13 it was indicated this section would be updated and that it might be more appropriate to address this in more detail at later point once large contract bids are back.

Section 9.1

- Similar to comments above on section 1.2.2. Comments in parts (ii) and (iii) to be revisited following financial model call with Auburn's team.

Section 9.2.2

- Table 9-1 – DG3 capital cost estimate was used as the input to the financial models, so not sure why variance? Hedging settlements were treated as cash outlays which might account for differences? Should raise this issue during financial model call with Auburn and team.

Section 9.2.6

- Is this section also going to be updated in light of 4/15/13 discussion noted above?

Section 9.2.8

- IDC is shown in financial models separate from capital costs?

Section 9.3.1

- The long term bonds that will be issued to fund construction will not be secured by revenue. Lenders security will be the guarantee from Canada.

Section 9.3.2

- This whole section needs to be revised given that Lender's only security will be the Canada guarantee while only Canada will have security over all assets, revenue generating contracts, etc. The following overview might be helpful in understanding the financing structure.



**DOCUMENT REVIEW
Comment Sheet (Cont'd)**

The Project will be funded through a combination of an equity commitment from NL and debt financing that will be guaranteed by the Government of Canada per the Federal Loan Guarantee Agreement executed on November 30, 2012. The Province has committed to provide the base level and contingent equity, if required, to ensure the Projects achieve in-service. The debt guarantee constitutes a direct, absolute, unconditional and irrevocable obligation of Canada and thereby carries the full faith and credit of Canada (ie. AAA ratings or equivalent from each of Standard & Poor's, Moody's, DBRS and Fitch Ratings).

Nalcor will be approaching the financial markets in 2013 with a Request for Financing to select a lead arranger (or co-leads) to provide a fully underwritten financing of up to \$2.6 billion for the Muskrat Falls/Labrador Transmissions Assets Funding Trust and up to \$2.4 billion for the Labrador Island Link Funding Trust. Each of these funding vehicles will be a special purpose NL trust, the purpose of which is to borrow funds pursuant to its financing arrangements with third party lenders and on-lend those funds to the respective Nalcor subsidiaries responsible for the development, construction, commissioning and operation of the Project. Under these arrangements, lenders will be entirely insulated from project risks. Further details on these funding vehicles, the Canada guarantee and the related financing structure can be found in a press release from Moody's Investor Services dated April 18, 2013.

Financial Close is targeted for Q4 2013. In the meantime, Early Works construction is being funded 100% via equity contributions from the Province.

Section 9.3.3

- DSCR requirements are set out in the FLG Agreement dated November 30, 2012. MWH has been provided this.

Jason Kean

Sections 4.1.1 / 4.1.2

- EPCM Contract Review - Current commentary does not provide an accurate representation of how the work of SNC was planned to be administered or how it will be in the future as a result of the evolution to an integrated project delivery team strategy. Discussion with MWH and Nalcor/LCP team suggested to help clarify.

Section 4.14

- Likelihood of Achieving Milestones - What exactly does Opinion 1 and 2 refer to? MWH to advise why they are on hold at this time?



**DOCUMENT REVIEW
Comment Sheet (Cont'd)**

Section 8.13

- Status and Cost of Remedial Activities - This information is readily available. It is described within the DG3 Basis of Estimate.

Section 9.2.3

- Indirect Costs, paragraph 3 - These items are discussed in the DG3 Basis of Estimate. This item can be clarified in MWH. The issue was also discussed with MWH during the May 29 financial model call with Nalcor/PWC.

Section 9.2.4

- Adequacy of Pre-Operating Expenses - MWH to advise rationale for escalating historical costs as stated in Table 9-2? In additional, explanation of historical costs at the end of this section may need to be elaborated upon to ensure clarity to readers.

Section 9.2.9

- Cost for Establishing Inventories (Renewals and Replacements) - MWH requested to define what is referred to as "Renewals and Replacement Costs"

Section 9.2.11

- Summary of Capital Costs, last paragraph - Similar to comment in Section 9.2.4, MWH to advise rationale for escalating historical costs.

Peter Madden

Section 8



**DOCUMENT REVIEW
Comment Sheet (Cont'd)**

| MWH Comment | LCP Response |
|--|--|
| <ul style="list-style-type: none"> The independent engineer at this time cannot opine on any permits and licenses that are involved with the LIL since that have not been provided to MWH. These are permits and licenses will be required before financial close. Nalcor has been requested to provided these items. | <p>No permits are currently in place for LIL as they cannot be issued until EA release and subsequent aboriginal consultation. Therefore the earliest we can obtain any permits is 30 days post EA (approximately July 15).</p> |
| <ul style="list-style-type: none"> Studies to be performed during construction | <p>Provided below</p> |
| <ul style="list-style-type: none"> We have not independently reviewed the data to support this determination of minimum flow and have requested it from Nalcor Energy for our review and subsequent independent opinion as to it being adequate to maintain the fishery. Nalcor has advised the IE that once the spillway is constructed, that the compensation flow (minimum flow of 350 cms) will be modified, if necessary based on monitoring results. This will allow for flexibility based on what the monitoring results reveal to allow proper adjustments in the flow. It is uncertain if the permits provide for this adjustment and must be verified that they do allow for revisions to the prescribed and agreed to value by the regulatory agencies and concerned parties. We would like further clarification on this issue since there was a trade-off made, apparently where more data was presented. | <p>The <i>Fisheries Act</i> authorization documentation can be provided when officially issued by the Department of Fisheries and Oceans. Flow requirements will be applied as committed within the environmental assessment and hearings. Further detail on the minimum flow requirement can be found in IR response 148 as well as Nalcor’s final submission to the Panel where potential modifications to the minimum flow were discussed. These documents have been made available to MWH.</p> <p>Minimum flow identified in the EIS and Panel documentation is 534cm/s. Flows will be applied as required through the <i>Fisheries Act</i> authorization.</p> |
| <ul style="list-style-type: none"> ASSESS TECHNICAL REQUIREMENTS AND CONSTRAINTS MWH requests clarification on what is needed to address this section of the report from Nalcor | <p>Stated in the Scope: ‘Assess the capability of the Project as designed to meet the technical requirements and constraints (e.g. operating restrictions) specified in the Project’s permits, licenses and approvals.’</p> <p>Suggestion:</p> <ul style="list-style-type: none"> The IE should review the EA requirements and Fisheries Act authorization and confirm that enforced conditions will not restrict the Project given the design. |
| <ul style="list-style-type: none"> TECHNICAL AND COMMERCIAL ISSUES We have requested of Nalcor an interpretation of what is required to be discussed within this subsection of the report. | <p>Stated in the Scope: ‘Address the technical and commercial issues arising from zoning, local municipality requirements or other agencies having jurisdiction over the Project’</p> <p>Suggestion:</p> <ul style="list-style-type: none"> The majority of the Project is on Crown Land with the exception of small lengths of the HVdc line HVdc land acquisition/expropriation |
| <ul style="list-style-type: none"> STATUS AND COST OF REMEDIAL ACTIVITIES MWH has requested additional information from Nalcor to allow us to review the proposed cost of any remediation that is required to be performed. | <p>Remedial activities associated with the main site at Muskrat Falls, including the main camp are addressed in the Site Restoration Contract (CH0029). The budget, RFP and contract for these activities can be provided as available.</p> <p>Other remedial activities include progressive site restoration to be completed by the contractor responsible for the scope. These details can be found in the individual contracts.</p> |



**DOCUMENT REVIEW
Comment Sheet (Cont'd)**

Summary of studies to be performed during construction

Large Mammals

Scope of Work

Bears

Nalcor will execute a bear monitoring program for construction phase, based on the Bear Protection and Environmental Effects Monitoring Plan (BBPEEMP), Document number LCP-PT-MD-0000-EV-PL-0006-01. This program will include a survey program based on methods prescribed in the Bear PEEMP and may include liaison with appropriate regulatory agencies. The program will be consistent with the requirements and commitments of the EA, with the understanding that the program may be adjusted (i.e. GPS/VHS collaring surveys or suggested alternative). The Protection and Environmental Effects Monitoring Plan for bears will be submitted to the Department of Environment and Conservation in fulfillment of the Lower Churchill Hydroelectric Generation Project Order *LCHGPO*. Any comments received during this review will be incorporated into the proposed program, where appropriate.

Moose

Nalcor will execute a program detailed in the Moose PEEMP (to be developed). The program will be consistent with the requirements and commitments of the EA, with the understanding that the program may be adjusted (i.e. winter aerial and ground or GPS telemetry surveys of moose in key wintering areas and areas where habitat is altered). These programs may include liaison with appropriate regulatory agencies. The PEEMP for moose will be submitted to the Department of Environment and Conservation in fulfillment of the *LCHGPO*. Any comments received during this review will be incorporated into the proposed program, where appropriate.

Caribou

Scope of Work

Nalcor will execute the program outlined in the Caribou Protection and Environmental Effects Monitoring Plan (CPEEMP), Document number LCP-PT-MD-0000-EV-PL-00005-01. This program will include the following activities:

- Ground and aerial surveys triggered by the proximity of caribou to the Project area;
- Interpretation of data;
- liaison with the Wildlife Division regarding protocols and reporting; and



**DOCUMENT REVIEW
Comment Sheet (Cont'd)**

- Implementation of mitigation measures, if required.

This scope will include liaison with the Wildlife Division regarding Nalcor support of GPS/VHS collaring programs in Labrador to capture behavior data during the construction phase of the Project. The Caribou PEEMP has been submitted to the Department of Environment and Conservation in fulfillment of the *LCHGPO*, and therefore is subject to amendment.

Furbearers

Scope of Work

Nalcor will execute programs detailed in the Furbearers PEEMP (to be developed). The program will be consistent with the requirements and commitments of the EA, with the understanding that the program may be adjusted. These programs may include liaison with appropriate regulatory agencies. The PEEMP for furbearers will be submitted to the Department of Environment and Conservation in fulfillment of the *LCHGPO*. Any comments received during this review will be incorporated into the proposed program, where appropriate.



**DOCUMENT REVIEW
Comment Sheet (Cont'd)**

Otter

Nalcor will execute a program consistent with the PEEMP (to be developed) for monitoring population levels in the lower Churchill River valley to capture behavior data during the construction phase of the Project. This proposal will include coordination with the methylmercury eco-risk study.

Porcupine

Nalcor will execute a program consistent with the PEEMP (to be developed) for determining the presence of porcupine in the Project area based on transect surveys for winter tracks and analyzing trapping data pre- and post-Project and proposing follow-up where appropriate.

Pine Marten

Nalcor will execute a program consistent with the PEEMP (to be developed) for determining the presence of pine marten in the Project area based on analyzing trapping data pre- and post-Project and proposing follow-up where appropriate.

Beavers

Nalcor will develop and execute a program consistent with the PEEMP (to be developed) for verifying the presence of beaver in the lower Churchill River valley based on periodic surveys. A contingency plan for the relocation of beaver colonies will be included in this scope.

Avifauna

Scope of Work

The Project currently executes extensive avifauna surveys during the nesting season to remain in compliance with the *Migratory Birds Convention Act* and protect Species at Risk and other species in the Project area.

Nalcor will execute the avifauna monitoring plan for construction phase, based on the Avifauna Protection and Environmental Effects Monitoring Plan (APEEMP) Document number LCP-PT-MD-0000-EV-PL-0004-01.

The scope will include the following, as described in the APEEMP:

- point count breeding bird surveys



**DOCUMENT REVIEW
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- waterfowl-ashkui surveys

Small Mammals

Scope of Work

The Nalcor will execute programs detailed in the Small Mammals PEEMP (to be developed following award). The program for verifying the presence of the woodland jumping mouse, water shrew, and pigmy shrew in the Project area will be based on periodic surveys. For the purpose of this RFP the proposal should be consistent with the requirements and commitments of the EA, with the understanding that the program may be adjusted. These programs may include liaison with appropriate regulatory agencies. The PEEMP for small mammals will be submitted to the Department of Environment and Conservation in fulfillment of the *LCHGPO*. Any comments received during this review will be incorporated into the proposed program, where appropriate.

Methylmercury Eco-Risk

Scope of Work

Nalcor will execute programs detailed in the Avifauna PEEMP (attached) and the Fubearers PEEMP (to be developed). The program for measuring methylmercury concentrations in the Project area is outlined in the Avifauna PEEMP. With respect to otter methylmercury concentrations, the program will be consistent with the requirements and commitments of the EA, with the understanding that the program may be adjusted. These programs may include liaison with appropriate regulatory agencies. The PEEMPs for Avifauna and Furbearers will be submitted to the Department of Environment and Conservation in fulfillment of the *LCHGPO*. Any comments received during this review will be incorporated into the proposed program, where appropriate.

Osprey mercury program

Potential exposure of Osprey to increased mercury levels resulting from the construction and operation of the proposed Project (i.e., creation of the reservoir) will be assessed through a phased approach that considers the following:

- the available habitat, and thereby, the local population that could be exposed during sensitive life stages (i.e., nesting period);
- increases in fish tissue residues, if any, as a result of the Project; and
- accumulation of mercury by Osprey under future exposure conditions.



**DOCUMENT REVIEW
Comment Sheet (Cont'd)**

Otter mercury program

Survey protocol will be based on the developed PEEMP and liaison with the appropriate regulatory agencies.

Regionally Uncommon Plants

Scope of Work

The program will include a field program designed to identify additional locations outside the Project footprint of the 9 potentially regionally uncommon species. Details regarding experience and expertise in identifying vegetation in the Project area, and/or other northern regions, should be included.

Historic Resources Management

Scope of Work

Muskkrat Falls and Labrador Transmission Assets

Through the EA process a number of commitments and requirements have been made related to the protection of historic resources. Nalcor will execute a historic resources management program which will consist of Stage 1, 2 and 3 assessments. Previous assessments have identified historic resources throughout the Project area that will require appropriate recovery.

Stage 1 Assessment

Limited Stage 1 assessment may be required for additional Project footprint not previously identified or assessed. The required assessments will be identified on an as needed basis. Stage 1 assessment will consist of:

- Desk top review of proposed area;
- Determination of areas with high historic resources potential and develop a Stage 2 assessment work scope; and
- In areas assessed to be low potential, summarize findings and submit to the Provincial Archaeology Office (PAO).

Stage 2 Assessment

Limited Stage 2 assessment may be required (as above) for areas identified as having high potential. Stage 2 assessment will consist of:

- Submission and receipt of necessary permits from the PAO;
- Field testing of sites;
- Reporting on findings; and



**DOCUMENT REVIEW
Comment Sheet (Cont'd)**

- Developing a Stage 3 assessment work scope.

Stage 3 Assessment

Stage 3 assessment will consist of recovery of known historic sites as per the specifications outlined in the EA, to the satisfaction of the PAO and in support of the Project schedule.

Mitigation of known historic sites in advance of construction activities will primarily be required for reservoir preparation and in support of impoundment activities and will consist of the following mitigations:

- SDR - systematic data recovery (excavation);
- AFR - additional field recording;
- SFR - systematic field recording; and
- SS - subsurface sampling.

Identified Historic Resources to be Recovered

| Schedule | Mitigation | Sites |
|-------------------|------------|---------|
| 2013 Field Season | SFR, SS | FhCe-02 |
| | SDR | FhCe-03 |
| | SDR | FhCe-28 |
| | SDR | FhCe-29 |
| | SDR | FhCe-30 |
| | SDR | FhCe-31 |
| | SDR | FhCe-32 |
| | SDR | FhCe-33 |
| | SDR | FhCe-34 |
| | SDR | FhCe-35 |
| 2014 Field Season | SDR | FhCe-06 |



**DOCUMENT REVIEW
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| | | |
|------------------------|---------|---------|
| | AFR | FhCf-01 |
| | SDR | FhCf-03 |
| | SDR | FgCg-03 |
| 2015/2016 Field Season | SDR | FhCe-11 |
| | SDR | FgCg-01 |
| | SDR | FgCg-02 |
| | SDR, SS | FgCg-04 |
| | SDR | FgCg-05 |
| | SDR | FgCg-06 |
| | SDR | FgCg-07 |
| | AFR | FgCg-08 |
| | SDR | FfCh-01 |
| | SDR | FfCh-02 |
| | SDR | FgCh-01 |
| | SDR | FgCh-02 |
| | SDR | FgCh-03 |
| | SDR | FgCh-04 |
| | SDR | FgCh-05 |
| | SFR,SS | FgCh-06 |
| | SDR | FfCi-01 |
| | SDR | FfCi-02 |
| SDR | FfCi-05 | |

Historic Resources Assessment approach is subject to change based on guidance from the Provincial Archaeology Office.

Ice Surveying
Work Scope



**DOCUMENT REVIEW
Comment Sheet (Cont'd)**

Nalcor has committed to surveying ice formation in the Lower Churchill River pre- and post-impoundment. The objective of the program will be to develop and implement an ice surveying field program to be completed during Project construction to confirm baseline conditions.

The following methods that may be included in this scope:

- Daily review of images from the Mud Lake webcam.
- Daily helicopter surveys during the critical ice formation process at Mud Lake and the subsequent strengthening of the ice cover on which Mud Lake residents can safely travel by snowmobile. Observations may span the reach between Mud Lake and Muskrat Falls and observe the progression of the ice front. Communications with residents has proven to be very effective in planning helicopter surveys during the freeze-up process.
- The spring break-up may be surveyed via helicopter surveys during the break-up process.
- Estimation of ice floe concentration via analysis of photographs taken during helicopter surveys (during the period between the start of ice formation and the formation of the ice bridge at Mud Lake). Concentration may be estimated using previous ice observation programs.
- Acquisition and interpretation of radar satellite imagery at a frequency of once every 2 days from November 1 - December 31 to determine ice formation at Mud Lake, and again from April 15 to June 10 to monitor the break-up process (collection period should be adequate to span the ice formation and break-up period and should be adjusted if necessary).
- Estimates of ice floe velocity using the updated hydraulic model of the river.
- It is proposed to obtain the above noted estimates of volumetric flow rate at 4 locations:
 - Upstream of Muskrat Falls
 - Downstream of Muskrat Falls
 - Downstream of Blackrock Bridge
 - Close to Mud Lake Crossing
- Once the ice bridge at Mud Lake has formed and the crossing is marked and safe to cross, ice thickness measurements may be obtained at locations along the crossing.
- Ice cores may be gathered and interpreted along the Mud Lake crossing in an effort to gain a better understanding of the mechanisms leading to the formation of a stable ice cover at Mud Lake. It would be assumed that cores will be gathered along one representative cross section of the river.

Groundwater Sampling Scope of Work

Limited groundwater sampling at select locations may be needed in the community of Mud Lake and to support technical design requirements.



DOCUMENT REVIEW Comment Sheet (Cont'd)

Specific components of this Study prior to impoundment may include:

- Conducting a water quality survey to assess the baseline conditions of the drinking water at each accessible home in Mud Lake;
- Survey of existing groundwater wells (approximately six in total) at various locations within Mud Lake to gauge the water table elevations;
- Collecting potable water samples from the most common tap source in accessible houses within the community;
- Submitting water samples for analyses of bacteriological parameters and for analyses of general chemistry and metals parameters;
- Comparing the laboratory results to the Guidelines for Canadian Drinking Water Quality (GCDWQ);
- Providing a report at the completion of the survey, summarizing findings.

Specific components of this Study during impoundment (estimated time frame two weeks) may include:

- Conducting a water quality survey to assess the conditions of the drinking water at each accessible home in Mud Lake during impoundment.
- Survey of existing groundwater wells at various locations within Mud Lake to gauge the water table elevations.
- Collecting potable water samples from the most common tap source in accessible houses within the community. Submitting water samples for analyses of bacteriological parameters and for general chemistry and metals parameters. Sample results will be required within 24-48 hours;
- Comparing the laboratory results to the Guidelines for Canadian Drinking Water Quality (GCDWQ).
- Providing a daily report on findings and a program report upon completion of the survey.

Human Health Risk Assessment

Scope of Work

LCP has produced an interim Human Health Risk Assessment to address the requirements of the environmental assessment process. This assessment was based on a food consumption data obtained from the community of Sheshatshui, fish sampling programs and associated predictions, and a literature review.

Nalcor will be required to develop and implement the following:

- HHRA execution plan, including:
 - Aboriginal engagement
 - Community consultation
 - Communications plan for dietary and hair sampling program
 - Sampling procedures
 - Reporting
- Dietary survey program



**DOCUMENT REVIEW
Comment Sheet (Cont'd)**

- Hair sampling program
- Data analysis and report

Nalcor will use updated mercury data and peak predictions from the continuing aquatics baseline program.

It should be noted that this program will require a high level of coordination with Aboriginal groups to fulfill the requirements of the environmental assessment. The specific programs will be developed in collaboration with relevant regulatory authorities. It is presently envisioned that some programs will be multi-year, with the frequency and duration dependent on the environmental attribute being monitored.

Raj Kaushik Comments

Section 3.2.1

- Change all occurrences of “probably” to “probable”

Section 3.2.1, 4th sentence

- Actual Cap: GS approx. 16,750, OFS approx. 13,000. Total = 29,750

Section 3.2.3

- Paragraph 6 – This loss was included 0.42 m at full load. (Bob Besaw)
- Paragraph 7 – The model values are a little higher than the guaranteed values (Bob Besaw)

Table 3-2

- Item No. 3 – Will confirm (Bob Besaw)
- Item No. 4 – Will confirm (Bob Besaw)

Table 4-3 Contract CH0030 (Bob Besaw)



**DOCUMENT REVIEW
Comment Sheet (Cont'd)**

- Item No. 2 – Refer to questions 23, 24, 26
- Item No. 3 – Refer to question 7
- Item No. 4 – IPS available end of 2013
- Item No. 8 – Refer to question 6
- Item No. 13 – Comment “A buyout provision is provided for a situation where pitting occurs again after the first 40,000 hour period..” this statement is not true.
- Item No. 16 – 19 – IPS will be available by the end of 2013
- Item No. 19 – Refer to questions 23, 26

Section 6.1.1

- 1st paragraph – RFO Manager (Bob Barnes) to confirm this.

Table 6-4

- General – spell check table

Table 6-6 Proposed Staffing Levels for St. John’s Corp. Head Office

- 6th line – I presume this number is the additional required for the Environment Department. Ok in my opinion to cover the additional work (compare to the number already in the department and their geographic area)

NE-LCP Lead Reviewer: James Meaney

Date: 7-JUN-2013

For Contractor: _____

Date: _____



**DOCUMENT REVIEW
Comment Sheet (Cont'd)**