

Fred Martin

From: Fred Martin
Sent: January-16-12 9:46 AM
To: Maureen Greene; Sam Banfield
Subject: FW: Changes to the CPW section(s)

For your information.

From: Paul Wilson [<mailto:plwilson@mhi.ca>]
Sent: January-13-12 8:44 PM
To: Fred Martin
Subject: FW: Changes to the CPW section(s)

Hello Fred, as a result of the conference call with Nalcor on Thursday, Rick Horocholyn has revised the report and we are now in agreement with Nalcor's findings. Rick has outlined the changes made to Volume 2 which I will review this weekend.

For Volume 2, Al Snyder and I completed section 1 through 8 and will continue with 9 through 12 on Monday.

Have a good weekend and stay warm and dry.

Regards,
Paul Wilson

From: Horocholyn, Rick [<mailto:rhoro@hydro.mb.ca>]
Sent: January-13-12 1:40 PM
To: Paul Wilson
Cc: 'Mack Kast' (mkast@ [REDACTED])
Subject: Changes to the CPW section(s)

Paul, I updated volume 1, Section 7.2 PPA vs COS Approach. The last sentence:

"Final results will be assessed following a review of RFI responses."

has been replaced with:

"Using an 8% interest rate for calculating AFUDC, the CPW using a COS approach is approximately 70m lower than by using the PPA approach, but also results in relatively higher unit energy costs to NLH ratepayers from Muskrat Falls in-service in 2017, to 2028. From 2029 and on, the COS approach has lower rates."

Volume 2 was also updated. The description text and figures related to Table 34 were revised to reflect an Infeed Option CPW of 6.58, instead of the original 5.87 in the COS column, with the resulting gap revised to be 2.23 (70m different than the PPA column). The text description for the COS column in Table 34 now reads:

"Column 2 reflects including all assets on a cost of service basis, including the capital expenditures associated with MF, and AFUDC at 8% (column 1 is unchanged for the Isolated Island Option as this was already an entirely COS-based calculation)."

I updated Figures 23 and 24 (Comparative Annual Costs, and Comparative NLH Rates) to reflect the higher fixed cost (COS option) with the inclusion of AFUDC in the in-service amount for MF, and made a few small wording changes in the paragraph describing these Figures. The last paragraph in Section 12.3 Basis for Discounting Costs, now reads:

"Nalcor has argued that the PPA approach for MF costing is preferable because the PPA formula ensures that the ratepayer is not overly burdened in the earlier years by a **rate shock resulting from the use of the COS methodology**. The COS approach front-end loads the capital costs and can only spread them over a smaller energy load that is only 40% of MF's firm energy in 2017. **The COS approach allows no recognition for export revenues available from Muskrat Falls capacity in excess of NLH's own requirements.** Also since the MF plant is not owned by NLH, it is consistent for NLH to treat power supplied from this facility no differently than power that is supplied by other independent providers, which is purchased under PPAs. "

The bold-face text in the above paragraph is used in this email only, to mark the new wording I've added. (not visible if you read this email in plain text mode)

Rick

Please provide the spreadsheet model used and referenced
in response to PUB Nelson-46. When? Get prepared!

RB/PH/SQ/AD

RH/AS/PW

FM.

AD outline - comparable to 8.4% IRR

RH - treat M&E as any other asset. - fixed costs / O&M
costs - same as h/L.

AD - possible ex. - 8.4% over fixed investment
AECDC

Full cost. period - capitalizing AECDC @ 8.4%

\$2.9 B. \$120 million (nominal)

\$3.65 Billion - no service cost.

Present Value Basis = \$500 million -

NOTE: (Sounds like the issue was identified and
resolved in Nelson's favour - 10 mins)

~~_____~~

Fred Martin

From: Paul Wilson [plwilson@mhi.ca]
Sent: January-10-12 2:06 PM
To: Fred Martin
Cc: Mack Kast (mkast@[REDACTED]); Rick Horocholyn (rhoro@mhi.mb.ca); Allen Snyder (amsnyder@[REDACTED])
Subject: RFI on COS calculations

Hi Fred, I discussed this item with Rick this morning and he felt that there would be little gained from having a conversation with Nalcor unless they disclosed their spreadsheet model used to calculate the results from RFI PUB-Nalcor-46. With the model, Rick could examine how Nalcor performed the calculation and thus determine what is different in the MHI analysis. Rick would then be in a position to ask informed questions of Nalcor.

A new RFI should be asked as follows:

"In PUB-Nalcor-46, Muskrat Falls cost of power in the first year is \$214/MWh when a full cost of service model is used. Please provide this spreadsheet model that was used to determine this result."

Please note, any telephone conversation between Rick and Nalcor would have to happen before this Friday as Rick is out of country for two weeks, and then unavailable the week following.

Regards,

Paul Wilson, P. Eng.
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Prepare for/Case P. Wilson - Notes - January 17/12

- ① Volume 2 schedule.
- ② my e-mail on RFE responses for MHS review
- ③ Our review of latest Vol. 1 with significant input from Commissioners.
 - "cold eyes" - first time
 - several suggestions as well as numerous minor corrections.
 - Major items so far (MHS/CM - have marked up "Exec Summary".
 - title change - impact on covers??
 - common phrases throughout e.g., "holmesdor Island hunk Hdc project." "Polywood Thermal Generating Station".
 - small section probably in "Scope of Work and Report Structure" on PACE extension & Decision Gate process - we will draft something.
 - Key findings - BDE 3-phase fault - required? if so, need more in Vol. 1.
 - 1:500 for 3:30 in remote area or just to a higher load center.
 - CPW findings (spell out CPW in Exec Sum.)
 - keep up a bit - we have drafted.
 - Dual load forecast - not key find - leave in Vol. 1
 - W&MC Study

Not a
key finding?

"enhanced"

Items to discuss with P. Wilson - Jan. 2/12

✓ flying to Winnipeg tomorrow afternoon - in your office Wednesday morning. - leaving Sat., is okay?

- will e-mail marked up version of Vol. 1 tomorrow morning

- Reliability section is too long and too complex.

- separate in Vol. 1 (whet) and Vol. 2 (chaff)

- other items for discussion

- status / schedule for Vol. 2.

- Can we have a draft by next Saturday Jan. 7 or Monday, January 9? - needs to be in good shape! (could wait to Jan. 13 if in good shape!)

- discuss items required for DG3 - may wish to include in Exec. Summary and/or Vol. 1 Conclusion.

- discussion with someone on reliability - particularly probabilistic analysis - paper in layman terms would be very helpful.

- the next draft has to be very good !!

✓ recommended hotels relatively close to the office

Conrad

- Holiday Inn South

- Clarion Inn.
- !!

✓ weather conditions - dress code - etc

- status of RFI log.

- possible presentation to Board ?

Points for discussion with P. Wilson on latest draft of MH3 report. - Dec. 29/11

- somewhat better but still significant changes required.
 - items accepted before now deleted and replaced with other items not acceptable
 - some suggestions for edits / modifications ignored (or not accepted without discussion).
 - logical order of sections has been fixed.
 - Conclusions section of Executive Summary needs significant changes. - Nalen's work overall generally in accordance with standard utility practices, however,
 - reliability.
 - H/de line loading criteria.
 - ac integration studies
 - NERC standards
 - steady-state general.
- issues and remedies!

- Load Forecast - changed - was better before
- Reliability section - far too complicated - neither Sam nor I understand specifically what is being done by Nalen - how it differs from what should be done - and the potential significance of this issue - "Major gap"

Prepare for/call P. Wilson on COS sensitivity assessment, etc.

- Mawson suggests the following steps
Fred to confirm with P. Wilson / R. Hoochlyn that we want to follow up. - we suggest we do.
- Paul confirms with me. - I confirm with Mawson
- < - Mawson discusses with T. O'Reilly and clears way for Fred to call G. Bennett.
- Fred calls Gilbert to explain the issue and gets name of Nelson rep who Rick could talk to for clarification.
- Fred notifies Paul who notifies Rick.
- Rick makes the call and follows up with a call / e-mail re results of discussion.
- What is status of Final Draft Report?

Jan. 9/12

Point for call to P. Wilson - December 21, 2011

11/ Status of Interim Report:

Vol. 1 ✓ Final

Vol. 2 - Probably between Christmas & New Year

Paul working
Dec. 29/30

✓ 2/ Board to see final draft so may need this next "final Interim Report" for our input - then Final Draft for Board review - then final report for public posting on or before Jan. 27/12. Paul 29/30

✓ 3/ Board required 25 copies of "Final Report" - probably best in 3-ring binder - same as Nader's submission and Nergiz's Report. + electronic version.

✓ 4/ Government has confirmed that the Board's Report is due by March 31/12 - no further extension.
- Board is reviewing this to determine how it can be achieved given MHI's report published Jan. 27/12.

✓ 5/ No "Genuine Stamp" is required on the report.

✓ 6/ Feeling this that the Report is too glowing of Nader especially in light of some "shortcomings"

Statements such as Nader's good environmental stewardship and good alignment with Government's Energy Plan not necessary - let the Board draw such conclusions.

✓ 7/ Mack and Ricks' review of POB-86-89 - "rule setting" to be covered in the Report.

RFI log - "all RFI responses reviewed?" By Jan 27

✓ 8/ Acceptance of C-CORE's iceberg modeling and results?

✓ 9/ No 50% exceedances of 25,000 tonnes even with 3 units at full load.

Notes for case of Paul Wilson - December 19, 2011

- Final review of RFI log including PJB and CA RFIs but most particularly MHI's. Don't know.
- Status of ~~the~~ MHI Final Draft Report (Dec. 23/11 ??)
- Update re Government's Order in Council re PJB Report by March 31/11 and PJB response (see website)
- Review comments on redraft of 1st 96 pages.
- Discuss inclusion of "Reliability Review" as Appendix in Final Draft Report.
 - Review significant comments.
- Discuss status of redraft of Thermal Section.
- Discuss status of all Appendices.
- Discuss "Key findings" particularly any missing!
- Re-state expectations from PJB, Government, Consumer Advocate and Public (including high profile individuals) re the quality of MHI's Final Report.

Points for Discussion with P. Wilson
on MHI Interim Report and
Exec. Summary Dated Dec. 2/11

1. Met with Maureen/Sam this afternoon on new draft of Exec. Summary
 - Maureen didn't read in detail to offer minor comments, etc.
2. ← Suggestions and issues noted in reply to last draft in many cases ignored. ^{opponent}
3. Extremely disappointed and concerned with ^{opponent} lack of effort and product to date. - Some marginal improvement but not much!
4. 'Amateurish writing'
5. No respect for our comments!
6. Focus/effort seems to have gone off this project.
 - resources?
 - what?
 - didn't realize that numerous RFI's were responded to even though I had mentioned the # of them over the last couple of weeks
7. no more minor comments - not value added
8. Can't believe that the two senior MHI individuals are going on 10 days vacation at this critical time.
9. MHI's reputation is on the line here.
10. Will not file a report like this with the Board.

Issues

1. Lack of response to suggestions e.g. results & load forecast - needed!
2. clear context in the Exec Summary for key findings and others.
3. schedule - pressure is on to deliver a final draft, quality report for the Commission no later than Jan. 15/12 - Final report Jan. 31/12
4. status of MHI's review of RFI responses?
 - who's reviewing?
 - who's reviewing Jalcor submission
 - will there probably be additional RFI's
5. Who's writing the sections

~~MH 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100~~

D6-2 { November 10 }

11:45

Points for discussion with P. Wilson:

- edits to bi-weekly report
 - complete by Nov. 30 ! ?
- person hours to date
 - Les R.
 - Allen S.
 - Mack K. - Rick H. — 675 hours. ??
 - Enrico C. et al - 156 - something good from CESI !
- proposed budget revision
 - who for presentation to the Board Staff
 - confirm airfare
 - confirm hotels
 - graphic services
 - with 72 person hours contingency, can we cap at maximum of \$692,782, unless something extraordinarily new comes up ??
(that is, less than \$700,000. ?)

- RFI log status:

- status of MHIC review of PUB and CA RFIs ?
 - any to be used in draft report?
- reviewed RFIs with yellowed "comment" heading
 - Answers requiring additional RFIs (no reference):
9, 19, 42,
Answers unsatisfactory - to be addressed in report:
4, 5, 6, 15, 21, 24, 38, 39, 44, 45, 59, 64, 65, 77, 78, 89, 95
Answers under review: 2, 3, 14, 69,

Answers unsatisfactory "but accepted" ?

42,

2-72's. Second
not correct - refers
to 73!

Discussion with P. Wilson - Oct. 21/11

- ✓ letter from Nelson - their report will be available by Nov. 10/11.
- ✓ Mack/Rick requesting more sensitivities in Batch MHI-126 to 134. Board would like to defer any additional sensitivities at this ~~time~~ time.
MHI-126 to 131 okay. - confirm with Mack/Rick.
- ✓ schedule for clarification/responses to outstanding:
MHI RFI - what about PJB and CA??
- schedule for next draft report? Final draft?
October 31? or another interim draft?
— interim draft by Nov. 7.
- comments on draft.
 - * some well written others not.
 - * overview - too much detail in body -
need to cut down to items of interest/significant
with detailed reports in each review topic
in appendix.
 - ✓ readability
- next bi-weekly report next Friday - incl. new budget, etc.

Telephone discussion
items with P. Wilson
Sept. 8/11

① Paul Wilson:

PJB RFI's going over today

- ✓✓ - copy to be sent to him
- ~~for~~ reference MHI RFI responses.

✓✓ Copy of Mack's spreadsheet on status and follow-up action required - to me.

✓✓ What is current status and when expected to be complete.

✓✓ Office space post Sept-30.

✓✓ Thermal guys response to HTGS?

✓✓ Status of engineering @ DC2?

✓✓ Pull MHI RFI's - any good to go now?

old MHI-61 Request CSE 1/5/16 MHI-44 response

✓✓ Meeting with C-Gre next week - maybe

✓✓

Environ part of NPCC

subject to New standards

✓✓

Who else in Eastern Canada?

✓✓ Overall schedule - MHI final report by Oct. 31
assuming all RFI responses, etc. are available
and acceptable - Tech Conf. probably early
January (CA schedule issues)