From: phumphries@nalcorenergy.com
To: gbennett@nlh.nl.ca; briancrawley@nalcorenergy.com
Subject: Fw: CPW analysis
Date: Friday, August 10, 2012 1:51:20 PM
Attachments: _.png
Questions Related to CPW PLF Inter 1 of August 1-12.docx

I guess nobody told Mack that there wasn't an RFI process? There's a couple of weeks work here and I don't think much of has anything to do with their scope of work.

I am not in today but I think we need to shut this one down.

Paul

Paul Humphries
Manager System Planning
Project Execution & Technical Services
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----- Forwarded by Paul Humphries/NLHydro on 08/10/2012 01:42 PM -----

From: Mack Kast <mkast@[redacted]>

To: <BrianCrawley@nalcorenergy.com>, "'Paul Wilson'" <plwilson@mhi.ca>

Cc: <GBennett@nalcorenergy.com>, <PHumphries@nalcorenergy.com>, <cbown@gov.nl.ca>

Date: 08/10/2012 12:04 PM

Subject: RE: CPW analysis

Sent by: <mkast@[redacted]>

Good morning Brian

I have prepared a number of questions, a copy of which is attached, for discussion during my visit at your offices starting Wednesday, August 15th.

Thanks for forwarding the material in advance.

Mack Kast.

From: BrianCrawley@nalcorenergy.com [mailto:BrianCrawley@nalcorenergy.com]
Sent: Wednesday, August 08, 2012 11:26 AM

To: Paul Wilson; Mack Kast; mkast@[redacted]
Cc: GBennett@nalcorenergy.com; PHumphries@nalcorenergy.com; cbown@gov.nl.ca
Subject: CPW analysis

Paul/Mack: Attached is the final CPW analysis + sensitivities.

I would like to draw your attention to the following with regards to the Interconnected option:

Since we discussed schedule, we have confirmed the following dates for the Interconnected option:

LTA Ready for Power Transmission - June 2016
LITL Ready for Power Transmission - June 2017
Unit 1 Online - July 2017
Unit 2 Online - September 2017
Unit 3 Online - October 2017
Unit 4 Online - December 2017

With regards to the Interconnected cost estimates, I note that Nalcor will no longer be converting Holyrood units 1 and 2 into synch condensers. Instead we will increase the Soldiers Pond units to 3 X 175 MVARS. This has been incorporated into the project capital cost estimate and the attached CPW analysis.

In addition, two changes were made to the Isolated Island capital costs following discussions with the authors of the reports. These changes relate to the Holyrood life extensions and the Holyrood Scrubbers and Precipitators as summarized in the table below.

Code	Description	Total Capital Cost ($2012) DG3 Rev1	Total Capital Cost ($2012) DG3 Rev2
ESP1	Holyrood ESP - Units 1&2	487,704,806	550,354,893
HRD1	Holyrood Refurbishment1	353,000,000	417,483,765

Scrubbers and Precipitators - This cost estimate update involved the addition of an additional 8.5% in Owners Costs and an increase in contingency from 15% to 20% and was provided by Stantec.

Holyrood Life Extensions - A contingency of 15% was added to the cost estimate by AMEC.

Lastly, the Isolated Generation Expansion Plan fully incorporates the recommendations of the Hatch wind study.

Pls. advise if you have any questions.
Thanks
Brian

Brian Crawley
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Questions Related to CPW PLF Inter 1 of August 1-12.docx

PLF12 Inter 1 CPW Analysis 2012 August 1

Questions for Discussion

1. Please provide a high level reconciliation of the CPW for each of the two Options between DG2 (prior report) and DG3 (current update).

2. Energy Units
    a. Do energy units sold for Infeed Option match those of the Isolated Island Option?
    b. Has any consideration been given to the effect of price elasticity on energy units sold between the two Options?

3. Please identify a likely range by which you believe the Newfoundland/Labrador Load Forecast could vary looking into the future and conduct a CPW sensitivity around these ranges.

4. What is the basis for Loss Percentage factor of 5.15% for the Infeed Option?

5. Please provide the source document for the Fuel Forecast (#2 and #6 fuels).

6. What is the basis for the change in unit fuel prices extending from the end of PIRA forecast to 2067?

7. Please comment on #6 fuel being phased out in 2037 for the Isolated Island compared to 2018 for the Infeed Option.

8. Have the asset lives for either of the two Options been changed between DG2 and DG3?

9. Recognizing the probability spread for AACE Class 3 is +30% and -20%, please conduct a CPW sensitivity run for each of the two spreads for the Infeed Option (MF and LIL).

10. Have the Isolated Island costs been identified to a DG3 level?

11. Relative to DG2, to what extent were the capex cost estimate increases for MF and LIL for DG3 off-set by a reduced level of contingency allowance?

12. Please provide the derivation of the $65.38/MWh (2010 $) to be paid for power purchases from MF for DG3. Please reconcile this amount to the $76.00/MWh (2010 $) used for DG2.

13. Please comment on the revised discount rate of 7.0% used for DG3 relative to the 8.0% used for DG2.

14. It appears 6.25% was used for AFUDC for DG3. Please comment on rate relative to DG2.

15. Please provide rationale for the 2.0% inflation factor applied to the power purchase cost for the Infeed Option.

16. Please comment on the reduced Rate of Return on Rate Base from 8.0% (DG2) relative to 7.0% (DG3). Please comment on the impact of the reduced RORB for DG3.

17. Has the Federal Loan Guarantee for MF and LIL been signed? If not, please consider conducting a CPW sensitivity analysis based on not having the guarantee.

18. For the Infeed Option, please comment on the drop in "Power Purchases – Other" between 2028 and 2029.

19. Please comment on the extent to which the Infeed Option contemplates the purchase of power from the Upper Churchill Falls power facility.