

1 **SUBJECT: Wind Costs**

2
3 **REFERENCE: Pages 3A-26;**

4 http://www.pub.gov.mb.ca/nfat/lc_alternative_resource_plans_jan_29_2014.pdf

5
6 **PREAMBLE:** "LCA's wind assumptions for this analysis are included in the table
7 below. ... Capital Costs ... \$1750"

8
9 **QUESTION:**

10 Did LCA's wind capital cost assumption of \$1,750/kW include or exclude substation and/or
11 interconnection expenses?

12
13 **RESPONSE:**

14 LCA's wind capital cost assumption of \$1750/KW includes substation and interconnection
15 expenses.

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2
3 **REFERENCE: Page 2-9;**

4 http://www.pub.gov.mb.ca/nfat/lc_generation_alternatives_jan_27_2014.pdf

5
6 **PREAMBLE:** "The US Department of Energy report also looked at regional
7 difference for project costs in the United States. It found that the capacity
8 weighted average installed costs for projects in the interior region, which includes
9 the central portion of the country from Montana, Minnesota, and North Dakota
10 south to Texas and New Mexico, were about \$1,750 in 2012 including
11 transmission interconnection costs."
12

13 **QUESTION:**

14 Please confirm that LCA's wind capital cost of \$1,750/kW used in its Sensitivity Analysis in its
15 Appendix 3A was based on, or intended to be consistent with, the DoE's average installed cost
16 for the interior region. If not, please provide the basis for this sensitivity analysis assumption.
17

18 **RESPONSE:**

19 LCA's wind capital cost estimate of \$1,750/KW was intended to be consistent with DOE's
20 average installed costs for the interior region.

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3 **REFERENCE:**

4 [http://www.hydro.mb.ca/projects/development_plan/bc_documents/new/la_](http://www.hydro.mb.ca/projects/development_plan/bc_documents/new/la_capra_round_1_responses.pdf)
5 [capra_round_1_responses.pdf](http://www.hydro.mb.ca/projects/development_plan/bc_documents/new/la_capra_round_1_responses.pdf) and
6 [http://www.hydro.mb.ca/projects/development_plan/bc_documents/lca/lca_308_at](http://www.hydro.mb.ca/projects/development_plan/bc_documents/lca/lca_308_attachment_1.xlsx)
7 [tachment_1.xlsx](http://www.hydro.mb.ca/projects/development_plan/bc_documents/lca/lca_308_attachment_1.xlsx)
8

9 **PREAMBLE:** In response to Information Request LCA/MH I-308, MH provided a
10 spreadsheet containing calculations of the Levelized Cost of Energy (LCOE) of each
11 technology screened in Chapter 7, including various configurations of on-shore
12 wind.
13

14 **QUESTION:**

15 Did LCA review the assumptions contained in spreadsheet lca_308_attachment_1.xlsx, sheets
16 16 through 23, in particular those regarding operating costs and wind integration costs? Does
17 LCA have any comments regarding these assumptions, in particular regarding their
18 reasonableness and their consistency with the NFAT application document?
19

20 **RESPONSE:**

21 The spreadsheet referenced in the question is the spreadsheet for MH's LCOE calculations.
22 Given that offshore wind was screened in after the LCOE, we focused on the assumptions used
23 in the NFAT analysis. We found the wind operating costs and wind integration assumptions
24 used in the NFAT analysis to be reasonable.