

NEEDS FOR AND ALTERNATIVES TO (NFAT)**Manitoba Hydro Undertaking #39**

Manitoba Hydro to provide an explanation of the difference between the fixed O&M costs of \$39.55/kW/year and \$46.99/kW/year.

Response:

The fixed O&M cost of \$39.55/kW/year (2012\$) for onshore wind resource options as presented in Appendix 7.2 of the NFAT submission was used in high level resource option screening as described in Chapter 7 of the NFAT Business Case. This O&M cost was obtained from the U.S. Energy Information Administration (EIA) document “Updated Capital Cost Estimates for Utility Scale Electricity Generating Plants” dated April 2013. This report is publically available and accessible using the following link:

http://www.eia.gov/forecasts/capitalcost/pdf/updated_capcost.pdf

The fixed O&M cost of \$46/kW/year (2012\$) was used in the economic analysis. This value is based on O&M costs obtained from the Electric Power Research Institute (EPRI) Renewable Energy Technology Guide 2012, which is unavailable for public release. The \$46/kW/year represents the average of the low case cost for plant owner provided O&M (\$40/kW/year) and the high case cost for contracted-out service provided O&M (\$52/kW/year). Manitoba Hydro would expect to undertake a combination of plant owner provided and contracted-out O&M and considers the average of the EPRI values to be representative of future costs.