MMF/MPA 1-001

REFERENCE:

PREAMBLE:

QUESTION:

Referring to the discussion of Potomac Economics, did MPA perform any model runs of the Resource Plans using the energy prices forecast by Potomac Economics? If so, please describe the results.

RESPONSE:

No, MPA did not perform any model runs using energy prices forecast by Potomac Economics.

Please see PUB/MPA 1-010 for a more detailed discussion of this issue.

MMF/MPA 1-002

REFERENCE:

PREAMBLE:

QUESTION:

Referring to the discussion at page 42 of the sunk costs of Bipole III and Keeyask and Conawapa, please state whether MPA ran any model runs of any of the Resource Plans without any or some of these sunk costs. If so, please provide the results of these model runs in a format similar to Figure 6 on page 41.

RESPONSE:

No, MPA did not perform any model runs which did not include some or all of the sunk costs discussed on page 42.

Please see PUB/MPA 1-014 for a more detailed discussion of this issue.

MMF/MPA 1-003

REFERENCE:

PREAMBLE:

QUESTION:

Referring to the discussion at page 66 of the length of the study period, what time period does MPA normally use to analyze future plans? Is 48 years a normal length for a financial evaluation and/or financial forecast?

RESPONSE:

In MPA's experience 48 years is not a typical period of time for a financial model in the utility or energy infrastructure sectors.

Financial models for commercial analysis and valuation purposes are typically structured to reflect the nature of the business or assets in question. For example, for a wind farm or solar energy facility with a typical life of 25 years – and often fully contracted for 20 or 25 years – a financial model typically would be 25 years in length, to capture the full life of the asset (and avoid the need for a terminal value calculation).

For a regulated "wires" utility providing distribution or transmission service in which assets are replaced from time to time, a typical financial model would be long enough to capture at least three full regulatory cycles: i.e., in a jurisdiction with rates set on a 4-year basis, a financial model should be at least 15 years in length in order to average out any unique short term features, and reach a year which might be considered "average". The concluding element to the model would be a "terminal value" which is often calculated in several different ways in order to capture the uncertainty of value in the more distant future.

Resource plans or system plans around the world typically capture longer periods of time, but seldom at the level of detail that allows for financial modeling. Detailed pricing estimates often only extend for 10 or 20 years.

The challenge with financial models that extend decades into the future is the number of assumptions that must be made, and the uncertainty regarding the validity of those assumptions. As has been noted in the NFAT process, many estimates included in financial and "real dollar" models have simply been "straight line" extensions of near term estimates. These do not provide predictions about the future in a meaningful sense, but merely serve to allow for the testing of various cases.

For additional discussion of this issue, please see PUB/MPA 1-017(a).

MMF/MPA 1-004

REFERENCE:

PREAMBLE:

QUESTION:

Referring to page Section 5.1.1 at pages 64-66 on Cost of Capital, did MPA perform any model runs using different cost of capital figures than those used by Manitoba Hydro? If so, please show the components used as shown in Figure 19, and describe the results of any anlaysis.

RESPONSE:

MPA did not perform additional model runs with alternative WACCs. Manitoba Hydro provided three nominal dollar WACC cases which MPA incorporated into multiple model runs: 9.70%, 7.05%, and 4.40%. The model outputs that result from these three cases allow for an understanding of the sensitivity of the various Plans to WACC assumptions (which include inflation rate assumptions, interest rate assumptions, etc.). Additional WACC cases would simply provide more detail on that sensitivity (i.e., more points on the curve), but could not practically be completed in the time available in the NFAT process.

In addition, it should be noted that the WACC assumptions do not actually reflect the real cost of capital in the model runs. The WACC assumptions are based on a nominal 75:25 debt to equity ratio for the capital structure of Manitoba Hydro. In fact, for a substantial portion of the model that capital structure will not be achieved. Also, since the only source of equity capital for Manitoba Hydro is retained earnings, and these fluctuate dramatically from year to year (generally with hydrology), it is difficult to closely connect the WACC assumption to experience in any model run.

MMF/MPA 1-005

REFERENCE:

PREAMBLE:

QUESTION:

Based upon Table 9 at page 74, would MPA agree that Plans 12 and 14 appear to have the most risk, or the most sensitivity to variables?

RESPONSE:

If "risk" is defined in terms of volatility of cash flows, then Plans 12 and 14 appear to have the greatest cash flow volatility related to a variety of variables, including hydrology, interest rates, export prices, etc.

An alternative measurement of "risk" may be related to the question of whether cash flows will be insufficient for Manitoba Hydro to remain "financially self-supporting". In this case, then Plans 12 and 14 appear to be more exposed to this risk than other Resource Plans in the first 20 years of the planning horizon, but less exposed than other Plans in subsequent decades.