

MANITOBA

Board Order 5/12

THE PUBLIC UTILITIES BOARD ACT

THE MANITOBA HYDRO ACT

**THE CROWN CORPORATIONS PUBLIC
REVIEW AND ACCOUNTABILITY ACT**

January 17, 2012

Before: Graham Lane CA, Chairman
Robert Mayer Q.C., Vice-Chair

**A FINAL ORDER WITH RESPECT TO MANITOBA HYDRO'S
APPLICATION FOR INCREASED 2010/11 AND 2011/12
RATES AND OTHER RELATED MATTERS**

In the Board's view, MH's apparent decision to proceed with the Keeyask G.S. to serve the 125 MW (NSP)/250 MW (MP)/100 MW (WPS) additional export sales instead of proceeding with Conawapa G.S. is a significant departure from both MH's Recommended Development Plan and MH's Alternative Development Sequence. It would appear to contemplate a power resource scenario that leaves out Conawapa G.S. if the additional 400 MW (WPS) contract is not achieved. As such, the full benefits of Bipole III would not be realized. With the considerable escalation of project costs – each successive update of MH's capital expenditure plans has shown material increases in the forecast cost of expansion - the Board is looking for MH to justify, and an independent tribunal to comprehensively review, each of the projects on a net present value basis within an NFAAT (while the Board Chairman would prefer Bipole III be included in the NFAAT review, the Vice-Chair would not).

While 100% of Keeyask G.S. capacity under maximum flow conditions requires additional transmission capacity, the Board is of the view that the Keeyask G.S. would still be able to operate at about 80% of maximum capacity even if Bipole III were delayed. A net present value analysis of natural gas (CCCT) generation for reliability purposes should explore the full range of possibilities for deferral of Bipole III.

When Drs. Kubursi and Magee suggested to the Board that MH should be focused on 'least cost scenarios' in exploring future power resource and export initiatives, it suggests that with current natural gas prices and low MISO Market prices, a natural gas (CCCT) generation scenario should be examined.

The Board is concerned about MH's inability to achieve significant (if any) premiums for clean energy in its pending export contracts. When MH commits to providing substantially CO₂-free energy without a defined premium, future environmental protection costs can be expected to flow to MH's domestic customers via higher rates.

A further concern of the Board is that MH may be routinely selling hydraulic energy and purchasing mostly coal-generated energy in the same year. When MH accesses the

- the lack of growth in commercial sector load; and
- the decline in industrial sector load.

13.5.2 MIPUG

MIPUG did not offer any new insight on the recent loss of industrial load and the potential for existing customer growth and/or new industries coming to Manitoba. It appears that following another round of consultation, MIPUG now supports MH's pending EIIR initiatives.

13.5.3 RCM/TREE

RCM/TREE continues to express concern about the limited achievements with respect to energy conservation and continues to favour increased exports over higher levels of domestic load growth.

13.6.0 BOARD FINDINGS

It is the Board's view that MH's most recent domestic load forecasts for the longer term:

- do not adequately recognize the longer-term implications of the recent economic downturn;
- may well be overly optimistic given the stagnation and/or lack of growth over the last five years in the industrial sector; particularly when coupled with the actual pulp and paper plant closure and imminent smelter closures; and
- do not support the significantly advanced dates for new generation, but rather, in the absence of the new contracts, suggest a 2024/25 in-service date for domestic load only.

The Board understands that the recent MP & WPS contract announcements essentially commit MH to building Keeyask G.S. by 2020/21. This is about five years earlier than domestic need only would indicate.

While the Board appreciates that MH's domestic revenue growth from the residential and commercial sectors has largely offset the revenue decline experienced to-date in the industrial sector, it does not share MH's optimistic view of any early dramatic recovery in the latter. And, the continuing prospect of the future implementation of an EIIR could well hinder such a recovery.

The Board is still awaiting MH's re-filing of the EIIR, as directed in Board Order 112/09.

Manitoba-based CCCT plant would involve approximately half the emissions of coal-fired generation. The Chairman accordingly recommends that before Bipole III is constructed, the CCCT natural gas generation alternative should be investigated thoroughly.

In a prior Power Resource Plan, MH examined the cost of CCCT natural gas generation and concluded that a 400 MW CCGT produces about 3,100 GWh of dependable energy per year, which is slightly more than the projected dependable output of Keeyask G.S. Its capital cost was estimated at \$471M and, because of its high efficiency, such a plant could produce energy at an operating cost of \$55/MW or \$8.40/GJ. (If, in the future, a price was put on carbon, a \$30/tonne carbon cost would add less than \$10/MW to the cost of operation.) Currently, natural gas is priced at \$3.00 per GJ on the spot market, a mere 20% of the commodity's peak price. The reduction can be attributed partially to the slow recovery from the recession and partially to the availability of shale gas.

In its 2011 analysis, MH priced the capital cost of a 2,000 MW CCCT plant at almost \$3.0B (25% higher than in 2008/09). With current natural gas costs at less than \$5.00/GJ, the total on-line costs including finance, depreciation, maintenance and fuel costs would now be in the 5 to 6¢/kWh range.

14.2.0 AC TRANSMISSION SYSTEM

14.2.1 *North-South Transmission*

MH forecasts a need for "additional (AC) transmission from Northern Manitoba to Winnipeg" when Conawapa goes into service, now slated for 2023/24. MH's CEF-10 projection of capital costs budgeted \$313 million for such a facility but did not specifically define its function or purpose.

MH has not explained its rationale for the additional AC transmission or its timing. A question that, among others, remains to be answered is whether this proposed AC

addition is related to the west side siting of Bipole III and/or Bipole III capacity with or without export commitments.

14.2.2 *Dorsey to U.S. 500kV AC Transmission.*

CEF-10 also provides \$205 million for additional Manitoba sited AC transmission to the U.S., to be in service by 2018. Presumably, this allocation was in anticipation of a 500 MW sale to WPS and a 250 MW sale to MP. With the WPS sale reduced to 100 MW, it may be that the expanded capacity could be deferred.

14.3.0 BIPOLE III FOR EXPORTS

MH notes that in the absence of the 2,000 MW Bipole III transmission line the construction of Conawapa G.S. should not occur. And, now seemingly without the 500 MW WPS sale, MH has decided to defer the construction and in-service date of Conawapa G.S., but still plans to proceed with Bipole III.

MH asserts that the planned Keeyask G.S. could not operate at maximum output in high-flow conditions without Bipole III. The assumption of a deemed requirement for 100% of Keeyask's potential generation in high flow conditions to be transmitted on Bipole III involves the prospect of opportunity export sales as well as both domestic load and firm export contracts. The availability of "dependable energy" does not require 100% of Keeyask's output.

Under the assumption that hydraulic generation is to be used to supply all firm/dependable energy in an average-flow year, MH holds that the existing Bipole I and Bipole II capacity is insufficient to convey the output from Keeyask G.S. plus the power generated from the three existing Lower Nelson River generating stations.

As set out above, the Chairman and the Board's Vice Chair are of two views with respect to MH's reliability arguments. The Chairman is of the view that MH's assumptions, which support a requirement of Bipole III if Keeyask is built, should be fully tested prior to MH making a final commitment to both Keeyask and Bipole III. The

There is projected to be a drop in savings in later years of the program. The Board shares the concerns raised by Mr. Chernick of a decline in both investment and savings. The Board suspects that the opportunity for further reductions is significant. However the Board also realizes that projections extending fifteen years into the future are highly subjective.

During the EIRR hearing in 2009, MH offered a proxy value (related to the firm peak export energy prices) of about 6¢/kWh for DSM calculation purposes in lieu of defining the actual energy value, which MH deemed to be commercially sensitive and confidential. The Board suspects that MH's marginal benefit value in the cost effectiveness tests set out above also employs a similar proxy value, and it is clear that MH's most recent IFFs do not yet acknowledge that the export prices for firm peak energy have dropped substantially in recent years. The actual 2009/10 price was 2.83¢/kWh for peak opportunity export sales. There is reason to believe that prices under 3¢/kWh may still be the reality for years to come.

In the current circumstances, where MH's generation and transmission expansion plans appear to be moving forward despite an unfavourable export market, the Board is concerned about the level of economic benefits to be achieved by MH's existing and new DSM initiatives. To export DSM energy savings at prices below domestic rates does not seem totally logical from a financial perspective.

17.12.3 Lower-Income Energy Efficiency Programs

The Board commends MH for the broadening of its low-income programs and the inclusion of programs specifically targeting First Nation communities. However, the Board is concerned at the slow pace of delivery on the programs and notes that with respect to the LIEEP and AEF, MH has struggled to meet budgeted spending targets to date.

The Board understands that MH is working on a tenant-focused LIEEP but has yet to implement it. The Board understands that there may be resistance for landlords to take