

**MANITOBA HYDRO**

**2012/13 & 2013/14 ELECTRIC GENERAL RATE APPLICATION**

**UNDERTAKING PROVIDED BY: D. CORMIE**

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**Manitoba Hydro Undertaking #48**

Manitoba Hydro to review whether there is any additional information to be provided with respect to the North/South transmission additions.

**Response:**

As stated in Manitoba Hydro's 2012/13 Power Resource Plan, "a transmission allowance for additional north-south transmission beyond a 2000 MW Bipole III for the combined output of the Keeyask and Conawapa generating stations with a 2025/26 ISD" is included as part of the 2012 IFF and 2012/13 Power Resource Plan. In Manitoba Hydro's Power Resource Plans, the 2000 MW Bipole III project is considered common to all generation development plans as it is a reliability project.

With the proposed Bipole III reliability project, and Bipole III rated at 2000 MW, the three Bipoles would provide enough capacity to accommodate the proposed Keeyask and Conawapa generating stations. The total lower Nelson River generation, which includes the existing Kettle, Long Spruce and Limestone generators, plus the future Keeyask and Conawapa generators results in a net capacity of 5579 MW. The existing Bipole I and II capacity and the proposed 2000 MW Bipole III provides a transmission capacity of 5854 MW. Assuming Keeyask and Conawapa proceed, studies indicate that it is economically viable to provide spare north-south transmission capacity of up to one valve group (about 500 MW) as, based on the existing Bipole I/II performance, one valve group is estimated not to be available about 30% of the time for the future three bipole system. The Corporation is currently considering providing some of this spare capacity in the form of a larger Bipole III converter, and the remainder by enhancing the northern 230 kV ac network. This additional capacity would only be required at the time Conawapa is fully placed into service.

As described above, improvements to north-south transmission may include upgrades to the existing ac network, a larger Bipole III converter, or a combination of both. The existing 230kV ac network consists of transmission extending from Radisson to Thompson to the Ponton/Snow Lake area where it interconnects with the rest of the 230 kV ac network in southern Manitoba. Improvements to the 230 kV ac network may include construction of additional sections of 230kV transmission and the installation of voltage support equipment (series capacitors and static var compensators). The costs and benefits of the potential upgrades have not been finalized.

The \$395 M included in the 2012 CEF for Additional North/South Transmission is an estimate of the cost of providing in the order of 400 MW of additional transmission capacity beyond the proposed 2000 MW Bipole III project. It should be noted that costs associated for additional transmission are not affected by the choice of the HVDC line route.