

Manitoba Hydro Undertaking #26

Manitoba Hydro to provide the calculation on an energy basis of what portion of Keeyask would not fit on BiPoles I and II based on what size of DC would MH need to get out the energy with Keeyask and to meet the valve group criteria and number of MW needed for maintenance.

As indicated in response to PUB-MH II-91(a), the generating capacity at the existing three lower Nelson River stations is 3,562 MW while the combined capability of BiPoles I and II is 3,854 MW, assuming all units and conversion equipment is in service. Manitoba Hydro has indicated on pages 1655 to 1658 of the transcripts that it is not appropriate to compare the capability of the BiPoles in terms of energy transfer. Consequently, all comparisons below are in terms of capability in MW. However, identical conclusions would be drawn if the analysis were to be undertaken on an energy basis rather than a capacity basis.

With the assumption that at least 500 MW (one valve group) of HVDC capacity must be reserved for maintenance and forced outages, the remaining available Bipole I and II capacity is 3,354 MW, which is less than the generating capacity of the three stations of 3,562 MW. On that basis the existing HVDC system is deficient by 208 MW in its capability to provide sufficient capacity for the existing installed generation on a first contingency basis. This lack of capability under outage conditions is the reason that BP III is required in order to provide sufficient reliability for the transmittal of existing lower Nelson River generation.

The capability of the existing HVDC system would have to increase by 838 MW in order to provide sufficient reliability for the transfer of both existing generation and the additional generation from Keeyask.