

MANITOBA HYDRO COMMENTS ON UNDERTAKING MWS-78

Manitoba Hydro operates the Missi Falls control structure to meet the requirements of the Churchill River Diversion Interim Water Power-Act Licence and Environment Act Licence 2327.

The Churchill River Diversion Interim Water Power Act licence states that “Releases from Missi Falls control structure shall not be less than 500 cubic feet per second during the open water period and 1,500 cubic feet per second during the ice cover period.” As explained by Manitoba Water Stewardship, the licence does not define the ice cover period or provide any criteria for determining the end of the ice cover period.

The Water Branch analysis of Missi flows identifies 52 open water and 205 ice covered incidents of non-compliance with the CRD Interim Licence. Their analysis indicates an overall compliance of at least 97.4%. For compliance under the ice cover period, the Water Branch based their analysis on a retrospective look at whether or not there was an ice cover using Water Survey of Canada data at a location a considerable distance downstream of Missi Falls. This data is not available at the time that Hydro must make operating decisions and typically is not available for up to several years after the fact.

Operating decisions must be based on information which is readily available at the time, such as inflow from local rivers and streams. Manitoba Hydro’s operational practice historically has been to consider the ice cover period to mean the pre-freshet (pre spring runoff) period. Manitoba Hydro’s analysis is based on this interpretation.

The history of operating decisions for Missi Falls can generally be described as outlined below:

Prior to Environment Act Licence 2327 (up to 1998)

Missi Falls winter discharges were established to provide adequate downstream flow throughout the winter and to ensure a fresh water supply for the Town of Churchill. These operations can be summarized into three categories:

1) Prior to Freeze-up

On average freeze-up on the lower Churchill River occurred in mid to late October. Prior to the onset of freeze-up, Missi Falls discharge was increased to support the declining local inflow, to provide sufficient flow during the freeze-up period and to ensure adequate flow through the remainder of the winter. By early November, Missi Falls discharge was increased to above a minimum of about 4000 cfs.

2) After Freeze-up

In general, freeze-up was completed by mid-November to early December. Following freeze-up, Missi Falls discharge was reduced in stages throughout the winter reaching about 1500 cfs by April.

3) Spring

From 1977 to 1990, Missi Falls discharge was reduced to about 500 cfs in late April to mid May; roughly coincident with the onset of spring runoff in local tributaries downstream of Missi Falls.

From 1991 to 1998, Missi Falls discharge was reduced to about 500 cfs on or about May 15. This date aligns with the Augmented Flow Program approvals. In addition local runoff is typically prior to May 15.

With the Environment Act Licence 2327 (1999 to present)

Missi Falls minimum discharges have been set based on the minimum targets established under the Environment Act Licence 2327. These minimum targets were based on the minimum Missi Falls discharges recorded from January 1986 to May 1998.