

## Adopted Regulation Strategy – LWCB Conference Call – December 4, 2004

### Overview

As decided at the September Regulation Meeting, the intent of this conference call is to confirm the winter strategy and end of winter target levels for both lakes. The strategy as adopted at the September meeting was confirmed as the winter strategy subject to the modifications noted below for each lake.

The regulation strategy for Lac Seul and Lake of the Woods note Manitoba Hydro's low system-wide water availability and accompanying concerns. However, it is also important to keep some water in reserve and the flow and target level recommendations are somewhat on the conservative side. For example, although the target level for Lac Seul is lower decile, this is still 0.6 m (2 ft) above the top of the drought reserve. Similarly, recommended drawdown on Lake of the Woods is only to lower quartile level. This means that under extenuating circumstances, additional water could be made available to the power utilities.

A review of 3 different seasonal forecasts (Meteorological Service of Canada, The Weather Network, NOAA-Climate Data Center) for temperature and precipitation did not show a single aspect of the 6 forecasts (3 agencies forecasting both temperature and precipitation) that they could agree upon. (i.e. whether temp and precipitation would be above normal, below normal or normal). El Nino is not expected to be a significant factor this winter.

### Lac Seul

#### i) Scenarios

The attached graph for Lac Seul shows scenarios of lake levels that would result from 5 different combinations of assumed inflows and outflows. It should be noted that the scenarios show a range of possible future conditions and are not forecasts nor are they necessarily linked to the operating strategy.

	Inflow		Average Outflow (m <sup>3</sup> /s)	Mar 31 Elevation	
	Continuous <u>¼ Month</u>	Bulk <u>Seasonal</u>		(m)	%ile
S1	85 %ile	90 %ile	450	354.44	30 %ile
S2	50 %ile	50 %ile	450	354.20	10 %ile
S3	50 %ile	55 %ile	415	354.20	10 %ile

#### ii) Strategy Modifications

Because of the low inflow conditions across Manitoba Hydro's entire system, the strategy is to pass the maximum water available from Lac Seul subject to the following constraints:

- target for a March 31 level of no lower than 354.2 m (1162.0 ft). This is the same as the tentative target set at the September meeting.
- adjust Lac Seul outflow so that flows at Manitou Falls are no higher than maximum generating capability. (i.e. full plant flow with all units online)

- if the above two constraints are in conflict and the Secretariat cannot reach a consensus with Ontario Power Generation and Manitoba Hydro, the first constraint will take precedence, given the very dry conditions in Manitoba Hydro's system.
- outflow reductions should begin approximately early March (depending on winter precipitation and inflows) so that Lac Seul will be rising by April 15 and to make room for freshet inflows downstream
- an outflow increase of approximately 30 m<sup>3</sup>/s can likely be made near mid-December. Regressions carried out by the Secretariat indicate that an average winter inflow of 200 m<sup>3</sup>/s is likely. This is equivalent to a continuing winter total inflow of 70 %ile. To reach the target level of 354.2 m, 250 m<sup>3</sup>/s is available from storage.

## **Lake of the Woods**

### i) Scenarios

The attached graph for Lake of the Woods shows scenarios of lake levels that would result from 5 different combinations of assumed inflows and outflows. It should be noted that the scenarios show a range of possible future conditions and are not forecasts nor are they necessarily linked to the operating strategy.

	Inflow		Average Outflow (m <sup>3</sup> /s)	Mar 31 Elevation	
	Continuous <u>¼ Month</u>	Bulk Seasonal		(m)	%ile
S1	25 %ile	11 %ile	250	322.39	35 %ile
S2	15 %ile	8 %ile	230	322.36	30 %ile
S3	8 %ile	5 %ile	200	322.35	25 %ile

### ii) Strategy Modifications

- As discussed at the September meeting, continue to target for a March 31 level of 322.35 m. This will put the spring level in a good position for lake level recovery, while assisting to meet the Board's strategy adopted after the 2001 high water year to work towards achieving somewhat lower summer levels on Lake of the Woods, in the order of 15 cm (6 in).
- Increase outflow to 225 m<sup>3</sup>/s effective December 8, subject to a review of conditions by the Secretariat that this is in line with the end of winter target level. Note that approximately 30 m<sup>3</sup>/s is available from storage over the winter. Simple regressions carried out by the Secretariat indicate that 200 m<sup>3</sup>/s inflow is likely. This corresponds to a continuing winter inflow of 15 %ile.



