

## IESO SENIOR MANAGEMENT UPDATE

**To:** Stakeholder Advisory Committee

**Date:** June 28, 2006

**Subject:** Dispatch Issues (SE-9)

### Information Item

IESO Board Decision Date: July 2006 (market rule changes - where applicable)

As a component of the summer 2006 reliability plans, the IESO was charged with finding solutions to the market's dispatch issues. Dispatch issues have been identified as an ongoing efficiency and reliability issue associated with the introduction of the competitive markets and specifically the 5-minute dispatch regime. The IESO has engaged stakeholders (primarily dispatchable facilities) in the dispatch issues working group (DIWG) forum in an effort to develop and implement dispatch solutions focused at addressing key operational issues associated with 5-minute dispatch. The following initiatives are being developed by the DIWG for deployment by June 2006.

### Compliance Aggregation & Replacement Offers

With compliance aggregation the dispatch algorithm (DSO) and operational tools continue to work as they do today. That is the DSO would economically evaluate offers and determine secure dispatch at a facility level. The compliance aggregation however would allow authorized "aggregates" to share the individual dispatch instructions amongst the authorized facilities when system conditions permit. If as an example two units were individually dispatched to 50 and 30 MW respectively, compliance aggregation would allow the owner to generate the full 80 MW from one unit and still be considered compliant with the combined dispatch. If required the generator will comply with "unit specific dispatch" when the IESO considers it necessary to maintain reliability.

Compliance aggregation went into service June 7, 2006 with two participants each registering a cascade river system. The DIWG is still interested in running a compliance aggregation pilot with a medium ramp facility; earlier attempts in May to run a pilot were unsuccessful due to system and facility conditions. It is expected that a pilot will be able to be undertaken this summer.

In conjunction with compliance aggregation the IESO has introduced, for multi-unit station aggregates, a replacement offer program to help manage unit contingency events. Replacement offers would allow a unit operator to run a replacement unit when the unit that attracts the dispatch instruction is forced out of service.

Changes to the market rules to accommodate replacement offers will go to the technical panel on July 18 and the Board on July 27. A proposed rule was posted and one comment from the DIWG was addressed in the proposal.

### **Compliance Deadband Increase**

The IESO has agreed that the previous deadband of 10 MW was perhaps too restrictive under certain conditions. A 15 MW deadband would allow additional flexibility for generators to use to overcome existing dispatch concerns. Some of the issues that can be addressed by the use of a 15 MW deadband include:

- Hydraulic unit efficiency operation, regulatory limitations, cascade river management, etc.
- Thermal coal unit reversals, excessive movement and mill point management.
- Thermal gas co-generation units, in addition to the benefits above, can use the deadband to operate the related but separately offered/operated units in a more efficient coordinated fashion.

After successful completion of the IESO pilot the DIWG recommended that the deadband be officially changed by an amendment to the compliance interpretation bulletin (IMO\_MKRI\_0001). The changes to the bulletin became effective May 8, 2006.

## **Multi-Interval Optimization (Optimization Window)**

Another aspect of the DSO that has been investigated at the DIWG is the influence of the eleven interval look-ahead of the multi-interval optimization (MIO) sequence. Sometimes there can be dispatch volatility in the early intervals of an hour, when the MIO sequence is capturing the ramping in of inter-tie schedules in its look-ahead, but the transactions have not been checked out yet. This occurs because MIO will begin to move slow ramping units to respect their physical ability to meet the expected change in inter-tie schedule. If the inter-tie transactions subsequently fail the checkout, the DSO will then reverse these early moves.

Two tests have been carried out to date to investigate this behaviour. A set of three one-day tests with various numbers of look-ahead intervals provided inconclusive data due to the short test period. A longer one-month test of a five-interval look-ahead completed March 19, 2006.

The results of the test were reviewed with the DIWG in April. Suggestions to focus on marginal units were reviewed with the DIWG in June. The results continued to show insignificant improvement in predicting direction of future dispatch under a MIO five interval look ahead. At this time the DIWG is not recommending proceeding with this initiative.

## **Load Forecast Smoothing**

The IESO is investigating the impact of load smoothing improvements to IESO tools over the last two years. The last improvement made, provides some flexibility in allowing actual past load values and future load predictions to influence the setting of target demand for the DSO. Data presented to the working group indicated that there was a significant amount of load smoothing as a result of the implementation of these tool enhancements, with negligible loss of accuracy. The working group encouraged the IESO to continue to simulate various combinations of load smoothing parameters to see if further improvements could be realized without significantly impacting accuracy. This study is still ongoing.