Market Pricing Working Group

Issue 7: Imports and Exports setting the Ontario Market Clearing Price

ieso
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Date Raised

This issue was first noted early in the operation of the IESO-administered market and raised again by the Day-Ahead Market (DAM) Working Group in early 2004.

In the December 7, 2005 resolution from the IESO Board of Directors approving the Day Ahead Commitment Process, the Board instructed the IESO to "to give focussed attention to resuming and advancing work with stakeholders on…whether intertie transactions should be considered in the calculation of the Ontario Market Clearing Price.".

Description

The market clearing price for energy and operating reserve in the IESO-administered market was established by design to be the marginal resource cost based on offers and bids. As imports and exports cannot be dispatched on a 5-minute basis, they are therefore not a marginal resource in real-time, and therefore do not set the market clearing price (MCP) in the real-time market. However, imports and exports can be scheduled/dispatched within the timeframe of the pre-dispatch sequence and therefore can set the pre-dispatch price. This discrepancy in price determination raises concern over whether the prices are being calculated appropriately and fairly.

Background

The current Ontario energy market has been designed to allow market participants to import power from and export power to other jurisdictions. Since the source of the imports and destination of the exports are outside the Ontario control area and involve the use of interconnected facilities, coordination of operation with neighbouring control areas is required. Reliability standards must be adhered to and agreed to scheduling protocols with neighbouring jurisdictions followed. Such coordination of operation cannot currently be achieved in real-time. Consistent with current interchange scheduling protocol timelines, imports and exports are scheduled for one hour periods during the hour-ahead pre-dispatch run of the scheduling algorithm. Imports offered at prices below the hour-ahead pre-dispatch price and exports bid at prices above the hour-ahead pre-dispatch price are all scheduled for real-time dispatch.
In the real-time scheduling sequence, the intertie bid and offer schedules in the hour-ahead predispatch are treated as fixed for the entire delivery hour and do not adjust with changes in the 5-minute MCP. This is accomplished by placing net import quantities (scheduled imports minus scheduled exports) at the bottom of the offer curve at a very low price. This ensures that the import and export quantities are included in the determination of real-time dispatch and that their associated bids and offers are unable to set the MCP. As a result, the MCP is determined solely by the supply-demand balance between dispatchable resources that can

physically change their input/output levels within the 5-minute time frame or resolution of the MCP calculation.

The price used to settle imports and exports in real-time is the sum of the real-time MCP and the Intertie Congestion Price (ICP) for the specific intertie zone involved, which is determined during the hour-ahead pre-dispatch run. Importers are also provided with further price risk mitigation through the IESO's Intertie Offer Guarantee (IOG) payments. The IOG ensures that, over the course of the hour, an importer will receive at least the average price of their offer; hence, they will not suffer from lost operating profit. Examining the effects that the IOG payments may have on MCP could provide further insight into this issue.

Furthermore, the Day-Ahead Market design proposes to set the price of electricity one day ahead of real-time, on an hourly basis. Imports (and exports) would be able to offer into this hourly market and thus could set the day-ahead price of electricity. The real-time market, however, will remain in effect alongside this Day Ahead Market, and it will continue to be dispatched on 5-minute intervals. Hence, interties will remain unable to set the real-time price of electricity. This disparity in price-determination between the two markets is also an important aspect of this issue.

Consistency with the practices of other ISOs in our region is another factor to be considered. Our directly connected neighbouring markets (NYISO and MISO) do not allow intertie transactions to set prices in real-time. All nearby ISOs that have day ahead markets do allow intertie transactions to set day-ahead prices. All nearby ISOs also employ a locational pricing scheme, which further complicates any comparison of intertie transaction pricing methodologies. Since Ontario currently has a real-time market only and employs uniform pricing, it is more difficult to determine the level of consistency between our pricing policies and our neighbours.

Why a Pricing Issue

The disparate treatment of import offers and export bids in pre-dispatch as compared to real-time at times yields significant price differences. This raises the question of whether the differing prices and their consequences are fair and accurate for all Market Participants. The inability of intertie transactions to set the price in real-time requires examination.

Impacts of Issue

Market Impact

The differing treatment of import offers and export bids in the pre-dispatch compared to real-time price determination process gives rise to questions of fairness in the consequent application of these prices and associated adjustments and/or guarantees to resources inside and outside of Ontario. In addition, the divergent price-determination processes call into question the efficiency and accuracy of the pricing signals in the market.

Participant Impact
[To be developed]

IESO Processes and Procedures Impact
[To be developed]

Related Issues

- 008: Multi-Part Bids/Offers
- 012: Under-commitment of Available Generation
- 013: Impact of Out of Market Resources on the Market
- 014: Hour(s)-Ahead Price Signal Uncertainty
- 024: Reducing Frequency of Failed Intertie Transactions
- 030: Forecast of Real-Time Price

Options Considered

[To be developed]

Selected References

Day Ahead Market Strawman Release 4.0 – Design Issues Log #9
http://www.ieso.ca/imoweb/pubs/consult/mep/DAM_WG_Strawman-4_0.pdf
Market Surveillance Panel Monitoring Report on the IMO-Administered Electricity Markets for May to August 2002
http://www.ieso.ca/imoweb/pubs/marketSurv/ms_mspReport_2002oct07.pdf
Quick Take: Intertie Offer Guarantee – September 22, 2002
http://www.ieso.ca/imoweb/pubs/training/QT1_IOG_2002sep10.pdf
Marketplace Training: Introduction to Ontario's Physical Markets
http://www.ieso.ca/imoweb/pubs/training/IntroOntarioPhysicalMarkets.pdf