

Stakeholder Engagement Plan SE-58

Day-Ahead Forecast of Real-Time Prices



February 15, 2008 – Schedule V updated.

I. Background

The IESO operates a real-time market in which electricity prices are determined in five minute intervals. Supply and demand conditions can change significantly from interval to interval and from hour to hour causing real-time prices to vary significantly and often unexpectedly. Furthermore, consumers and producers learn of the real-time price changes as they happen, making it difficult for them to make efficient consumption and production decisions in response to these price changes. The volatility of the real-time prices and the lack of advance warning of these price changes create risk for both consumers and producers who seek to plan their operations. Advance signals of real-time prices would provide both consumers and producers with information that would help them manage this risk.

The IESO publishes pre-dispatch results, including prices, which are intended to signal evolving market conditions as the real-time dispatch hour approaches.¹ The common industry view is that the current pre-dispatch price signal is not a “reliable” predictor of real-time prices. The pre-dispatch process was not originally designed with this as its purpose. Recent Market Surveillance Panel reports have highlighted the persistent gap between pre-dispatch prices and real-time prices. They have documented several systematic differences between the calculation of the pre-dispatch price and the real-time price which prevent the pre-dispatch price from providing a reliable prediction of real-time prices. The Panel has stated that “inaccurate or unreliable pre-dispatch prices can lead to inefficient production decisions and can cause real-time scheduling inefficiencies.” They have recommended on several occasions that the IESO either improve the effectiveness of the existing pre-dispatch price signal, develop a day-ahead market (DAM) that would create a day-ahead price; or produce a “truer forecast” of the real-time price (See http://www.oeb.gov.on.ca/documents/msp/panel_msreport_imoadministered_240303.pdf page 89 and pages 117-118).

A “reliable” forecast of the next day’s real-time prices would enable consumers to better manage their consumption and avoid high-price hours, enable embedded generation to be available to operate during those same high-price hours, and enable dispatchable generators to better manage their operations a day in advance of real-time.

At it’s [December 12, 2007 meeting](#), the IESO Board approved that an unconstrained day-ahead electricity market ([UDAM - Option 3 in November 5 Status Paper](#)) continue to be investigated. More details on this initiative can be found at [Day-Ahead Market Evolution \(SE-21\)](#). In parallel with the DAM efforts, the Board endorsed further investigation of the merits of developing a price forecast. IESO has initiated this stakeholder engagement plan regarding possible implementation of the day-ahead forecast of real-time prices ([Option 1 in November 5 Status Paper](#)).

¹ The pre-dispatch (blue line) and real time (green line) prices can be seen on the Today’s Market web page at: <http://www.ieso.ca/imoweb/marketdata/marketToday.asp>.

Proposed Price Forecast Model

The IESO has made progress towards developing a real-time price forecast model which is separate from our existing pre-dispatch process. The model uses information available day-ahead and at approximately 5 pm will provide a forecast for each of the next day's hourly prices. In this model, the real-time Ontario price is mainly a function of day-ahead prices from New York (NY) and Michigan (MISO), a day-ahead Ontario price (from [day-ahead commitment process](#) pre-dispatch price of record), the day-ahead market supply cushion, day-ahead market demand and other calendar variables. The model produces both an upper bound and lower bound to the price forecast. These boundaries are essentially a 95% confidence band around the price forecast and provide participants with an appreciation of potential volatility around the real-time price.

The performance of this model has been evaluated through various metrics and statistical tests, comparing the pricing error of the model in forecasting real-time Hourly Ontario Energy Price (HOEP) to the pricing errors of the NY and MISO DAM in forecasting the NY and MISO real-time energy prices. The model and the results of the initial evaluation were recently presented to the members of the Market Pricing Working Group. The presentation can be found at the following link: http://www.ieso.ca/imoweb/pubs/consult/mep2/MP_WG-20071029-Item3_Issue30.pdf

Role of the IESO in providing a Price Forecast

Some stakeholders have told us that they could make use of a better forecast of HOEP to properly plan their production for the next day. In contrast, some stakeholders have suggested that it would be inappropriate for the IESO, the market operator, to publish a price forecast of real-time prices. A summary of the different stakeholder opinions on the role of the IESO providing a public forecast of real-time prices is described in the attached addendum.

II. Stakeholders

All stakeholders will have an interest in the IESO's role in forecasting prices and the manner in which it is implemented. Several non-dispatchable embedded generators and consumers have indicated that they would make use of a more accurate day-ahead price forecast. The IESO encourages all interested individuals to participate in the discussions.

III. Stakeholder Engagement Goals and Objectives

Goal

The goal of the stakeholder engagement plan is to seek feedback from stakeholders on (i) the expected costs and benefits to stakeholders of a day-ahead forecast of real-time prices and (ii) the effectiveness of the IESO's proposed real-time price forecast model as a tool for planning their next day's operations. Through this process, the IESO will evaluate the costs and benefits of publishing a real-time price forecast. The outcome of the cost-benefit analysis along with stakeholder feedback will form the basis of the IESO's recommendation to the Board in April 2008.

Objectives

To evaluate the expected costs and benefits to all consumers, producers and intertie traders of a price forecast but specifically the IESO's proposed price forecast model. This will be done by gathering input from stakeholders on;

- The impact on stakeholders from having the IESO publish a real-time price forecast, and;
- The forecast methodology and performance.

IV. Stakeholder Engagement Approach and Methods

The stakeholder engagement approach will involve written submissions by stakeholders, face-to-face dialogue, as well as public postings of information and proposals. The implementation of the stakeholder engagement process will be in accordance with the IESO's approved [stakeholder engagement principles](#).

The stakeholder engagement methods to be employed will be a combination of stakeholder sessions, web-based postings, and discussions with the [Stakeholder Advisory Committee](#).

The stakeholder plan will be subject to review and update as the process evolves and stakeholder comments are incorporated.

Stakeholder Sessions

The IESO will organize meetings to gather stakeholder's comments and issues regarding price forecasting. These will be open sessions where stakeholders can gain from understanding each others' diverse perspectives.

Materials for all meetings will be publicly posted and available to all stakeholders.

Web-Based Postings

Web-based postings provide all stakeholders with an efficient lower-cost alternative to keep up-to-date with the process and to provide input as desired.

This is a public consultation and information supplied will be posted on the IESO website including identification of the contributing participant.

Stakeholder Advisory Committee to the Board and Executive

At the conclusion of the stakeholder sessions, the Stakeholder Advisory Committee will be asked to review and consider the proposal. The Committee will consider the results and provide input to the IESO Board.

The Stakeholder Advisory Committee provides all stakeholder sectors the opportunity to express their views and positions directly to the IESO Board of Directors in advance of any final decisions.

Participant Funding

Consistent with IESO Board and OEB approvals, funding in the amount of \$50,000 has been earmarked for a participant funding pilot project with the funding being focussed on the Consumer (primarily the smaller industrial, commercial and residential consumers) and Environmental sectors. Individuals and not-for-profit organizations with limited means to participate are asked to submit a proposal for funding to stakeholder.engagement@ieso.ca. Proposals will be evaluated by IESO management.

V. Decision Making Steps and Schedule of Activities

| Stakeholder Engagement Schedule | |
|---|-------------------|
| Activity | Target Date |
| 1. Post and Communicate stakeholder plan along with addendum. | January 10, 2008 |
| 2. Closing date for stakeholder written submissions on this stakeholder plan and addendum. Stakeholders are asked to elaborate on the views in the addendum and other views where stakeholders believe further clarification and support for a particular position is required. | January 24, 2008 |
| 3. Posting of IESO response to stakeholder feedback on stakeholder plan and addendum. Posting of revised stakeholder plan | January 29, 2008 |
| 4. First stakeholder meeting to discuss feedback on stakeholder plan and present IESO's proposed day-ahead forecast of real-time prices model. | February 5, 2008 |
| 5. Publishing IESO preliminary position paper on day-ahead forecast of real-time prices incorporating stakeholder input. | February 14, 2008 |
| 6. Second stakeholder meeting to present preliminary position paper, discuss IESO views, and gather stakeholder feedback. | March 6, 2008 |
| 7. Written comment due date from stakeholders on preliminary position paper. | March 14, 2008 |
| 8. Posting IESO final proposal on day-ahead forecast of real-time prices. | March 28, 2008 |
| 9. Present proposal to the Stakeholder Advisory Committee for additional feedback from sector members. | April 9, 2008 |
| 10. Present proposal to the IESO Board of Directors. | April 24, 2008 |
| 11. Revise plan based on Board decision. | Early May, 2008 |

Addendum

Stakeholder input on the role of the IESO in publishing a forecast of real-time prices

During day-ahead market mechanism meetings over the last several months as well as other meetings such as the Market Pricing Working Group, the IESO has received divergent stakeholder positions on the appropriateness for the IESO to produce and publish a day-ahead forecast of real-time prices.

Documented below is our understanding of the views raised to date by different stakeholders. These views are provided as a point of reference to advance the discussion and add context to the debate during the stakeholder engagement sessions.

The IESO encourages stakeholders to provide more information on these and other views where stakeholders believe further clarification and support for a particular position is required.

The IESO intends to apply cost-benefit analysis methodology when evaluating the merits of publishing a real-time price forecast. In an effort to further this analysis, as part of the stakeholder engagement process, the IESO is asking stakeholders to consider in their stated positions how publishing a forecast of real-time prices would either improve or impair market efficiency.

Stakeholder view #1: As market operator and price forecaster, the IESO may have a conflict of interest.

A concern has been raised that the IESO may affect market outcomes to ensure the accuracy of its price forecast.

Stakeholder view #2: The IESO would be eliminating a commercial opportunity for private companies to produce and market a price forecast model. Similarly, a public forecast may lead to loss of a competitive advantage for some private companies.

There may be private companies that have invested time, staff and money to produce their own price forecast for use within their company or for public sale. If the IESO produces a price forecast and makes it publicly available to all participants, this could reduce or eliminate the competitive advantage and revenue streams enjoyed by these companies. The reduced revenue limits return on investment made to provide the forecast. Additionally, this could reduce the incentives for other private companies to invest in the production of a price forecast in the future.

Stakeholder view #3: There is an opportunity to realize efficiency improvements by providing smaller companies that cannot currently access a reliable price forecast through private means with a public forecast.

For many small consumers, the cost of either purchasing a reliable price forecast from a private company or producing their own price forecast makes these options prohibitive. However, having a reliable day-ahead signal of prices would enable them to better plan their next day's production decisions and lead to improved economic efficiency. This may also level the competitive playing field for the smaller generator companies that cannot afford to purchase sophisticated price forecast services.