Power Advisory LLC

Shawn Cronkwright
Director, Market Renewal Operations
Independent Electricity System Operator
1600-120 Adelaide Street West
Toronto, ON M5H 1T1

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Dear Shawn,

This submission responds to the Independent Electricity System Operator (IESO) draft *Pre-Dispatch Calculation Engine Detailed Design Issue 1.0* released on September 30, 2020.[1] This document is part of a series of draft detailed design documents defining how the IESO-Administered Markets (IAM) will be fundamentally reformed through the IESO Market Renewal Program (MRP) initiative.

Power Advisory LLC has coordinated this submission on behalf of a consortium of renewable generators, energy storage providers, and industry associations (i.e., the "Consortium"[2]).

GENERAL COMMENTS AND RECOMMENDATIONS

Overall, the Consortium supports IESO's plans to implement a Day-Ahead Market (DAM) and associated reforms to the Real-Time Market (RTM) within IAM.

Consistent with the Consortium's submissions commenting on the draft *Day-Ahead Market Calculation Engine Detailed Design Issue 1.0* and the draft *Real-Time Calculation Engine Detailed Design Issue 1.0* [3], the Consortium offers these general points relating to the application of the Look-Ahead Period (LAP) and need for detailed examples.

Design and Application of LAP within IESO-Administered Markets

As discussed during stakeholder engagement meetings working towards developing MRP High-Level Design (HLD) documents, the benefits to implementing a LAP sufficiently longer (i.e., up to 27 hours prior to the applicable RT dispatch hour) than the LAP applied in today's IAM (i.e., 1-hour) has clear efficiency and reliability benefits.

[1] See http://www.ieso.ca/en/Market-Renewal/Stakeholder-Engagements/Energy-Detailed-Design-Engagement

[2] The members of the Consortium are: Canadian Renewable Energy Association; Axium Infrastructure; BluEarth Renewables; Boralex; Capstone Infrastructure; Cordelio Power; EDF Renewables; EDP Renewables; Enbridge; ENGIE; Evolugen (by Brookfield Renewable); H2O Power; Kruger Energy; Liberty Power; Longyuan; NextEra Energy Canada; Pattern Energy; Suncor; and wpd Canada.

[3] See Consortium submission under the September 24, 2020 date located at https://www.ieso.ca/Market-Renewal/Stakeholder-Engagements/Energy-Detailed-Design-Engagement

Considering the experience of Consortium members' generators operating within all other Canadian and U.S. wholesale electricity markets, the Consortium notes that no other market applies such a lengthy LAP to optimize scheduling/dispatch decisions in accordance with power system needs at least cost. Therefore, the Consortium recommends that before applicable MRP Energy Detailed Design documents are finalized in 2021, IESO should host specific stakeholder engagement meetings to explain how all resources will be scheduled and dispatched based on pre-dispatch (PD) calculation engine decisions under various scenarios, including potential impacts on RTM prices.

The above request is particularly needed because draft MRP detailed design proposes to implement scheduling/dispatch changes for some resources (e.g., applicable dispatchable hydroelectric generators) and some ramifications for other resources relative to scheduling/dispatch under today's IAM design and rules. For example, listed below are some MRP design components and potential implications, which need to be understood within the PD LAP framework and outcomes.

- Application and outcomes relating to applicable hydroelectric generators that may have 'must-run like' status, given the application of new MRP dispatch data parameters (e.g., Minimum Energy Output, Hourly Must-Run, Minimum Daily Energy Limit, etc.)
- Application and outcomes of no longer committing as many Non-Quick Start (NQS) gas-fired generators, considering commitment of these generators is only based on incremental energy offers within today's IAM, and in the future will be committed under MRP based on three-part offers (e.g., start-up costs, speed no-load costs, and incremental energy costs)
- Application and outcomes relating to IESO's proposed price settlement floor of $-100/MWh, and what incentives this new MRP design feature may have towards some market participants (MPs) changing their offer behaviour and strategies – which could impact market outcomes, including reliability of Ontario's power system
- Application and outcomes of market power mitigation, in particular economic withholding

The Consortium believes that the above points along with a LAP of up to 27 hours requires further analysis and stakeholder engagement meetings to inform MPs, stakeholders, and IESO whether MRP draft detailed design could result in material changes to scheduling, dispatching, price-setting, and/or settlements relative to IAM today.

The above analysis and accompanied stakeholder engagement meetings will also inform applicable generators regarding potential implications to their contracts or rate-regulated framework. In turn, any potential implications to contracts and/or rate-regulated framework could then have causal impacts to exploiting (positively or negatively) proposed MRP design through potential future changes to offer behaviour and strategies.

Need for Numeric Examples of Application of DAM, PD, and RTM Calculation Engines

As stated within the Consortium's submissions commenting on the draft *Day-Ahead Market Calculation Engine Detailed Design Issue 1.0* and the draft *Real-Time Calculation Engine Detailed Design Issue 1.0*, clear and detailed numeric examples are required to better understand the calculation engine algorithms themselves, their application, and potential outcomes. Therefore, the Consortium is making the same request for examples relating to the *Pre-Dispatch Calculation Engine Detailed Design Issue 1.0*.

Therefore, IESO should plan for and schedule specific stakeholder engagement meetings to present multiple examples and scenarios regarding the DAM, PD, and RTM calculation engines prior to finalizing MRP detailed design in 2021.

The Consortium will be happy to discuss the contents of this submission with you at a mutually convenient time.

Sincerely,

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Managing Director
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