

SEPTMBER 29, 2020

Market Renewal Program MRP Energy Detailed Design | Engagement Days

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Today's Objective

- Support stakeholders in their review of the Real-Time (RT) Calculation Engine draft detailed design document that is open for feedback until October 30th
- Review specific areas of stakeholder interest contained in the design document that may require further clarification or explanation from the IESO, with the intention to better inform written stakeholder feedback on the detailed design document



Engagement Process - MRP Detailed Design

Detailed Design Release Schedule

Date	Design Document
November 28, 2019	<ul style="list-style-type: none">• Overview• Authorization and Participation• Prudential Security• Facility Registration• Revenue Meter Registration• Market Billing and Funds Administration
March 26, 2020	<ul style="list-style-type: none">• Publishing and Reporting Market Information
May 5, 2020	<ul style="list-style-type: none">• Grid and Market Operations Integration• Offers, Bids and Data Inputs• Market Power Mitigation
May 11, 2020	<ul style="list-style-type: none">• Market Settlement
July 27, 2020	<ul style="list-style-type: none">• Day-Ahead Market Calculation Engine

Detailed Design Release Schedule (con't)

Date	Design Document
August 31, 2020	<ul style="list-style-type: none"><li data-bbox="637 311 1758 354">• Real-Time Calculation Engine
September 30, 2020	<ul style="list-style-type: none"><li data-bbox="637 387 1758 431">• Pre-Dispatch Calculation Engine

Draft Detailed Design Documents

- Stakeholders continue to review draft detailed design documents and provide feedback on the overall design
- The IESO will post responses to stakeholder feedback for each design document and will publish a document to track all changes made to the first version of the documents as the result of stakeholder feedback (v1.0 to v2.0)
- Once all draft design documents are posted by September 30, stakeholders will have until December 2 to provide feedback on any earlier design document

Implementation Phase

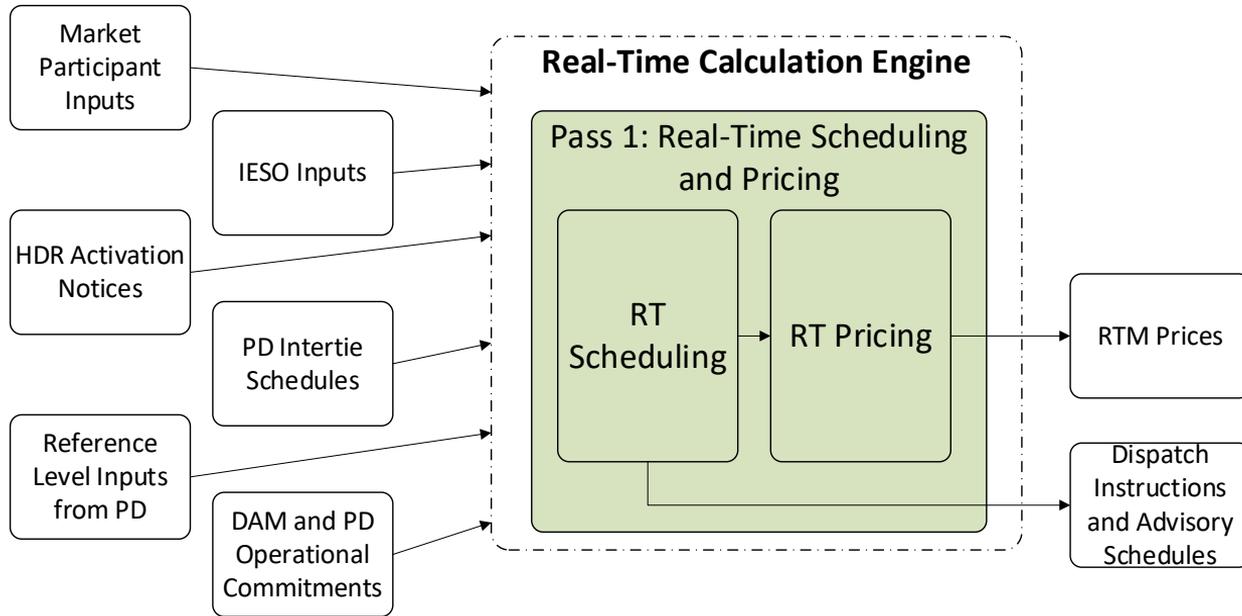
- The detailed design phase is critical in establishing the foundation for the Implementation phase which includes in part the review of draft rules and manuals prior to the Technical Panel and IESO Board approval process that will begin in 2021
- The IESO has already commenced engagement on the Implementation phase on specific topics where additional time and discussion with stakeholders is required (i.e. establishing reference levels and reference quantities within the Market Power Mitigation Framework)
- Items raised by stakeholders during Detailed Design that are best addressed in Implementation are being incorporated in this phase



Real-Time Calculation Engine Highlights

Real-Time Calculation Engine

- The RT calculation engine will produce five-minute dispatch instructions and advisory schedules as well as real-time prices



Real-Time Calculation Engine

- The RT calculation engine will have a single pass, called Real-Time Scheduling and Pricing. This pass will include the following steps:
 - Real-Time Scheduling
 - Real-Time Pricing

Real-Time Calculation Engine

- In addition to producing locational marginal prices, the RT calculation engine will have the ability to dispatch combined cycle facilities as pseudo units and utilize new inputs from market participants and the IESO
- Market Participants: New dispatch data parameters for pseudo unit and hydroelectric generation resources
- IESO: Ontario demand forecasts produced as the sum of four separate area demand forecasts

Real-Time Calculation Engine

Questions?

Next Steps

- **September 30:** Release the Pre-Dispatch Calculation Engine design document for stakeholder review
 - A session to support the stakeholder review of this document will take place between October 26-28
- **October 30:** Deadline for stakeholder feedback on the Real-Time Calculation Engine design document
- **December 2:** Deadline for stakeholder feedback on the Pre-Dispatch Calculation Engine design document, plus any other feedback on earlier design documents

Thank You

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