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# MRP Implementation Working Group Market Participant Testing Update

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# Agenda

- Preparation for Testing
- Test Phases
- New and Updated Schema, Sample, and Help Files for IESO Reports

# What should you do to prepare for Testing?

- Review and update your organization's contact roles in Sandbox.
- Review client (i.e. PC) and browser compatibility requirements available in the Participant Technical Reference Manual (note: MRP is not introducing any changes to this).
- Send an email to [market.renewal@ieso.ca](mailto:market.renewal@ieso.ca) to indicate your intention to participate in testing.
- Sign the *Form of Acknowledgement and Undertaking* to obtain access to qTest.
- Register new Sandbox API accounts and IP addresses 2 weeks prior to the time Market Participants plan to perform Connectivity Testing.
- If you are a Hydroelectric Generator, submit Cascade Group and Forebay registration information.
- Review and assess any system changes that need to be made on your systems based on the API Technical Specifications for Dispatch Service and MIM and the IESO Charge Types and Equations.

# Registration and Setup of qTest Accounts

- A copy of the qTest *Form of Acknowledgement and Undertaking* was sent to IWG members on September 1.
- Registration and Setup of qTest Accounts will start in November 2023.
- Market Participants will need to send an email to [market.renewal@ieso.ca](mailto:market.renewal@ieso.ca) to indicate their intention obtain access to qTest for MRP testing.
- The email can only be sent by a known user to the IESO (ie. Applicant Representative, Authorized Representative, Rights Administrator, or Primary Contact), and they will then receive a *Form of Acknowledgement and Undertaking* to sign.

## Registration and Setup of qTest

- Market Participants can attach a schedule to the *Form of Acknowledgement and Undertaking* if they will have more than 3 users.
- Applicant Representative, Authorized Representative, Rights Administrator, or Primary Contact can sign the *Form of Acknowledgement and Undertaking*
- Submit the completed and signed *Form of Acknowledgement and Undertaking* to [customer.relations@ieso.ca](mailto:customer.relations@ieso.ca).
- Access will only be granted to registered contacts from your organization.
- qTest will be accessed via the IESO Gateway.

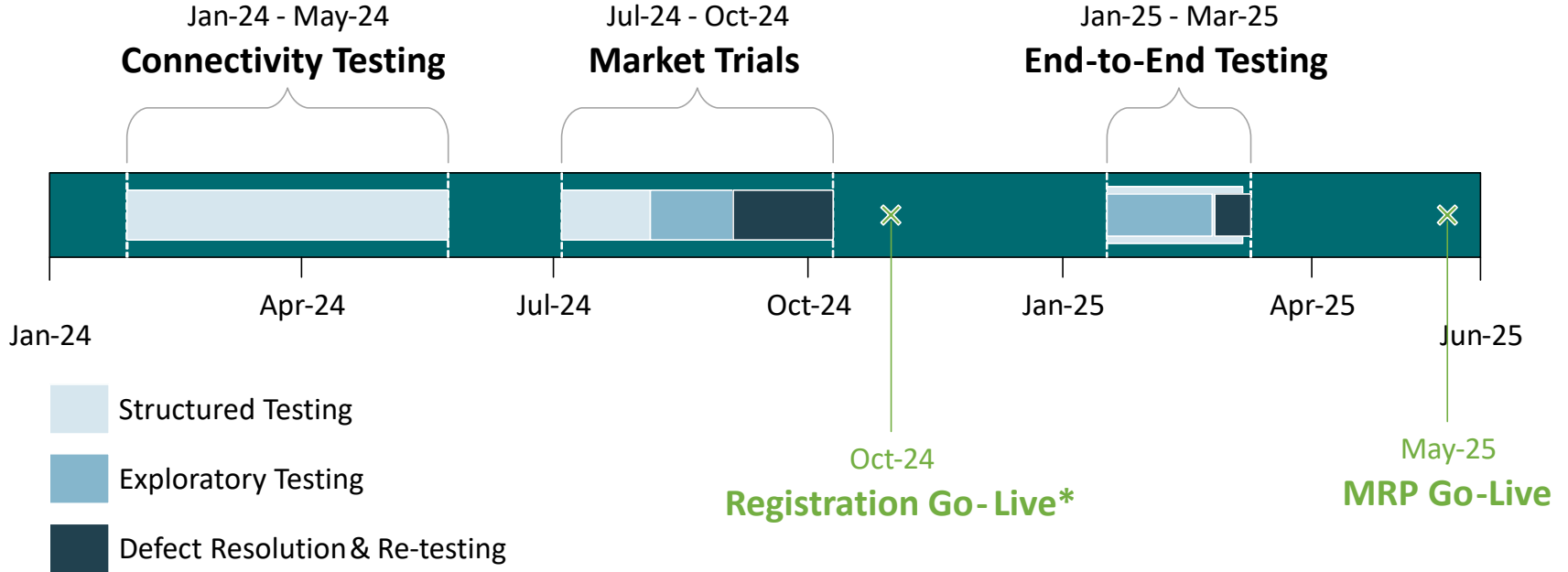
# Registering New API Accounts for Testing

- The Rights Administrator will need to log into Online IESO Sandbox and register new API accounts and IP addresses that will be used for testing in the Sandbox environment for the impacted tools.
- The normal processing time for updating an IP address is 10 business days.
- The Rights Administrator will need to register the IP addresses 2 weeks prior to the time Market Participants plan to perform Connectivity Testing.
- If Market Participants are using an existing API account or IP address that has already been whitelisted, no registration action is required.

# Collection of Registration data for Hydroelectric Generators prior to Market Trials

- Hydroelectric Generators are requested to submit Cascade Group, Forebay Name, Forebay Sequence ID, and Time Lag (optional) data for their resources to support Market Trials and Registration Go-Live.
- Impacted Market Participants are asked to submit the Cascade Group and Forebay registration information for their resources by April 2024.
- Impacted Market Participants will be notified in late October 2023 along with instructions on how to provide this data to the IESO.

# Testing Timeline



\***Registration Go-Live:** Market Participants' new MRP market registration data that has been submitted will be available to view and change in the Production Online IESO tool. New parameters will not be used by downstream systems until MRP Go-Live.



# Connectivity Testing

- **Objective:** Ensure that Market Participants are able to access the tools that will be used during testing.
  - Confirm that all test user accounts are assigned to a current user of a market participant organization and have the correct contact roles associated to their account
  - Confirm that the test API accounts have the correct IP addresses that have been whitelisted by the IESO and that the correct contact roles have been associated to the account
  - Confirm all IESO-MP communications channels are functioning

# Connectivity Testing

Market Participants will be able to test to confirm that users (via the graphical user interface) and/or API systems can access the following tools in the Sandbox environment:

1. Online IESO
2. Energy Market Interface (EMI)
3. Dispatch Services
4. IESO Reports Site

# MIM Services Toolkit and MWT Guide

- The MIM Web Services Toolkit and MWT Guide will be made available by December 2023 for Market Participants to test their API program's connectivity and functionality with the IESO's EMI web service in Sandbox.
- The tool can be used to query, submit, and/or delete bids and offers in EMI Sandbox.
- The tool is intended for testing purposes only.

# Market Trials

**Objective:** Market Participants are able to confirm individual tools and interfaces are functioning as intended such as:

- Submitting bids and offers in the EMI GUI and through MIM web services
- Receive dispatch instructions.
- Receive new and updated IESO Reports.

# Market Trials

## **Online IESO (Registration Forms and Parameters)**

- Market participants will be able to access and submit the following registration forms in Online IEO Sandbox as part of their exploratory testing if desired:
  - Registering as a Virtual Trader
  - Registering as a Price Responsive Load
  - Registering Market Control Entity for market participants and resources
  - Updating Reference Levels and Reference Quantities
  - Entering/Updating new registration parameters for hydroelectric and NQS resources
  - Updating Prudential Support

# Market Trials (continued)

## **Online IESO (Registration Forms and Parameters)**

- The IESO will post training materials and conduct a demo to outline the changes being made during Market Registration.
- In preparation for Registration Go-Live, the IESO will perform a data migration of Market Participant registration data into the new MRP registration fields.
- The IESO expects Market Participants will have at least 5 months to review registration data in the Production Online IESO system prior to the MRP go-live.
- IESO will test the internal workflows to process registration forms prior to Market Trials.

# Market Trials (continued)

## **EMI**

- Market participants will be able to submit bids and offers in the GUI and through MIM web services from mid-July 2024 to mid-September 2024.
- Testing includes being able to submit new, update, and cancel dispatch data parameters.
- Updated tool guides for MIM will be available in Q2 2024.

# Market Trials (continued)

## **Dispatch Services and IESO Reports**

- Testing includes being able to receive dispatch instructions (using new fields), and new and updated reports for MRP.
- Market participants will need to re-submit bids and offers in EMI to support their testing of Dispatch Services and IESO Reports.
- Testing of Dispatch Services and IESO Reports will run from mid-September 2024 to mid-October 2024.
- Updated tool guides for Dispatch Services will be available in Q2 2024.



# End-to-End Testing

**Objective:** To provide an opportunity for Market Participants to confirm their ability to execute key business processes and systems that are changing as a result of Market Renewal.

- End-to-end testing will allow participants to test the full cycle of processes that start with the submission of bids and offers in day-ahead through to receipt of dispatch instructions.
- Test cases will be structured to provide high level instructions to Market Participants to execute activities in the market.
- Participants will also be able to perform exploratory testing during this time.

# End-to-End Testing

- In order to provide Market Participants the opportunity to participate in a wide range of scenarios, the IESO will simulate certain market conditions in the tools during end-to-end testing.
- The IESO will pre-populate the testing environment with existing Market Participants registration data.

# End-to-End Testing

- Sandbox environment data will include, but not be limited to the following:
  - Demand will be created based on set market conditions.
  - Certain limits and constraints to satisfy specific test scenarios.
  - Mock data will be provided for Market Participants that have not completed development of reference levels.
  - Mock standing dispatch data will be provided for Market Participants that will not submit dispatch data in Sandbox.
  - Mock registration parameters and dispatch data parameters will be created for specific participation types to support their testing (i.e. NQS, Hydroelectric, etc.).
- Testing outcomes will reflect all of the Market Participants' transactions in the Sandbox environment and any information populated from the Production environment.

# Discussion Questions

1. IESO may be able to provide settlement statements based on the dispatch instructions issued in some of the test scenarios executed during end-to-end testing. Given the nature of testing there would be a number of limitations:
  - Telemetry and revenue meter data would be assumed to consistent with the dispatch instructions
  - Only preliminary settlement statements would be produced
  - Charge types generated would be dependent on how participants bid/offer in the test scenario and therefore desired outcomes may not materialize (e.g. cannot guarantee mitigation would occur)

Will producing settlement statements with these limitations address participant requests to have end-to-end testing include settlements? Would participants other than generators use the settlement statements produced for their testing (e.g. LDCs)? Would participants expect settlements to follow the production timeline (i.e. issued 10 BD after the dispatch day)?

# Discussion Questions

2. IESO can structure end-to-end testing to include one test scenario per week to manage the workload of participating, assessing results and trouble-shooting that results from each scenario. Is this a reasonable cadence for participants?  
Participants would still be able to perform exploratory testing outside of the defined scenarios.
3. What types of system conditions should IESO plan to include in the test scenarios (e.g. high demand, low demand)?

# Settlement Statements

- The updated Charge Types and Equations document can now be found on the IESO's Market Renewal website.
- The Format Specifications for Settlement Statement Files and Data Files will be released in Q2 2024.
- Market Participants will be able to download generic settlement statement and sample files from the IESO's website in Q4 2024 to support their testing needs.
- Sample statement and data files will include all the new and updated charge types listed in the IESO Charge Types and Equations List.

# New and Updated Schema, Sample, and Help Files for IESO Reports

- A memo was sent to IWG members on September 1 on where to access schema, sample, and help files for the new and revised IESO reports.
- Market participants are recommended to verify that they can view and download these reports, and confirm that the structural changes in these files can be accepted by their internal processes and systems before MRP Go-Live.
- The sample, schema, and help files for both public and confidential reports will be available on the Technical Reference Materials section of the MRP Readiness Training Website.
- The schema, sample, and help files for all revised and new IESO reports will be published in four batches: **Q3 2023, Q4 2023, Q1 2024, and Q2 2024.**

# List of Reports delivered in Q3 2023

#	Report Group	Report Name
1	Day-Ahead Pricing	Day-Ahead Constraints Shadow Prices
2	DAM Scheduling & OR	Day-Ahead Virtual Transactions (Total)
3	Real-time Pricing	Real-Time Constraints Shadow Prices
4	Real-Time Scheduling & OR	Dispatch Advisory
5	Real-Time Scheduling & OR	Real-time Operating Reserve Dispatch
6	Real-Time Scheduling & OR	Real-time Energy Dispatch
7	Real-Time Scheduling & OR	Real-Time Energy and Operating Reserve Dispatch
8	Real-Time Scheduling & OR	5-Minute Operating Reserve Schedule
9	Real-Time Scheduling & OR	5-Minute Energy Schedule
10	Real-Time Scheduling & OR	5-Minute Energy and Operating Reserve Schedule



# List of Reports to be posted in Q4 2023

- There will be approximately 20 IESO reports that will be posted at the end of Q4 2023.
- Each report will have a schema, sample, and Help file.
- The detailed list of external reports impacted by MRP can be found on the IESO's MRP website.
- The timing on when the reports will be delivered is subject to change and confirmed reports that will be included in each batch will be noted in future communication.

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# Thank You

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