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Technical Advisory Group MRP Tool Changes – Planning and Schedule

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Agenda

- Discuss detail on the tools that are being changed
- Forecast timing for exploratory and structured testing
- Availability of test environments
- Discuss challenges, opportunities, and constraints for system changes

Tool Changes

- Leverage current platforms as much as possible to minimize impact on participants
- Use stakeholder insights to consider the impact of a change, and provide time to manage the change
- Most changes fall upon dispatchable participants
- Detailed design documentation (Appendix A) highlighted, at a high-level, tools changing through Market Renewal

Example: Detailed Design Document

Appendix A: Market Participant Interfaces

Table A-1 provides a description of the changes to IESO technical interfaces with *market participants* that may be required to support the Offers, Bids and Data Input process design of the future day-ahead market and *real-time market*.

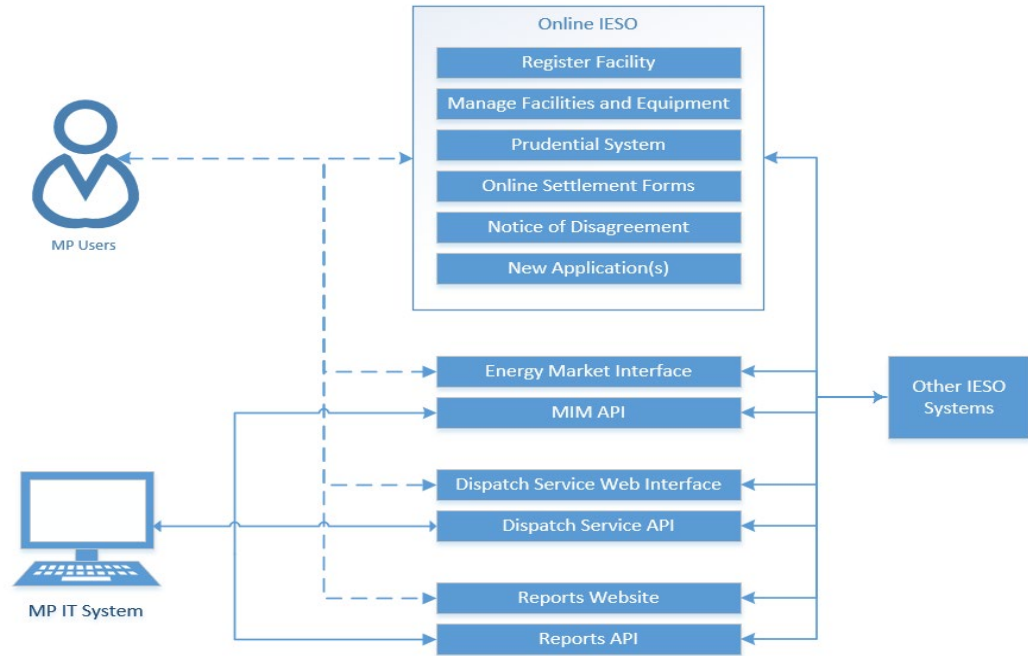
Table A-1: Changes to IESO Technical Interfaces

MP Interface Name	Interface Type	Description of Impact
Energy market Interface (EMI)	Web-Client	New hourly <i>dispatch data</i> parameters and daily <i>dispatch data</i> parameters, removal of daily <i>generator data</i> (DGD) designations, new and modified validation rules for hourly and daily <i>dispatch data</i> .
Market Information Management Application Programmatic Interface (MIM API)	Application Programmatic Interface	
Online Outage Coordination and Scheduling System (OCSS)	Web-Client	No changes required.

– End of Section –

Overview of Market Participant-IESO Interfaces

- Web interfaces are where a Market Participant (MP) user interacts with IESO-provided applications
- Machine-to-machine interface where a MP IT System interacts with IESO-provided applications using APIs (Application Programming Interfaces)



Summary of Tool Changes

1. Energy Market Interface (EMI) / Market Information Management (MIM) API (webservice)
 - Update to dispatch data construct
2. Dispatch Service User Interface (UI) / APIs (webservice)
 - New notification messaging to Non-Quick Start (NQS) generators
3. Online IESO
 - Updates to existing applications and new applications

1. EMI and MIM API (1 of 3)

Changes to Dispatch Data

- Virtual transaction offers and bids in the Day-Ahead Market (DAM)
- Price Responsive Load (PRL) bids in the DAM
- Daily Dispatch Data
 - New for NQS: thermal states, lead time for 3 thermal states, minimum generation block run time for 3 thermal states
 - New for Hydroelectric: minimum daily energy limit, maximum daily energy limit, maximum number of starts per day

1. EMI and MIM API (2 of 3)

Changes to Dispatch Data – continued

- Hourly Dispatch data (i.e., hourly bids and offers)
 - New for NQS: start-up costs & speed-no-load for 3 thermal states
 - New for Hydroelectric: minimum hourly output, hourly must-run
 - New for Intertie Traders: capacity export indicator
 - New for Variable Generators: own forecast quantity (for DAM)
- Day-ahead Physical Bilateral Contracts

1. EMI and MIM API (3 of 3)

EMI: web interface for user interaction

- Displays will be updated to reflect dispatch data submission changes

MIM API: machine-to-machine interface

- Web Service Description Language (WSDL) and XML Schema Definition (XSD) will be updated to reflect dispatch data submission changes

2. Dispatch Service UI/APIs (1 of 2)

New NQS Notification Message via DS Infrastructure

- NQS resources already have Dispatch Service (DS) infrastructure in place
- New types of information will be sent:
 - Binding Start-Up Notification
 - Commitment Extension Notification
 - De-Commitment Notification
- No impact to other types of resources

2. Dispatch Service UI/APIs (2 of 2)

DS UI: web interface for user interaction

- Displays will be updated to reflect introduction of notification messages
- MPs can choose to use DS UI to receive and action on notification messages

DS APIs: machine-to-machine interface

- WSDL and XSD will be updated to reflect introduction of notification changes
- 2 APIs:
 - Dispatch Service Web Service (DSWS) – MPs pull from IESO
 - Dispatch Instruction Notification Web Service (DINWS) – IESO pushes to MPs

3. Online IESO (1 of 2)

Updates to:

- Registration System – virtual trader, market control entity
- Manage Facilities and Equipment – PRL election, new resource parameters (hydro cascade, forebay, etc.), reference level/quantity
- Prudential System – virtual trader prudential support obligations, trading limit
- Online Settlement Forms – possible changes around new charge types
- Notice of Disagreement – possible changes around new charge types

3. Online IESO (2 of 2)

New:

- Application to support Market Power Mitigation (MPM) framework
 - Alternate fuel cost request and evidence submission
 - Supplemental information submission for ex-post MPM assessment

Reports and Settlement Changes

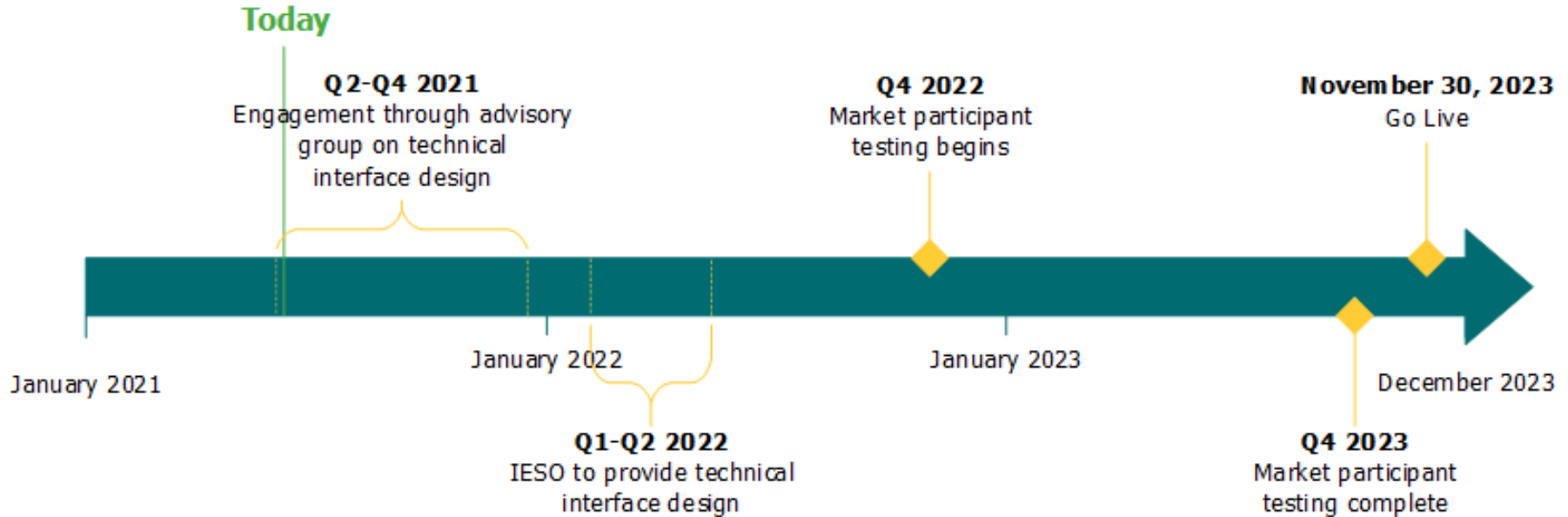
Reports

- No changes to how reports are accessed
- No new report file formats
- New, updated, retired reports (refer to [*Publishing and Reporting Market Information Detailed Design document*](#))
- Sample report files will be released

Settlement

- No changes to how settlement statements are accessed
- Status quo on file format
- New, amended, replaced, and retired charge types (refer to [*Market Settlement Detailed Design chapter*](#))
- Data structure change of settlement statement files for new charge types will be communicated in advance

Timeline



Before Testing Begins

- All IESO internal tools will have been developed and tested internally prior to release to MPs, and will be functionally sound (“system tested”)
- IESO will engage with MPs for validation of connectivity and systems integration
- New sandbox, dedicated to MRP, will be created
- IESO will provide support for MRP sandbox for the entire duration of testing

Testing in Q4 2022

- Connectivity testing
 - Gateway to testing, verifies systems are a go, check for proper access provisioning
- Prescriptive structured testing – IESO will provide test plans with tool-specific test cases for MPs to execute
 - MPs will communicate test results and any defects that may be encountered
 - Part of readiness assessment criteria

Test Stages

Deployment of IESO tools will be staggered, with a set duration of time allocated for different purposes:

- Time to perform prescriptive structured testing of the tool
- Additional time for participant business process testing; to enable MPs the opportunity to 'play' in the sandbox
- Further to this, sandbox will still be available for further business process testing if necessary – no tool will be decommissioned throughout the entire MP testing period

Tools released for testing in Q1 2023

Online IESO:

- Registration of virtual traders, market control entities
- PRLs, new resource parameters, reference level/quantity
- Virtual trader prudential support obligations, trading limits
- New MPM framework support

Tools released for testing in Q2 2023

- EMI and MIM API —Updates to the dispatch data construct
- Dispatch Service UI/APIs – New Notification message to NQS generators
- Online IESO still available for testing

Tools released for testing in Q2-Q3 2023

Reports

- New, updated, and retired reports

Settlement

- New, amended, replaced, and retired charge types
- Data structure change of settlement statement files

All tools from previous quarters still available for testing

Testing available in Q3 2023

Participant business process testing, continued

- All tools from previous quarters available for testing
- Buffer for continued testing for both MPs and IESO
- Flexibility for MPs who cannot schedule their activities with the schedule suggested by IESO

Discussion

- How do participants plan for resourcing this phase of testing?
- Are there service providers to bring into the engagement? Are there risks around vendor availability?
- Testing: could it be in parallel or in sequence?
- Any key lessons from previous tool testing for the IESO to keep in mind?