

# Structure of EDAC Market Trials

Project Advisory Group – September 30, 2010



## Overview

The objectives for the execution of the Market Trials phase of the Enhanced Day Ahead Commitment project are as follows:

- Demonstrate the readiness of both the IESO and market participant staff and systems to participate in the enhanced Day Ahead Commitment Process (DACP);
- Ensure that market participants have the opportunity to demonstrate the integration of their business processes with the EDAC business procedures and technical deliverables and to test that the new EDAC systems derive the results expected under a range of scenarios.

In addition, market participant staff will have an opportunity to become familiar with the new and modified processes and systems that will come into service as a result of this project.

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## Scope of Market Trials

Through the execution of market participant processes, Market Trials will test the following areas impacted by the EDAC project:

- Facility registration
- Day-ahead Market Operations and the Operation of the Real-Time Market
- Settlements

Market Trials will be executed in a manner that, as much as possible, mimics the IESO's day-ahead production timelines and data flows, as well as those of the associated real-time and settlement processes.

However, the use of real-time data (real-time constrained schedules, revenue meter readings, operational telemetry, etc.) together with the day-ahead schedules produced in the test environment, will result in incorrect settlement outcomes. This is due to the reliance of settlement equations on real-time outcomes transferred from the production environment, which could bear little resemblance to the Market Trials scenarios being tested.

This factor, along with the absence of economic drivers for all test participants, will limit the ability of participants to develop and test offer strategies during Market Trials.

## Description of Test Environment

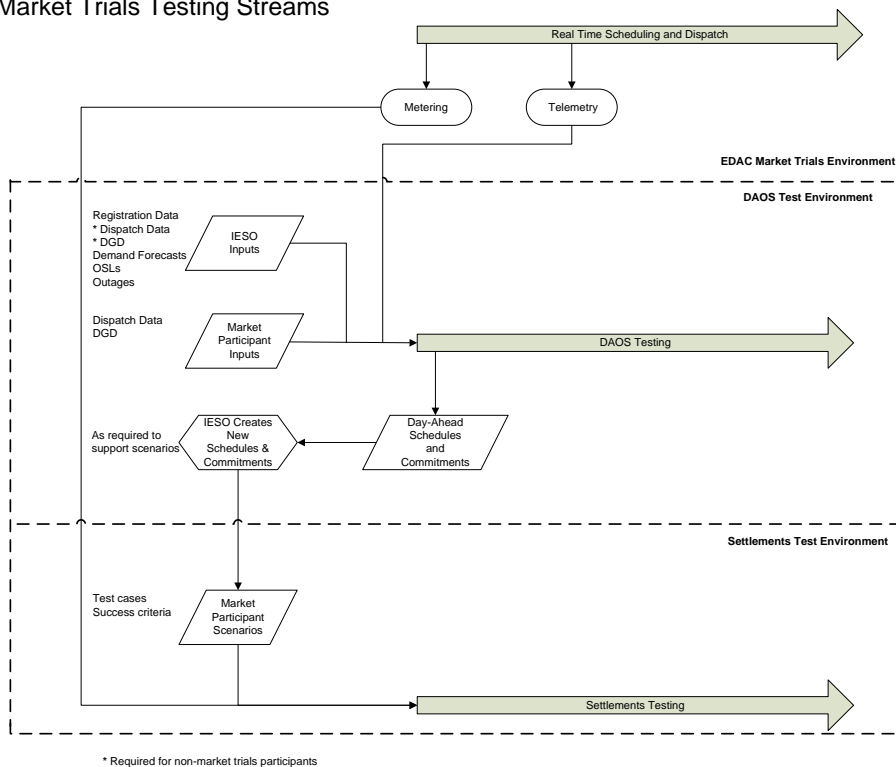
Market Trials will be conducted on the IESO Sandbox environment, which will allow participants to interact with the new and modified IESO systems that support the enhanced DACP.

Market participants who currently have access to the Sandbox system for testing will be able to access this environment for Market Trials. Participants who do not currently have access to the Sandbox should fill in form [http://www.ieso.ca/imoweb/pubs/forms/FORM\\_1276-IESO-Identity-System-Access-Management.doc](http://www.ieso.ca/imoweb/pubs/forms/FORM_1276-IESO-Identity-System-Access-Management.doc) and contact the IESO in accordance with the instructions on the form.

The diagram below shows the Market Trials test environment and the relationship of the Market Trials testing streams.

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Market Trials Testing Streams



## Stages of Market Trials

Market Trials will be composed of five distinct stages:

- Stage 1: Registration of new DACP related data
- Stage 2: Connectivity Testing
- Stage 3: Ability Testing
- Stage 4: Operations – Day Ahead (DA), Predispatch and Real-Time (RT)
- Stage 5: Settlement of the DACP

Each stage is further described below:

### *Stage 1: Registration of new DACP related data*

During the fall of 2010, members of the Project Advisory Group will be asked to make use of the modified draft Registration processes (market manuals, forms which are released under EDAC project, not under IESO Baseline release) to register the new DACP related data. The new data includes registration data as well as market participant specific information for the submission of day-ahead three part offers.

This data will be used to populate the IESO test systems during IESO's internal testing which is scheduled to start early in 2011. This data will also be used as the initial set of registration data at the beginning of Ability Testing, and can be changed by the market participant during the execution of the Ability Testing stage.

Business scenarios for consideration by Market Trials participants during this stage could be:

- Submission and validation of new technical data
- Election of operation as a Pseudo Unit
- De selecting operation as a Pseudo Unit
- Selecting submission of three part offers

### *Stage 2: Connectivity Testing*

As the IESO receives delivery of new and modified systems, the IESO Sandbox will be made available so market participants may connect in order to carry out their system and process development and testing. This IESO Sandbox is expected to be made available to market participants early in 2011. At that time the Market Participant Interface (MPI) will be available. Reports are available for developers on the Pending Changes page of the IESO website, and will be populated by test systems for participant use in late spring of 2011.

Connectivity Testing will be available to participants until the start of Ability Testing. However the environment will be shared with other sandbox activities with the restoration to/from existing sandbox environment planned and scheduled through a mechanism to be discussed with the Project Advisory Group.

### ***Stage 3: Ability Testing***

Ability Testing of Market Trials participants is expected to start in June 2011. Market Trials participants will be enrolled into the test environment one at a time. Given assumptions of approximately 20 potential Market Trials participants (eligible energy limited resources and PCG eligible generators), Ability Testing is expected to last approximately one to two weeks. On completion of the Ability Testing a participant may continue to run unstructured tests of their own, while other participants are brought into the test environment.

The IESO will lead Ability Testing, with scenarios to concentrate on a participant's ability to:

- connect to the system
- submit offers
- receive schedules
- retrieve settlement reports and statements

All schedules, reports and statements will be generated by the new and modified IESO systems. However, as noted above, settlement amounts may not always be relevant to the scenario being tested due to the use of real time data to feed the settlements equations.

### ***Stage 4: Day Ahead, Predispatch and Real Time Operations***

Market Trials of Day Ahead, Predispatch and Real Time operations will consist of IESO led scenarios that will involve all applicable Market Trials participants. Schedules of scenarios will be issued with advance notice to facilitate market participant resourcing.

Scenarios will cover the market participant tasks that occur in the Day Ahead, Predispatch and Real Time operating timeframes. These scenarios may include:

- Submission of three part offers and daily generation data (DGD)
- Submission of three part offers for pseudo units (PSU) and their associated Physical Units (PU)
- Retrieving and checking the calculated DGD data for PSUs
- Resubmission of Eligible Energy Limited Resources offers
- Receipt of participant schedules and commitments
- Carrying out a de-commitment of a resource committed day ahead
- Participant withdrawal of a committed resource
- Retrieval and checking of the Availability Declaration Envelope (ADE) values

### ***Stage 5: Settlement of the DACP***

Testing of the Settlement of the DACP is dependent on the use of real data streams such as revenue meter data from the IESO production systems. For this reason, scenarios under test will be constructed by modifying the day-ahead schedules and data (e.g., day-ahead offers, DGD, etc) that are inputs to the settlement systems. Scenarios may include:

- Eligibility for a day-ahead production cost guarantees (DA-PCG) based on real time revenue meter data
- Retrieval of data files and statements
- Applicability of a start event variant based on day ahead and real time revenue meter data

It should be noted that the modification of day-ahead data and its associated real time data may limit the amount of scenarios run during this stage of Market Trials.

A high level timeline for the Market Trials is shown in the diagram below.

**Note: The dates shown in this diagram are tentative and subject to change.**

# Market Trials Timeline

