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**Enhanced Day-Ahead
Commitment (EDAC)
IESO Internal Testing
Summary**

EDAC Issue 0.1

LIST

This document provides a summary of the IESO's internal testing for the Enhanced Day-Ahead Commitment (EDAC) project.

EDAC Draft

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EDAC Draft

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1. Introduction

1.1 Purpose

The purpose of this document is to facilitate sharing the IESO internal EDAC test cases with the market participants. The document has been created following the market participant request to the IESO to share its EDAC internal test cases for the purpose of Market Trials. Sharing the IESO internal test cases will assist the market participants to understand the extent of the IESO internal testing for the EDAC project and also will help the market participants to make sound decisions regarding the scope and coverage of the Market Trials.

1.2 Scope

This document lists only the EDAC internal test cases that are solely proprietary to the IESO. The test coverage, by process, is described below:

- Registration – covers the testing of the registration/enrolment system. The test cases have a focus on the business processes as described in the relevant market manuals and IESO internal manuals. These test cases are part of the IESO user acceptance test cycle (UAT).
- Operations – covers the testing of the Market Information Management (MIM) system and Day-Ahead Optimization system (DAOS). The test cases have a focus on business processes described as in the relevant market manuals and IESO internal manuals. These test cases are part of the IESO user acceptance test cycle (UAT).
- Settlements – covers the testing of the settlement system. There are two categories of test cases that will be shared with market participants:
 - Technical system test cases – with a focus on the technical implementation of the settlement charge types and equations; and
 - User acceptance test cases – with a focus on the business processes as described in the relevant market manuals and IESO internal manuals

In general the test cases will have a short description of what will be tested, a cross-reference to the relevant documentation (e.g., technical specifications, market/internal manuals) and the expected results. The settlements technical system test cases will also provide information regarding the input data and test results to the degree to which data confidentiality is maintained.

1.3 Who should use this document

This document should be used by the market participants who intend to participate in the EDAC Market Trials testing cycle.

– End of Section –

2. Registration and Operations Test Cases

The test cases listed under this section have a focus on business processes described as in the relevant market manuals and IESO internal manuals. These test cases are part of the IESO user acceptance test cycle (UAT).

2.1 Registration/Enrolment

Table 2-1: Enrolment Test Cases

EDAC Process	Test Case ID	Test Case Name	Status (Pass/Fail)
Enrolment	E-001	Register minimum loading point (MLP)	
	E-002	Register minimum generation block run-time (MGBRT)	
	E-003	Receive daily cascading hydroelectric dependency (DCHD) and record eligible energy limited resource (EELR) resubmission flag	
	E-004	Register Quick Start Facilities	
	E-005	Register Primary Fuel Type	
	E-006	Register Secondary Fuel Type	
	E-007	Register combustion turbine (CT) and steam turbine (ST) relationships in a combined cycle plant	
	E-008	Register ST MLPs	
	E-009	Register ST Percentage Share of Pseudo Unit	
	E-010	Register ST Duct Firing Capacity	
	E-011	Register a PSU	
	E-012	Register Day-Ahead Production Cost Guarantee (DA-PCG)-eligible status	
	E-013	Register Electrical Zone	
	E-014	Determine General Unit Type	
	E-015	Determine Generator Turbine Type	
	E-016	Determine the Steam Turbine association for a CCP	
	E-017	Determine the Steam Turbine Association for a PSU	
	E-018	Determine the Combustion Turbine Association for a PSU	
	E-019	Receive invalid or incomplete registration data	
	E-020	Register Elapsed Time to Dispatch (ETD)	

EDAC Process	Test Case ID	Test Case Name	Status (Pass/Fail)
	E-021	Register three-part offer eligibility	
	E-022	Receive declaration from CCP currently registered as a PSU to no longer participate in the PSU modelling as part of the day-ahead scheduling.	
	E-023	Pseudo Unit (PSU) is registered with DGD and dispatch data submitted on pre-dispatch day. MP retrieves the DACP reports to access the day-ahead schedule for the PSU following the completion of the DACP run(s).	
	E-024	DA-PCG-eligible generator is registered then submits DGD and dispatch data on pre-dispatch day. MP retrieves the DACP reports to access the day-ahead schedule for the PCG-eligible generator following the completion of the DACP run(s).	

2.1.1 Enrolment Test Specification

The purpose of testing the Enrolment process area is to assess the registered characteristics of the physical facilities in order to ensure that they adhere to the established reliability, performance, and standards as defined in the Internal Procedures and Market Manuals.

The E-023 & E-024 test cases will concentrate on the functionality of the inputs that are fed through the applications to ensure that each validation is performed according to the Business Process area. These end to end test cases will be performed using existing data from existing passed test cases and leveraging off an expected Network Model Build (NMB) introducing new resources and MPs.

Test Case ID: E-001**Test Case Description:** Receive, validate, and record the MLP value for an existing resource.**Actor:** Market participant, Market Entry**Procedure including version:**

- Market Manual 9.1 Procedures for Submitting DACP Registration Data v0.1.17
- Internal Manual 2.15-2 Registration and Data Submission before DACP v0.22

Expected Results:

- MLP information is compiled on the registration information form.
- Market Entry receives MP's completed registration information form.
- Market Entry records validated registration information data in the CDMS.

Test Case ID: E-002**Test Case Description:** Receive, validate, and record the minimum generation block run-time (MGBRT) value for an existing resource**Actor:** Market participant, Market Entry**Procedure including version:**

- Market Manual 9.1 Procedures for Submitting DACP Registration Data v0.1.17
- Internal Manual 2.15-2 Registration and Data Submission before DACP v0.2

Expected Results:

- MGBRT information is compiled on the registration information form.
- Market Entry receives MP's completed registration information form.
- Market Entry records valid registration information data in the CDMS.

Test Case ID: E-003**Test Case Description:** Receive DCHD and record EELR resubmission flag.**Actor:** Market participant, Market Entry**Procedure including version:**

- Market Manual 9.1 Procedures for Submitting DACP Registration Data v0.1.17
- Internal Manual 2.15-2 Registration and Data Submission before DACP v0.2

Expected Results:

- DCHD information is compiled on the registration information form.
- Market Entry receives MP's completed registration information form.
- Market Entry records EELR resubmission flag:
 - IF Daily Cascading Hydroelectric Dependency = YES
 - THEN EELR Resubmission Flag = YES
 - ELSE EELR Resubmission Flag = NO

Test Case ID: E-004**Test Case Description:** Receive, validate, and record quick start flag for an existing resource.**Actor:** Market participant, Market Entry**Procedure including version:**

- Market Manual 9.1 Procedures for Submitting DACP Registration Data v0.1.9
- Internal Manual 2.15-2 Registration and Data Submission before DACP v0.1.7

Expected Results:

- Quick Start Flag is entered on the registration information form.
- Market Entry receives MP's completed registration information form.
- Market Entry records quick start flag.

Test Case ID: E-005**Test Case Description:** Receive, validate, and record primary fuel type for an existing resource.**Actor:** Market participant, Market Entry**Procedure including version:**

- Market Manual 9.1 Procedures for Submitting DACP Registration Data v0.1.17
- Internal Manual 2.15-2 Registration and Data Submission before DACP v0.2

Expected Results:

- Primary fuel type is entered on the registration information form.
- Market Entry receives MP's completed registration information form.
- Market Entry records primary fuel type.

Test Case ID: E-006**Test Case Description:** Receive, validate, and record secondary fuel type for an existing resource.**Actor:** Market participant, Market Entry**Procedure including version:**

- Market Manual 9.1 Procedures for Submitting DACP Registration Data v0.1.17
- Internal Manual 2.15-2 Registration and Data Submission before DACP v0.2

Expected Results:

- Secondary fuel type is entered on the registration information form.
- Market Entry receives MP's completed registration information form.
- Market Entry records secondary fuel type.

Test Case ID: E-007

Test Case Description: Receive, validate, and record the combustion turbine (CT) and steam turbine (ST) relationships for an existing combined cycle plant.

Actor: Market participant, Market Entry

Procedure including version:

- Market Manual 9.1 Procedures for Submitting DACP Registration Data v0.1.17
- Internal Manual 2.15-2 Registration and Data Submission before DACP v0.2

Expected Results:

- CT and ST relationships are entered on the registration information form.
- Market Entry receives MP's completed registration information form.
- Market Entry records the following:
 - For each CT and ST resource, set the General Unit Type field to "Combined Cycle".
 - For each CT resource, set the ST Association field to reference the ST at the combined cycle plant.
 - For each CT resource, set the Generator Turbine Type field to "Combustion".
 - For the ST resource, set the Generator Turbine Type field to "Steam".
 - For the ST resource, record the Steam Turbine MLPs for n-on-1 CT-to-ST Configuration.
 - For each CT and ST resource, set start date in order to handle time dependent revisions.

Test Case ID: E-008

Test Case Description: Receive, validate, and record the ST MLPs for an existing combined cycle plant.

Actor: Market participant, Market Entry

Procedure including version:

- Market Manual 9.1 Procedures for Submitting DACP Registration Data v0.1.17
- Internal Manual 2.15-2 Registration and Data Submission before DACP v0.2

Expected Results:

- CT and ST relationships are entered on the registration information form.
- Market Entry receives MP's completed registration information form.
- Market Entry records the ST MLPs.

Test Case ID: E-009**Test Case Description:** Receive, validate, and record the ST percentage share of PSU.**Actor:** Market participant, Market Entry**Procedure including version:**

- Market Manual 9.1 Procedures for Submitting DACP Registration Data v0.1.17
- Internal Manual 2.15-2 Registration and Data Submission before DACP v0.2

Expected Results:

- ST percentage share of the PSUs entered on the registration information form.
- Market Entry receives MP's completed registration information form.
- Market Entry records the ST percentage share of the PSU.

Test Case ID: E-010**Test Case Description:** Receive, validate, and record the ST duct firing capacity of a combined cycle plant that intends to use the PSU model.**Actor:** Market participant, Market Entry**Procedure including version:**

- Market Manual 9.1 Procedures for Submitting DACP Registration Data v0.1.17
- Internal Manual 2.15-2 Registration and Data Submission before DACP v0.2

Expected Results:

- ST duct firing capacity of a combined cycle plant is entered on the registration information form.
- Market Entry receives MP's completed registration information form.
- Market Entry records the ST duct firing capacity of a combined cycle plant.

Test Case ID: E-011**Test Case Description:** Receive, validate, and record a PSU (a combined cycle plant wishing to use the PSU model).**Actor:** Market participant, Market Entry**Procedure including version:**

- Market Manual 9.1 Procedures for Submitting DACP Registration Data v0.1.17
- Internal Manual 2.15-2 Registration and Data Submission before DACP v0.2

Expected Results:

- Declaration to use the PSU model is entered on the registration information form.
- Market Entry receives MP's completed registration information form.
- Market Entry completes the following steps:
 1. Create a PSU resource for each CT resource at the combined cycle plant.
 2. For each PSU resource, set the General Unit Type field to "Pseudo Unit".

3. For each PSU resource, set the ST to PSU Association field to reference the ST at the combined cycle plant.
4. For each PSU resource, set the CT to PSU Association field to reference a unique CT at the combined cycle plant.
5. For each PSU resource, record the Steam Turbine Percentage Share of Pseudo Unit field with the value provided by the market participant.
6. For each PSU resource, set the PCG eligibility parameters based on the associated CT unit registration data.
7. For each PSU resource, set the market type participation (i.e., energy market, operating reserve markets) to be identical to that of the associated CT unit registration data.
8. For each PSU resource, set the administrative relationships (i.e., registered market participant, metered market participant, as well as registered market participant (RMP) user eligibility to submit dispatch data) to be identical to that of the associated CT unit registration data.
9. For each PSU resource, calculate and record the Maximum Generator Capacity based on the Maximum Generator Capacity of the associated CT and ST, and the Steam Turbine Percentage Share of PSU. Computed parameters must be rounded to the nearest single decimal value.

$$\text{PSU MGC} = (\text{ST Share}\% * \text{ST MGC}) + \text{CT MGC}$$
10. For each PSU resource, calculate and record the Maximum Ramp Rate based on the sum of the Maximum Ramp Rate of the CT and ST.
11. For each PSU resource, set start date in order to handle time dependent revisions.
12. For the associated ST resource, record the Steam Turbine Duct Firing Capacity field with the value provided by the market participant.

Test Case ID: E-012

Test Case Description: Determine and record the Day-Ahead Production Cost Guarantee (DA-PCG) eligibility for an existing resource.

Actor: Market Entry

Procedure including version:

Internal Manual 2.15-2 Registration and Data Submission before DACP v0.2

Expected Results:

- Market Entry determines DA-PCG eligibility as follows:
 - IF
 - Quick Start = NO
 - AND MLP > 0 MW
 - AND MGBRT > 1 hour
 - AND ETD > 60 min
 - AND Registered Resource Primary Fuel Type is not 'URANIUM'
 - THEN
 - PCG Eligibility Flag = YES
 - ELSE
 - PCG Eligibility Flag = NO
- Market Entry records DA-PCG eligibility as Yes or No in CDMS.

Test Case ID: E-013

Test Case Description: Determine and record the electrical zone for an existing generation facility dispatchable load.

Actor: Market Entry

Procedure including version:

Internal Manual 2.15-2 Registration and Data Submission before DACP v0.2

Expected Results:

- Market Entry determines electrical zone from a list of 10 possible entries:

Bruce	Toronto
Ottawa	Niagara
East	West
Southwest	Northeast
Essa	Northwest

- Market Entry records electrical zone in CDMS.

Test Case ID: E-014

Test Case Description: Determine and record the General Unit Type.

Actor: Market Entry

Procedure including version:

Internal Manual 2.15-2 Registration and Data Submission before DACP v0.2

Expected Results:

- Market Entry determines general unit type from the following possible entries:
 - Combined Cycle
 - PSU
 - Other
- Market Entry records general unit type in CDMS.

Test Case ID: E-015

Test Case Description: Determine and record the Generator Turbine Type for a combined cycle plant.

Actor: Market Entry

Procedure including version:

Internal Manual 2.15-2 Registration and Data Submission before DACP v0.2

Expected Results:

- Market Entry determines generator turbine type for each CT and ST at a combined cycle plant.
- Market Entry records generator turbine type in CDMS.

Test Case ID: E-016

Test Case Description: Determine and record the Steam Turbine association for each CT of a combined cycle plant.

Actor: Market Entry

Procedure including version:

Internal Manual 2.15-2 Registration and Data Submission before DACP v0.2

Expected Results:

- Market Entry determines ST association for each CT at a combined cycle plant.
- Market Entry records ST association in CDMS.

Test Case ID: E-017

Test Case Description: Determine and record the Steam Turbine association for each PSU.

Actor: Market Entry

Procedure including version:

Internal Manual 2.15-2 Registration and Data Submission before DACP v0.2

Expected Results:

- Market Entry determines ST association for each PSU.
- Market Entry records ST to PSU association in CDMS.

Test Case ID: E-018

Test Case Description: Determine and record the Combustion Turbine association for each PSU.

Actor: Market Entry

Procedure including version:

Internal Manual 2.15-2 Registration and Data Submission before DACP v0.2

Expected Results:

- Market Entry determines CT association for each PSU.
- Market Entry records CT to PSU association in CDMS.

Test Case ID: E-019

Test Case Description: Market Entry receives invalid or incomplete registration data and requests new or additional information.

Actor: Market participant, Market Entry

Procedure including version:

Internal Manual 2.15-2 Registration and Data Submission before DACP v0.2

Expected Results:

- Registration information form received by Market Entry.
- Market Entry determines that there is invalid, incorrect, or missing data on the registration information form.
- Market participant receives telephone notification.
- Registration information form received by Market Entry.
- Market Entry determines that the registration form is complete and correct.

Test Case ID: E-020

Test Case Description: Receive, validate, and record ETD for an existing resource.

Actor: Market participant, Market Entry

Procedure including version:

- Market Manual 9.1 Procedures for Submitting DACP Registration Data v0.1.17
- Internal Manual 2.15-2 Registration and Data Submission before DACP v0.2

Expected Results:

- ETD is entered on registration information form.
- Market Entry receives MP's completed registration information form.
- Market Entry records ETD.

Test Case ID: E-021

Test Case Description: Registered MP submits form to Market Entry informing their intention to submit three-part offers for the DACP. Market Entry enables the Day-Ahead Offer Template Use Flag to allow the MP access to new MPI/API submit/retrieve features (Speed No Load Costs and Start Up Costs).

Actor: Market participant, Market Entry

Procedure including version:

- Market Manual 9.1 Procedures for Submitting DACP Registration Data v0.1.19
- Internal Manual 2.15-2 Registration and Data Submission before DACP v0.2.2

Expected Results:

- Three-Part Offer Eligibility Declaration is entered on the registration information form.
- Market Entry receives MP's completed registration information form.
- Market Entry enables the Day-Ahead Offer Template Use Flag to allow the MP access to the new MPI/API submit/retrieve features (Speed No Load Costs and Start Up Costs). Market Entry records the Three-Part Offer Eligibility Declaration in the IESO registration system and informs MP of the enabled status of the Day-Ahead Offer Template Use Flag.

Test Case ID: E-022

Test Case Description: A CCP currently registered as a PSU no longer wishes to participate in the PSU modelling as part of the day-ahead scheduling. Market Entry receives, validates, and records CCP as a non-registered PSU. The CCP can no longer submit bids and offers as part of the day-ahead scheduling.

Actor: Market participant, Market Entry

Procedure including version:

- Market Manual 9.1 Procedures for Submitting DACP Registration Data v1.0
- Internal Manual 2.15-2 Registration and Data Submission before DACP v1.0

Expected Results:

- Declaration to not use the pseudo unit model is entered on the registration information form.
- Market Entry receives MP's completed registration information form.
- Market Entry records the Combined Cycle Plant as no longer being registered as a PSU. The CCP can no longer submit bids and offers in the day-ahead scheduling using the pseudo unit model.

Test Case ID: E-023

Test Case Description: A CCP wishing to participate in the PSU modeling as part of day-ahead scheduling requests registration of PSU to Market Entry. Market Entry receives, validates, and records the PSU. Physical unit (PU) associated with the PSU submits DGD and dispatch data between 06:00 and 10:00 on the pre-dispatch day. The DGD and dispatch data of the PSUs are used in the DACP while the dispatch data of the PUs are used in Pre-dispatch. MP retrieves the DACP reports to access the day-ahead schedule for the PSU.

Actor: Market participant, Market Entry, DACP Operator

Procedure including version:

- Market Manual 9.1 Procedures for Submitting DACP Registration Data v1.0
- Market Manual 9.2 Submitting Operational and Market Data for the DACP v1.0
- Market Manual 9.3 Operation of the Day-Ahead Commitment Process v1.0
- Internal Manual 2.15-2 Registration and Data Submission Before DACP v1.0
- Internal Manual 2.15-3 Operating During the DACP v2.0

Test Case ID: E-024

Test Case Description: A dispatchable not quick start generation unit submits registration forms to Market Entry. Market Entry receives, validates, and records the quick start flag, MLP, MGBRT, ETD, primary fuel type and maximum number of starts per day. Market Entry deems that dispatchable not quick start generation unit is eligible to receive a DA-PCG. Not quick start generation unit submits DGD and dispatch data between 06:00 and 10:00 on pre-dispatch day. The DGD and dispatch data is used in the DACP. MP retrieves the DACP reports to access the day-ahead schedule for the DA-PCG-eligible generator.

Actor: Market participant, Market Entry, DACP Operator

Procedure including version:

- Market Manual 9.1 Procedures for Submitting DACP Registration Data v1.0
- Market Manual 9.2 Submitting Operational and Market Data for the DACP v1.0
- Market Manual 9.3 Operation of the Day-Ahead Commitment Process v1.0
- Internal Manual 2.15-2 Registration and Data Submission Before DACP v1.0
- Internal Manual 2.15-3 Operating During the DACP v2.0

2.2 Operations - Initialization

Table 2-2: Initialization Test Cases

EDAC Process	Test Case ID	Test Case Name	Status (Pass/Fail)
Initialization	I-001	EELR submits revised dispatch data with the DEL >0 MWh between 10:00 and 12:00 on the pre-dispatch day; dispatch data accepted.	
	I-002	Non EELR dispatchable generator submits revised dispatch data between 10:00 and 14:00 on pre-dispatch day with reason code. MP phones DACP Operator confirming reason code is valid. Submission is approved by DACP Operator.	
	I-003	Demonstrate the procedure for submitting dispatch data (up to a maximum of 20 P/Q pairs for each hour), including Speed-No-Load and Start-Up costs on behalf of a market participant when providing dispatch data in CSV format via email.	
	I-004	Demonstrate the procedure for managing DGD submissions that exceed limits.	
	I-005	Demonstrate the procedure for submitting limited dispatch data (at least 2 and up to a maximum of 5 P/Q pairs for each hour), including Speed-No-Load and Start-Up costs on behalf of a market participant when providing dispatch data via telephone.	
	I-006	Demonstrate the procedure for submitting Daily Generator Data, including multiple MLPs, on behalf of a market participant.	
	I-007	Dispatchable generator/ load submits dispatch data between 10:00 and 14:00 on pre-dispatch day in response to request for additional offers/bids with reason code OTHER. A corresponding text description is included.	
	I-008	Dispatchable generator, dispatchable load, import, or export submits dispatch data between 10:00 and 14:00 on pre-dispatch day with no reason code.	
	I-009	Dispatchable generator, dispatchable load, import or export submits dispatch data between 10:00 and 14:00 on pre-dispatch day with reason code OTHER but with no text description.	
	I-010	MP submits segregated mode of operation (SMO) request before 9:00 day-ahead	
	I-011	MP submits SMO request after 10:00 day-ahead.	

EDAC Process	Test Case ID	Test Case Name	Status (Pass/Fail)
Initialization	I-012	Submitting dispatch data between 6:00 and 10:00 on pre-dispatch day.	
	I-013	Submitting dispatch data between 6:00 and 10:00 on pre-dispatch day. Error in data and it gets rejected.	
	I-014	Physical unit associated with a PSU submits dispatch data before 10:00 on pre-dispatch day.	
	I-015	Dispatchable not quick start generator submits valid DGD between 6:00 and 10:00.	
	I-016	Physical unit associated with a PSU submits DGD before 10:00 on pre-dispatch day.	
	I-017	Generator submits/revises dispatch data after 10:00 on pre-dispatch day with reason code "OTHER" and explanatory text. Data is rejected by the DACP Operator.	
	I-018	MP submits/revises dispatch data after 10:00 on pre-dispatch day with a reason code. Dispatch data automatically rejected at 14:00 (no action taken).	
	I-019	Import/Exports and linked wheels submit dispatch data after 10:00 on pre-dispatch day in response to IESO request for additional offers/bids.	
	I-020	PSU makes a change to physical unit offer between 10:00 and 14:00 on pre dispatch day.	
	I-021	PCG-eligible resource submits DGD after 10:00.	
	I-022	Demonstrate that DACP input tasks can be completed in the time allotted, including INPARM and forecast demand entry, issuing 09:00 System Status Report (SSR), entering reliability constraints, assessing SMO requests, setting AGC schedules, and ensuring there are sufficient offers.	

2.2.1 Initialization Test Specification

The purpose of testing the Initialization process area is to acquire, validate, and refine all inputs that will be used in the EDAC Optimization process.

Test Case ID: I-001

Test Case Description: Before 10:00 on the pre-dispatch day, EELR submits the initial dispatch data with a DEL value of 0 causing the EELR to not be used in the initial DACP run. Between 10:00 and 12:00 on the pre-dispatch day, EELR submits revised dispatch data with the DEL > 0 MWh; submitted data is validated and accepted to be used in the next run of the Day-Ahead Calculation Engine (DACE.)

Actor: Market participant, DACP Operator

Procedure including version:

- Market Manual 9.2 Procedures for Submitting Operational and Market Data for DACP v1.0
- Internal Manual 2.15-2 Registration and Data Submission before DACP v1.0

Expected Results:

- The EELR resource will not get scheduled in the initial DACP run.
- IESO receives, validates, and accepts submitted dispatch data with a revised DEL.
- The EELR resource will get scheduled in the next DACP run.

Test Case ID: I-002

Test Case Description: Non EELR dispatchable generator submits revised dispatch data between 10:00 and 14:00 on pre-dispatch day with reason code. Submitted dispatch data is held for approval. MP notifies DACP Operator of their submission by phone. IESO assesses revised dispatch data including the reason code and approves submission. Revised dispatch data is used in the next run of the DACE. This demonstrates the procedure for managing dispatch data submissions queued for approval.

Actor: Market participant, DACP Operator

Procedure including version:

- Market Manual 9.2 Submitting Operational and Market Data for the DACP v1.0
- Internal Manual 2.15-3 Operation During the DACP v2.0
- Internal Manual 2.15-A - Appendices v2.0

Expected Results:

- The IESO receives the dispatch data.
- DACP Operator receives phone call and reviews reason code according to Appendix A.1 of Market Manual 9: Part 9.2.
- Dispatch data is used in the DACP and/or Pre-dispatch.

Test Case ID: I-003

Test Case Description: A tool failure causes failure by the market participant to submit dispatch data by 10:00. The DACP Operator will submit dispatch data (up to a maximum of 20 P/Q pairs for each hour) on behalf of the market participant. Market participant will send the dispatch data to the IESO. The DACP Operator inputs the dispatch data which will be available for use in the DACP.

Actor: Market participant, DACP Operator

Procedure including version:

- MM 9.2 Submitting Operational and Market Data for the DACP v1.0
- IM 2.15 Part 2.15-2 Registration and Data Submission v1.0
- IM 2.15 Part 2.15-3 Operating during the DACP v2.0

Expected Results:

- The DACP Operator receives the MP's request to submit dispatch data.
- The MP receives email address and prepares bidding file.
- The DACP Operator receives the dispatch data.
- The dispatch data is available for use in the DACP.

Test Case ID: I-004

Test Case Description: Market participant submits DGD with a MLP exceeding the MLP Limit. Submission includes reason code with corresponding explanation. On receipt of a phone call from the MP, the DACP Operator reviews and approves the submission, logs the details, and includes the information in the hand-off notes. (DGD exceeding limits submitted after 16:00 will not be reviewed until a call is received after 08:00 the following day).

Actor: PCG-Eligible

Procedure including version:

- Market Manual 9.2- Submitting Operational and Market Data for the DACP v1.0
- Internal Manual 2.15-2 - Registration and Data Submission Before DACP v1.0
- Internal Manual 2.15-3 - Operating during the DACP v3.0 EDAC issue v2.0

Expected Results:

- DGD is queued for approval in OPGUI.
- DACP Operator receives phone call and reviews reason.
- Data is available for DACE and reports (Daily Generator Data report). New value and reason are noted in the Operating Plan hand-off notes.
- Day-ahead schedules respect the approved MLP value.

Test Case ID: I-005

Test Case Description: A tool failure causes failure by the market participant to submit dispatch data by 10:00. The DACP Operator will submit limited dispatch data (at least 2 and up to a maximum of 5 P/Q pairs for each hour) on behalf of the market participant, which will be available for use in the DACP.

Actor: Market participant, DACP Operator

Procedure including version:

- MM 9.2 Submitting Operational and Market Data for the DACP v1.0
- IM 2.15 Part 2.15-2 Registration and Data Submission v1.0
- IM 2.15 Part 2.15-3 Operating during the DACP v2.0

Expected Results:

- The DACP Operator receives the MP's request to submit dispatch data.
- The DACP Operator receives the dispatch data.
- The dispatch data is available for use in the DACP.

Test Case ID: I-006

Test Case Description: DACP Operator submits DGD on behalf of market participant. Data is submitted before 10:00.

Actor: Market participant, DACP Operator

Procedure including version:

IM 2.15 Part 2.15-3 Operating during the DACP v2.0

Expected Results:

- DACP Operator confirms to market participant he/she will attempt to submit DGD.
- DGD is accepted for use in DACP.
- DACP Operator verifies from the 10:00 DGD report that the revised DGD values from the MP have been accepted. The revised DGD values will be shown in the DGD report.

Test Case ID: I-007

Test Case Description: Dispatchable generator/load submits dispatch data between 10:00 and 14:00 on pre-dispatch day in response to request for additional offers/bids with reason code OTHER. A corresponding text description is included. Submission is assessed and approved. No phone call is required.

Actor: Market participant, DACP Operator

Procedure including version:

- Market Manual 9.2 Submitting Operational and Market Data for the DACP v1.0
- Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

- Market participants are notified of IESO's request for additional offers/bids.
- DACP Operator receives dispatch data and reason code queued for approval in OPGUI.
- Dispatch data will be used in the next DACP run.

Test Case ID: I-008

Test Case Description: Dispatchable generator, dispatchable load, import, or export submits dispatch data between 10:00 and 14:00 on pre-dispatch day with no reason code. Dispatch data is automatically rejected and a validation error is issued.

Actor: Market participant, IESO

Procedure including version:

- Market Manual 9.2 Submitting Operational and Market Data for the DACP v1.0
- Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

Dispatch data is automatically rejected and not used in the DACP and/or Pre-dispatch. Validation error is issued.

Test Case ID: I-009

Test Case Description: Dispatchable generator, dispatchable load, import, or export submits dispatch data between 10:00 and 14:00 on pre-dispatch day with reason code OTHER but with no text description. Submission is automatically rejected.

Actor: Market participant, IESO

Procedure including version:

- Market Manual 9.2 Submitting Operational and Market Data for the DACP v1.0
- Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

Dispatch data is automatically rejected and not used in the DACP and/or Pre-dispatch. Validation error is issued.

Test Case ID: I-010

Test Case Description: This demonstrates the procedure for implementing SMO. MP submits SMO request before 9:00 day-ahead, SMO is approved, and included in DACP. Required outages are submitted. This also tests that segregated generation units are not included in the DA Schedule even though they have valid DA offers.

Actor: DACP Operator, market participant

Procedure including version:

- Internal Manual 2.15-2 Registration & Data Submission before DACP v1.0
- Internal Manual 2.15-3 Operating during the DACP v2.0
- Market Manual 9.2 Submitting Operational and Market Data for the DACP v1.0

Expected Results:

- Offers present in the Ontario Market in case SMO is revoked. Day-ahead operator (DAO) receives outage request in IOMS.
- DACP Operator receives phone call and acknowledges SMO request. The DACP Operator receives outage request for units in IOMS.

- DACP Operator approves SMO unit outage(s) in IOMS and transfers to OS. SMO is reflected in DA schedule.
- Offers are present in OPGUI.
- IESO creates appropriate transmission outage slip in IOMS and transfers to OS.

Test Case ID: I-011

Test Case Description: MP submits SMO request after 10:00 day-ahead. SMO is not approved until last run of DACP is completed and is not included in DACP. SMO is approved and included in pre-dispatch. This tests the procedure for SMO requests received after 10:00.

Actor: DACP Operator, market participant

Procedure including version:

- Market Manual 9.2 Submitting Operational and Market Data for the DACP v1.0
- Internal Manual 2.15-2 Registration and Data Submission before DACP v1.0

Expected Results:

- DACP Operator receives the dispatch data and outage request slip, but does not approve the request until after the last DACE run.
- DACP Operator receives telephone call and acknowledges request.
- The SMO approval status is added in the hand-off notes.
- Transmission outage slip is present in IOMS.
- Outage slips are present in OS.

Test Case ID: I-012

Test Case Description: Market participant submits dispatch data for day 1 between 06:00 and 10:00 on pre-dispatch day.

Tests that valid three-part offers, bids, forecasts, and schedules submitted before 10:00 will be used in the DACP.

Actor: Market participant, IESO

Procedure including version:

- Market Manual 9.2 Submitting Operational and Market Data for the DACP v1.0
- Internal Manual 2.15-2 Registration and Data Submission before DACP v1.0

Expected Results:

- The IESO receives and validates dispatch data (system validation in MIM).
- Dispatch data is used in the DACP and/or Pre-dispatch.

(To be verified later: Does the MP receive a message back indicating that the dispatch data has been accepted?)

Test Case ID: I-013

Test Case Description: Market participant submits dispatch data between 06:00 and 10:00 on pre-dispatch day.

Tests MPI/API validation of bids and three-part offers.

Actor: Market participant

Procedure including version:

Market Manual 9.2 Submitting Operational and Market Data for the DACP v1.0

Expected Results:

- The IESO (MPI/API) receives dispatch data. Dispatch data is not valid.
- Market participant is notified of validation error via the MPI/API.
- The IESO (MPI/API) receives and validates dispatch data.
- Dispatch data is used in the DACP and/or Pre-dispatch.

Test Case ID: I-014

Test Case Description: Physical unit associated with a PSU submits dispatch data before 10:00 on pre-dispatch day.

Tests that PU dispatch data received before 10:00 is not used in the DACP.

Actor: Market participant

Procedure including version:

- Market Manual 9.2 Submitting Operational and Market Data for the DACP v1.0
- Internal Manual 2.15-2 Registration & Data Submission before DACP v1.0
- Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

- The IESO receives and validates physical unit dispatch data but does not consider it during DACP.
- Dispatch data is used in the Pre-dispatch.

Test Case ID: I-015

Test Case Description: PCG-eligible resource submits DGD between 06:00 and 10:00 day-ahead. The IESO systems validate and accept the submitted DGD.

This tests the MIM validation of DGD when the MLP or MGBRT Limit is not exceeded.

Actor: Market participant

Procedure including version:

- Market Manual 9.2- Submitting Operational and Market Data for the DACP v1.0
- Internal Manual 2.15-2 Registration & Data Submission before DACP v1.0

Expected Results:

- DGD submission is validated and accepted in MIM.
- Accepted DGD is available for DACP.

Test Case ID: I-016

Test Case Description: PU resources associated with a PSU submits DGD before 10:00 on pre-dispatch day. The IESO computes the PSU parameters. The computed DGD is used in the DACP.

Actor: DACP Operator, PSU resource

Procedure including version:

Market Manual 9.2- Submitting Operational and Market Data for the DACP v1.0

Expected Results:

- DGD validated and accepted in MIM.
- PSU DGD parameters available for the DACP.
- The PSU DGD computed values are reflected in the report.
- The PSU DA Schedule respects the calculated DGD values in the report and the CT MGBRT, MGBDT, and Max Starts.

Test Case ID: I-017

Test Case Description: Non energy limited dispatchable generator submits/revises dispatch data after 10:00 on pre-dispatch day with reason code and explanatory text. Phone conversation does not agree with reason. Data is rejected by the DACP Operator.

Actor: Market participant, DACP Operator

Procedure including version:

- Market Manual 9.2 Submitting Operational and Market Data for the DACP v1.0
- Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

- The IESO receives dispatch data.
- The DACP Operator does not approve the dispatch data.
- Dispatch data is not used in the DACP and/or Pre-dispatch.

Test Case ID: I-018

Test Case Description: Dispatchable loads and non energy limited dispatchable generators submit/revise dispatch data after 10:00 on pre-dispatch day with a reason code. IESO does not take any action during DACP. Dispatch data is automatically rejected after 14:00.

Actor: Market participant, IESO

Procedure including version:

- Market Manual 9.2 Submitting Operational and Market Data for the DACP v1.0
- Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

- DAO receives dispatch data.
- Dispatch data is automatically rejected after 14:00 and is not used in the DACP and/or pre-dispatch.

Test Case ID: I-019

Test Case Description: Import/Exports and linked wheels submit dispatch data after 10:00 on pre-dispatch day in response to IESO request for additional offers/bids with reason code OTHER. A corresponding text description is required. Submission is assessed and approved. No phone call required.

Actor: Marketer, DACP Operator

Procedure including version:

Market Manual 9.2 Submitting Operational and Market Data for the DACP v1.0

Expected Results:

- Market participants are notified of IESO request for additional offers/bids.
- DACP Operator receives dispatch data and reason code queued for approval in OPGUI.
- Dispatch data will be used in the next DACP run.

Test Case ID: I-020

Test Case Description: PSU makes a change to physical unit offer between 10:00 and 14:00 on pre dispatch day. No DACP Operator approval is needed. Submission is accepted.

Actor: PSU, DAO

Procedure including version:

Market Manual 9.2 Submitting Operational and Market Data for the DACP v1.0

Expected Results:

- Change is received.
- Data is accepted.

Test Case ID: I-021

Test Case Description: PCG-eligible resource submits DGD after 10:00 day-ahead. DGD used for following DACP days.

Actor: DAO, DA- PCG-eligible generator

Procedure including version:

- Internal Manual 2.15-2 Registration & Data Submission before DACP v1.0
- Internal Manual 2.15-3 Operating during the DACP v2.0
- Market Manual 9.2- Submitting Operational and Market Data for the DACP v1.0

Expected Results:

- The IESO receives and validates submitted DGD.
- Approved DGD is available for next day's DACP and so on.

Test Case ID: I-022

NB: This is an independent test case to determine if there is sufficient time for the DACP Operator to perform all of the tasks necessary to prepare for the DACP on a normal day. We will execute this test case by monitoring the time it takes to execute the unchanged activities in the Production environment today and to estimate the time required for new or modified activities.

Test Case Description: An experienced DACP Operator will replicate the current tasks of INPARM data entry, forecast demand data entry, issuing the 9:00 SSR, entering at least one reliability constraint for voltage control, assessing and approving a SMO request, setting the AGC schedules, and checking for sufficient offers, all within the timelines of the design (SSR by 8:45 and remainder by 10:00).

Actor: DACP Operator

Procedure including version:

- Market Manual 9.2 Submitting Operational and Market Data for the DACP v1.0
- Internal Manual 2.15-2 Registration and Data Submission before DACP v1.0
- Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

- The initial bid/offer submission window status is open between 06:00 and 10:00.
- INPARM has the required inputs by 08:45 for the dispatch day.
- The peak / average demand forecast is available for publication of the 09:00 SSR and to DAOS (SSR will not change and will continue to use one set of forecast demand).
- The SSR is ready to be issued at 08:45.
- The SSR is available by 09:00 on the pre-dispatch day. (The 09:00 SSR provides the most current information to MP prior to the initial DACP run start. MP can submit / revise their bids / offers prior to the 10:00 initial DACP run based on the 09:00 SSR.)
- The reliability constraint is loaded into Contract Manager.
- MP's request for SMO is included in the first run of the DACP.
- AGC contracts / constraints entered into Contract Manager.
- There are sufficient offers for the initial DACP run.

2.3 Operations - Optimization

Table 2-3: Optimization Test Cases

EDAC Process	Test Case ID	Test Case Name	Status (Pass/Fail)
Optimization	O-001	Demonstrate the procedure to notify market participants that initial results are delayed.	
	O-002	Demonstrate the procedure to notify market participants that energy limited resource (ELR) Optimization results are delayed.	
	O-003	Demonstrate the procedure to notify market participants that there will be no ELR Optimization run.	
	O-004	Demonstrate the procedure to notify market participants of a DACP failure.	
	O-005	MP retrieves DACP reports.	
	O-006	Demonstrate the procedure for issuing DACP Failure reports.	
	O-007	Demonstrate the procedure for Contract Manager failure.	
	O-008	Delay in initial start time of DACP run; new re-scheduled start time identified and notification that results are delayed is issued to MPs.	
	O-009	Delay in initial start time of DACP run; new re-scheduled start time not identified with notification issued to MPs.	
	O-010	Demonstrate the procedure required to stop a DACP run in progress and then to resume that run.	
	O-011	Demonstrate the procedure to access and navigate to all Primary and Secondary Validation displays and to note the time required.	
	O-012	Demonstrate the procedure to notify market participants that re-run criteria has been met.	
	O-013	Initial DACP run results are deemed invalid. Initial run is re-run with modified inputs.	
	O-014	Demonstrate the procedure to notify market participants that invalid results have inadvertently been published.	
	O-015	Demonstrate the procedure to initiate a subsequent run at the latest possible time to start a run to verify the time requirements for all downstream tasks that may have to be completed prior to 15:00.	
	O-016	Declare and record DACP failure.	
	O-017	Automatic loading of constraints fails; manual loading of constraints and publishing completed.	

EDAC Process	Test Case ID	Test Case Name	Status (Pass/Fail)
	O-018	Surplus Baseload Generation (SBG) issue for the scheduled day.	
	O-019	Demonstrate the procedure to approve DACP results for publishing.	
	O-020	Demonstrate the procedure for the DACP Operator to assess the contingency priority for a scheduled outage condition.	
	O-021	Establish a baseline case where both the Initial and ELR runs start on time and complete, reports publish, and constraints load successfully.	
	O-022	Reserve shortfall	
	O-023	INPARM input error	
	O-024	Lack of offers	
	O-025	OSL input error with 3500 MW FETT limit.	
	O-026	Demonstrate the procedure for the DACP Operator to accept a new NMB.	

2.3.1 Optimization Test Specification

The purpose of testing the Optimization process area is to produce a plan for operating the real-time grid and market on the next day, as well as prepare inputs for and perform the day-ahead Optimization process that generates next day resource commitments and schedules.

Test Case ID: O-001

Test Case Description: The DACP Operator will issue the notification that initial results are delayed via the Notification Solution.

Actor: DACP Operator, market participants

Procedure including version:

- Market Manual 9.3- Operation of the Day-Ahead Commitment Process v1.0
- Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

- Market participants receive notification via MPI or API that the initial DACP results are delayed with the time to expect the results; EELR resubmission window extended until HH:MM (ELR Optimization results will also be delayed).
- Market participant accesses the Public and Private reports to view the delayed initial results.

Test Case ID: O-002

Test Case Description: Demonstrate the procedure to notify market participants that ELR Optimization results are delayed.

Actor: DACP Operator, market participants

Procedure including version:

- Market Manual 9.3- Operation of the Day-Ahead Commitment Process v1.0
- Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

- Market participant receives notification via MPI or API that the ELR Optimization results are delayed with the time to expect the results.
- Market participant assesses the Public and Private reports to view the delayed ELR Optimization results.

Test Case ID: O-003

Test Case Description: The DACP Operator will issue a notification that there will be no ELR Optimization run via the Notification Solution.

Actor: DACP Operator, market participants

Procedure including version:

- Market Manual 9.3- Operation of the Day-Ahead Commitment Process v1.0
- Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

Market participants receive notification via MPI or API that there is no ELR Optimization.

Note: If the DACP has not produced a valid ELR Optimization run, the DACP Schedule of Record (SOR) will be on the initial DACP run. Market participants can access the DACP SOR from the IESO report site.

Test Case ID: O-004

Test Case Description: The DACP Operator will issue the notification of a DACP failure via the Notification Solution.

Actor: DACP Operator, market participant

Procedure including version:

- Market Manual 9.3- Operation of the Day-Ahead Commitment Process v1.0
- Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

MPs receive the notification via MPI or API that the DACP has failed. The notification message informs the MPs of the date of the DACP failure and the date to expect the DACP to resume. The notification message will read:

Message: "The Day-Ahead Commitment Process has failed for trade date YYYY/MM/DD; DACP will resume for trade date YYYY/MM/DD."

Test Case ID: O-005

Test Case Description: MP retrieves public and Private reports

Actor: DACP Operator, market participants

Procedure including version:

Market Manual 9.3- Operation of the Day-Ahead Commitment Process v1.0

Expected Results:

- The public and Private reports are published.
- The market participant accesses the public and Private reports to view the initial results.
- The public and Private reports are published.
- The market participant accesses the Public and Private reports to view the EELR Optimization results.

Note: The public and Private reports are published after each time results are determined to be valid by the DAO.

Test Case ID: O-006

Test Case Description: Invalid DACP results have been published. There is insufficient time to re-run the DACP. The DACP is declared a failure. The DACP Operator issues DACP Failure reports.

Actor: DACP Operator

Procedure including version:

Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

- The DACP Failure reports (which include the two Schedule of Record reports and the Adequacy report) will indicate that the DACP has been declared a failure. MPs will identify a DACP failure from the DACP status flag on the DACP Failure reports issued by 15:00 (data fields must be blank). Market participants receive the notification via MPI or API that the DACP has failed.
- The DACP commitments are not loaded as real-time constraints and the Commitment reports are not issued.
- The DACP related settlements are not computed and issued to MPs.
- Settlements and Customer Relations are notified of the DACP failure.
- MPs receive the notification via MPI or API that the DACP has failed. The notification message informs the MPs of the date of the DACP failure and the date to expect the DACP to resume. The notification message will read:

Message: "The Day-Ahead Commitment Process has failed for trade date YYYY/MM/DD; DACP will resume for trade date YYYY/MM/DD."

Test Case ID: O-007

Test Case Description: Contract Manager has failed. Contract Manager will not be returned to service until after 15:00. MPs will be notified that the DACP Commitments reports will be delayed until further notice. The DACP Commitment reports are issued when Contract Manager has been returned to service.

Actor: DACP Operator, Shift Control Engineer (SCE), market participant

Procedure including version:

Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

- Market participants receive notification via MPI or API that the DACP Commitments reports will be delayed.
- The Commitments reports are published automatically on completion of the load.
- Market participants receive notification via MPI or API that the DACP Commitments reports were issued.

Test Case ID: O-008

Test Case Description: The scheduled start time of the initial DACP run must be delayed. The DACP Operator identifies when the start time of the initial run can be re-scheduled and issues notification to all MPs that results are delayed and when to expect the results.

Actor: Market participant, DACP Operator

Procedure including version:

- Market Manual 9.3 Operation of the Day-Ahead Commitment Process v1.0
- Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

- Market participants receive notification via MPI or API that the initial DACP results are delayed with the known time to expect the results (ELR Optimization results will also be delayed). The notification message will read:
Message: "Initial Results are delayed; Expect Results by HH:MM; EELR resubmission window extended until HH:MM; ELR Results will also be delayed."
Message: "Initial Results are delayed; Expect Results by HH:MM; EELR resubmission window extended until HH:MM; ELR Results will also be delayed."
- Market participant accesses the Public and Private reports to view the delayed initial results. The DACP notifications will be prefixed "DACP Notification" on the IESO website.

Test Case ID: O-009

Test Case Description: The scheduled start time of the initial DACP run must be delayed. The DACP Operator cannot identify when the start time of the initial run can be re-scheduled and issues notification to all market participants that the time for results is yet to be determined. When the expected time for the results is determined, the MPs will be notified in a follow-up message.

Actor: Market participant, DACP Operator

Procedure including version:

- Market Manual 9.3 Operation of the Day-Ahead Commitment Process v1.0
- Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

- Market participants receive notification via MPI or API that the Initial DACP results are delayed with an unknown time to expect the results (ELR Optimization results will also be delayed). The notification message will read:
Message: "Initial Results are delayed; Time for Results is yet to be determined; ELR Results will also be delayed."
- Market participants receive the notifications via MPI or API of the new expected times. The notification message will read:
Message: "Expect Initial Results by HH:MM; ELR resubmission window extended until HH:MM."
- Market participant accesses the Public and Private reports to view the delayed initial results. The DACP notifications will be prefixed "DACP Notification" on the IESO website.

Test Case ID: O-010

Test Case Description: The DACP Operator attempts to stop a DACP run in Pass 2 of the initial run; run stops when requested. With the run in stop mode, the DACP Operator attempts to re-start the run; run restarts at the beginning of Pass 2.

Actor: DACP Operator

Procedure including version:

Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

- The DACP run stops.
- The DACP Operator verifies that the DACP run has stopped.
- The run resumes from the beginning of Pass 2.

Test Case ID: O-011

Test Case Description: The DACP Operator attempts to access both the Primary and Secondary displays that are required for validation. The DACP Operator is able to access the Primary display in less than two minutes from the completion of the run with data present in all displays.

Actor: DACP Operator

Procedure including version:

Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

- The DACP Operator accesses all the Primary validation displays in sequence, verifying that data is present in each display.
- The first Primary display is available in less than two minutes from the completion of the run.
- The amount of time to navigate through the Primary validation displays is recorded.
- The DACP Operator accesses all the Secondary validation displays in sequence, verifying that data is present in each display.

Test Case ID: O-012

Test Case Description: The DACP Operator will issue the notification that an additional run has been scheduled due to the re-run criteria and when to expect the results, via the Notification Solution.

Actor: Market participant, DACP Operator

Procedure including version:

Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

- Market participant receives notification via MPI or API that an additional run has been scheduled. The notification reads:
Message: "An additional DACP run has been scheduled due to (give rerun criterion). Expect results by HH:MM."
Note: Market participants can also access the IESO website to view the notification message of an additional run.
- The results from the subsequent run are published for the market participant to view at the proposed time (by 15:00).

Test Case ID: O-013

Test Case Description: The initial DACP run had invalid results so the automatic publishing of the results is prevented. With modified inputs, the initial DACP run is re-run with a revised scheduled time; the DACP results from the re-run are deemed valid. The valid DACP results are published at a later time.

Actor: DACP Operator

Procedure including version:

Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

- The automatic publishing of the DACP results from the initial DACP run is prevented.
- Market participants receive notification via MPI or API that the Initial DACP results are delayed with an unknown time to expect the results (ELR Optimization results will also be delayed). The notification message will read:
Message: "Initial Results are delayed; Time for Results is yet to be determined; ELR Results will also be delayed."
- The data set containing the suspect data is recorded in MF&I log.
- Market participants receive the notifications via MPI or API of the new expected times. The notification message will read:
Message: "Expect Initial Results by HH:MM; ELR resubmission window extended until HH:MM."
- The subsequent run is successfully executed. The results from the subsequent run are published for the MP to view.

Test Case ID: O-014

Test Case Description: The DACP Operator will issue the notification that invalid results have inadvertently been published, via the Notification Solution.

Actor: Market participant, DACP Operator

Procedure including version:

Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

Market participant receives notification from IESO that the previously published results have been determined to be invalid.

Test Case ID: O-015

Test Case Description: The DACP Operator will execute a manual start for a subsequent run (re-run). Initiation time will be just prior to the latest possible time to start a run with automatic publishing to take place. Results are determined to be invalid so there must be enough time remaining prior to 15:00 to declare / record a failure and notify market participants of the failure.

Actor: Market participant, DACP Operator

Procedure including version:

- Market Manual 9.3 Operation of the Day-Ahead Commitment Process v1.0
- Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

- Market participant receives notification from the IESO that a subsequent run has been scheduled as previous results are invalid. The notification indicates the time to expect results of the subsequent run.
- The subsequent run is executed.
- MPs receive notification of DACP failure.
 - 1) The DACP Failure reports (two Schedule of Record reports and the Adequacy report) are issued.
 - 2) The load of the PCG constraints into Contract Manager is prohibited. The DACP commitments are not loaded as real-time constraints and the Commitment reports are not issued.
 - 3) Settle Market will respect the DACP failure when computing settlements. The DACP related settlements are not computed and issued to MPs.
- Settlements and Customer Relations are notified of the DACP failure.

Test Case ID: O-016

Test Case Description: The DACE does not produce valid results so a DACP failure is declared. A failure notification is sent to market participants.

Actor: Market participant, DACP Operator

Procedure including version:

- Market Manual 9.3 - Operation of the Day-Ahead Commitment Process v1.0
- Internal Manual 2.15-3 Operating During the DACP v2.0

Expected Results:

- The absence of the SOR reports after 15:00 will indicate that the DACP has failed. MPs will identify a DACP failure from the absence of the SOR reports.
- The DACP commitments are not loaded as real-time constraints and the Commitment reports are not issued.
- The DACP related settlements are not computed and issued to MPs.
- Settlements and Customer Relations are notified of the DACP failure.
- MPs receive the notification via MPI or API that the DACP has failed. The notification message informs the MPs of the date of the DACP failure and the date to expect the DACP to resume. The notification message will read:

Message: “The Day-Ahead Commitment Process has failed for trade date YYYY/MM/DD; DACP will resume for trade date YYYY/MM/DD.”

Test Case ID: O-017

Test Case Description: The automatic loading of constraints into Contract Manager fails. The DACP Operator must load the constraints into Contract Manager and initiate publishing of Commitments reports manually.

Actor: DACP Operator

Procedure including version:

- Market Manual 9.3 Operation of the Day-Ahead Commitment Process v1.0
- Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

- The SCE initiates repairs.
- Market participants receive notification via MPI or API that the DACP Commitments reports will be delayed.
- The data is available for calculations.
- The constraints are calculated.
- The constraints are loaded into Contract Manager.
- The DACP Commitments reports are published.
- Market participants receive notification via MPI or API that the DACP Commitments reports are published.

Test Case ID: O-018

Test Case Description: Reduce the demand forecast to that of a typical low load day such as the Sunday of the May 24th long weekend. Ensure that there are offers from enough nuclear units to cause excess. Offer nuclear reductions. Remove any bids for export. In the setup, try to make the excess around 1000 MW so that it will be readily apparent.

An experienced DACP Operator, familiar with navigating to the validation displays, will validate results from this scenario that has been designed to prove valid or invalid. The DACP Operator will not have any foreknowledge of what the results might be. The objective of the testing is to determine how long validation will take in order to ensure the design time allotted for validation is adequate.

Actor: DACP Operator

Procedure including version:

Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

- Workflow Message screen displays any error messages generated by DACE nodes.
- System Energy Summary screen displays any alarms for overgeneration, too much load, transmission constraint violations, interrupted transactions, reserve violations, or ramp rate constraint violations.
- This display provides a list of the constraints and associated shadow prices. The shadow prices for constraint names are in line with outage conditions, flow limits, and bottled generation.
- This display provides an overview of the day-ahead and includes the demand forecasts, reserve requirements and scheduled reserve, offered, scheduled, and surplus resources and transactions, wheels, and Net Scheduled Interchange.

- Display shows which resources are constrained up or down.
- Public reports, Private reports, and IESO Internal reports are published, not published, or delayed.

Test Case ID: O-019

Test Case Description: The DACP Operator will approve DACP results for publishing prior to the completion of the review period by setting the Operator Approve flag to "Yes", which will generate the reports sooner than if the review period were left to expire.

Actor: DACP Operator

Procedure including version:

Internal Manual 2.15-3 Operating During the DACP v2.0

Expected Results:

The DACP results from either the initial DACP run or ELR run are automatically published.

Test Case ID: O-020

Test Case Description: The initial results from the DACP run are available; however, the DACP Operator does not have enough time to determine if the results are valid. The DACP Operator extends the validation time by preventing the automatic publishing of the DACP results in order to review the results. The DACP results are deemed invalid. With modified inputs, the initial DACP run is re-run with a revised scheduled time; the DACP results from the re-run are deemed valid. The valid DACP results are published.

Actor: DACP Operator

Procedure including version:

Internal Manual 2.15-3 Operating During the DACP v2.0

Expected Results:

- The automatic publishing of the DACP results from either the Initial DACP run or ELR Optimization run is prevented allowing the DACP Operator to extend the validation time.
- Market participants receive notification via MPI or API that the Initial DACP results are delayed with an unknown time to expect the results (ELR Optimization results will also be delayed). The notification message will read:
Message: "Initial Results are delayed; Time for Results is yet to be determined; ELR Results will also be delayed."
- The data set containing the suspect data is recorded in MF&I log.
- The subsequent run is successfully executed.
- Market participants receive the notifications via MPI or API of the new expected times. The notification message will read:
Message: "Expect Initial Results by HH:MM; ELR resubmission window extended until HH:MM."
- The publishing of the DACP results from the initial DACP run occurs.
- The DACP results for the next day-ahead run will start publishing at the automated publishing time unless that DACP Operator manually stops the publishing.

Test Case ID: O-021**Test Case Description:** The DACP Operator will monitor that:

- Both the Initial and ELR runs start at the scheduled time and complete successfully, noting how long each takes to run,
- Reports publish at the end of the review period, noting how long it takes for reports to become available,
- Constraints are loaded successfully by 15:06,
- Commitments reports are generated automatically, and
- Constraints used in pre-dispatch.

Actor: DACP Operator**Procedure including version:**

- Market Manual 9.3 Operation of the DACP v1.0
- Internal Manual 2.15-3 Operating During the DACP v2.0

Expected Results:

- The Initial DACP run is successfully completed. The DACP Operator notes how long the initial DACP run takes.
- The Initial DACP reports are published (the DACP Operator notes how long it takes for the initial DACP reports to be available).
- The ELR Optimization run is successfully completed. The DACP Operator notes how long the ELR Optimization run takes.
- The ELR Optimization reports are published (the DACP Operator notes how long it takes for the ELR Optimization reports to be available).
- Constraints are automatically loaded into Contract Manager and used in the 15:07 pre-dispatch run. The Commitment reports are automatically published for stakeholders to view.

Test Case ID: O-022

Test Case Description: Increase forecast demand to a point where the energy behind the operating reserves (OR) offer is being run so it becomes unavailable for reserve. This may take some manipulation to achieve. Alternatively, we could remove offers for 10-minute reserve to about half the 10-minute reserve requirement. This would not be a reflection of the typical way in which a reserve shortfall occurs.

An experienced DACP Operator, familiar with navigating to the validation displays, will validate results from this scenario that has been designed to prove valid or invalid. The DACP Operator will not have any foreknowledge of what the results might be. The objective of the testing is to determine how long validation will take in order to ensure the design time allotted for validation is adequate.

Actor: DACP Operator**Procedure including version:**

Internal Manual 2.15-3 Operating During the DACP v2.0

Expected Results:

- Workflow Message screen displays any error messages generated by DACE nodes.
- System Energy Summary screen displays any alarms for overgeneration, too much load, transmission constraint violations, interrupted transactions, reserve violations, or ramp rate constraint violations.
- This display provides a list of the constraints and associated shadow prices. The shadow prices for constraint names are in line with outage conditions, flow limits, and bottled generation.
- This display provides an overview of the day-ahead and includes the demand forecasts, reserve requirements and scheduled reserve, offered, scheduled, and surplus resources and transactions, wheels, and Net Scheduled Interchange.
- Display shows which resources are constrained up or down.
- Public reports, Private reports, and IESO Internal reports are published, not published, or delayed.

Test Case ID: O-023

Test Case Description: Input a total reserve requirement for the peak hour that is increased by 1,000 MW.

An experienced DACP Operator, familiar with navigating to the validation displays, will validate results from this scenario that has been designed to prove valid or invalid. The DACP Operator will not have any foreknowledge of what the results might be. The objective of the testing is to determine how long validation will take in order to ensure the design time allotted for validation is adequate.

Actor: DACP Operator

Procedure including version:

Internal Manual 2.15-3 Operating During the DACP v2.0

Expected Results:

- Workflow Message screen displays any error messages generated by DACE nodes.
- System Energy Summary screen displays any alarms for overgeneration, too much load, transmission constraint violations, interrupted transactions, reserve violations, or ramp rate constraint violations.
- This display provides a list of the constraints and associated shadow prices. The shadow prices for constraint names are in line with outage conditions, flow limits, and bottled generation.
- This display provides an overview of the day-ahead and includes the demand forecasts, reserve requirements and scheduled reserve, offered, scheduled, and surplus resources and transactions, wheels, and Net Scheduled Interchange.
- Display shows which resources are constrained up or down.
- Public reports, Private reports, and IESO Internal reports are published, not published, or delayed.

Test Case ID: O-024**Test Case Description:** Outage or remove all Bruce offers to create a shortfall that is not legitimate.

An experienced DACP Operator, familiar with navigating to the validation displays, will validate results from this scenario that has been designed to prove valid or invalid. The DACP Operator will not have any foreknowledge of what the results might be. The objective of the testing is to determine how long validation will take in order to ensure the design time allotted for validation is adequate.

Actor: DACP Operator**Procedure including version:**

Internal Manual 2.15-3 Operating During the DACP v2.0

Expected Results:

- Workflow Message screen displays any error messages generated by DACE nodes.
- System Energy Summary screen displays any alarms for overgeneration, too much load, transmission constraint violations, interrupted transactions, reserve violations, or ramp rate constraint violations.
- This display provides a list of the constraints and associated shadow prices. The shadow prices for constraint names are in line with outage conditions, flow limits, and bottled generation.
- This display provides an overview of the day-ahead and includes the demand forecasts, reserve requirements and scheduled reserve, offered, scheduled, and surplus resources and transactions, wheels, and Net Scheduled Interchange.
- Display shows which resources are constrained up or down.
- Public reports, Private reports, and IESO Internal reports are published, not published, or delayed.

Test Case ID: O-025**Test Case Description:** Input a 350 MW OSL on FETT instead of 3500 (not exactly sure how to do this).

An experienced DACP Operator, familiar with navigating to the validation displays, will validate results from this scenario that has been designed to prove valid or invalid. The DACP Operator will not have any foreknowledge of what the results might be. The objective of the testing is to determine how long validation will take in order to ensure the design time allotted for validation is adequate.

Actor: DACP Operator**Procedure including version:**

Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

- Workflow Message screen displays any error messages generated by DACE nodes.
- System Energy Summary screen displays any alarms for overgeneration, too much load, transmission constraint violations, interrupted transactions, reserve violations, or ramp rate constraint violations.
- This display provides a list of the constraints and associated shadow prices. The shadow prices for constraint names are in line with outage conditions, flow limits, and bottled generation.
- This display provides an overview of the day-ahead and includes the demand forecasts, reserve requirements and scheduled reserve, offered, scheduled, and surplus resources and transactions, wheels, and Net Scheduled Interchange.

- Display shows which resources are constrained up or down.
- Public reports, Private reports, and IESO Internal reports are published, not published, or delayed.

Test Case ID: O-026

Test Case Description: A new NMB has been performed. The DACP Operator ensures that no issues have resulted from the new NMB by verifying that the DAOS Network Security Assessment (NSA) contingency list is accurate and that the Angle/Out of Phase Tap Control Summary is identical to the Summary prior to the NMB being performed. In addition, the DACP Operator will execute a run of the DAOS to verify that there are no anomalies or significant changes. The DACP Operator determines from the NMB check that no issues have resulted and notifies the Control Room Shift Superintendent that the new NMB is accepted.

Actor: DACP Operator, SCE, Control Room Shift Superintendent

Procedure including version:

Internal Manual 2.15-3 Operating during the DACP v2.0

Expected Results:

- The DACP Operator obtains the screen shot of the Angle / Out of Phase Tap Control Summary.
- The DACP Operator receives a notification via telephone from the SCE that the NMB is complete and ready to be checked.
- The DACP Operator verifies that the Contingency Priorities are the same as the PSO NSA Contingency priorities.
- The DACP Operator verifies that the DAOS NSA Contingency List looks complete and accurate with the same number of contingencies as prior to the NMB performance.
- The DACP Operator verifies that the Angle / Out of Phase Tap Control Summary is identical to the Summary prior to the NMB being performed.
- The DACP Operator determines from the DACP run that there are no anomalies or significant changes.
- The DACP Operator notifies the Control Room Shift Superintendent via telephone that the NMB check is complete and that the new NMB is accepted.

2.4 Operations - Real-time

Table 2-4: Real-time Test Cases

EDAC Process	Test Case ID	Test Case Name	Status (Pass/Fail)
Real - Time	R-001	PCG-eligible resource requests withdrawal of offer for an already committed resource from the DACP for approval; MP receives authorization to withdraw.	
	R-002	MP requests withdrawal of offer for an already committed resource from the DACP for approval; MP does not receive authorization to withdraw.	
	R-003	IESO de-commits a PCG-eligible resource to eliminate a reliability issue.	
	R-004	PCG-eligible generator submits short notice planned outage (SNPO) request. IESO rejects SNPO request.	
	R-005	Market participant submits new or revised dispatch data that expands their availability declaration envelope (ADE) with reason code "ERPO" outside mandatory window. IESO approves submission.	
	R-006	PSU submits offer after 14:00 on pre dispatch day. PSU offer submission rejected.	
	R-007	PCG-eligible generator submits SNPO request, accompanied by withdrawal request with reason code. IESO approves SNPO request and withdrawal.	
	R-008	Market participant submits new or revised dispatch data that expands their ADE with reason code. IESO rejects submission.	

2.4.1 Real-time Test Specification

The purpose of the Real-time process in our testing is to verify the integration of day-ahead commitments into resource dispatch in response to varying demand. Additionally, the Real-time process will also test the Control Room Operator's ability to manage committed resources and respond to ongoing grid conditions.

Test Case ID: R-001

Test Case Description: PCG-eligible resource has already received a commitment from the DACP. Following the commitment, MP requests approval for withdrawal of offer (from any time after DACP Schedule of Record has been issued until 2 hours prior to dispatch hour). The revised dispatch data and reason code are submitted for approval. The DACP Operator approves request, approves dispatch data submission, and removes constraints.

Actor: Market participant, Control Room Operator (CRO)

Procedure including version:

- Market Manual 9.4 Real-time Integration of the DACP v0.1.12
- Internal Manual 2.15-4 Post DACP Processes v1.0

Expected Results:

- Revised dispatch data is queued for IESO approval in OPGUI.
- DACP Operator receives telephone call and reviews "Withdrawal" reason code queued for approval in OPGUI.
- Revised dispatch data submission is approved. Withdrawal is affected for specified hours.

Test Case ID: R-002

Test Case Description: PCG-eligible resource has already received a commitment from the DACP. Following the commitment, MP requests withdrawal of offer for approval (from any time after DACP Schedule of Record has been issued until 2 hours prior to dispatch hour). The revised dispatch data and reason code are submitted for approval. The DACP Operator does not approve request.

Actor: Market participant, CRO

Procedure including version:

- Market Manual 9.4 Real-time Integration of the DACP v0.1.12
- Internal Manual 2.15-4 Post DACP Processes v1.0

Expected Results:

- Revised dispatch data is queued for IESO approval in OPGUI.
- Control Room Operator receives telephone call and reviews "Withdrawal" reason code queued for approval in OPGUI.
- Revised dispatch data is not approved.

Note: Dispatch data will be rejected automatically at 14:00.

The following information is logged in the Control Room log:

- Market participant

- Resource
- Time of Request
- Hours requested to be withdrawn
- Reason for withdrawal
- Reason for rejection

Test Case ID: R-003

Test Case Description: PCG-eligible resource has already received a commitment from the DACP. Following the commitment, IESO identifies a reliability issue, de-commits the PCG-eligible generation unit, and removes constraints from Contract Manager to eliminate the reliability issue. The IESO requests removal of offers for the specified hours.

Actor: Market participant, CRO

Procedure including version:

- Market Manual 9.4 Real-time Integration of the DACP v0.1.12
- Internal Manual 2.15-4 Post DACP Processes v1.0

Expected Results:

- PCG-eligible generator receives notification of requirement to de-commit and shuts down the unit.
- Control Room Operator approves the changes to dispatch data queued in OPGUI.
- Unit not scheduled in future Pre-dispatch.
- De-commitment action with "C" code is documented in the Control Room (CR) log.
- Settlements Support is aware of de-commitments in order to ensure the correct settlements treatment.

Test Case ID: R-004

Test Case Description: Approved PCG-eligible generator submits SNPO request. The IESO rejects SNPO request.

Actor: DA-PCG-eligible generator, CRO

Procedure including version:

Internal Manual 2.1 Process Outages v0_1

Expected Results:

- CRO receives short notice planned outage request.
- DA-PCG-eligible generator subject to withdrawal charge if generator wishes to withdraw.

Test Case ID: R-005

Test Case Description: Market participant submits new or revised dispatch data that expands their ADE with reason code "ERPO". IESO approval is needed. (IESO did not request additional bids and offers). IESO approves request. Reason code meets the requirements for expanding ADE.

Actor: Market participant, CRO

Procedure including version:

Internal Manual 2.15-4 Post DACP Processes v1.0

Expected Results:

- IESO receives dispatch data submission.
- The CRO can review the revised dispatch data and discuss the reason.
- The dispatch data is used in Pre dispatch.

Note: If the MP's revised submission is rejected, the CRO will request the MP to reinstate their previous dispatch data.

Test Case ID: R-006

Test Case Description: PSU submits offer after 14:00 on pre dispatch day. IESO will reject PSU offer submission.

Actor: PSU

Procedure including version:

Market Manual 9.2 Submitting Operational and Market Data for the DACP v1.1.6

Expected Results:

IESO will reject PSU offer submission.

Test Case ID: R-007

Test Case Description: PCG-eligible generator submits SNPO request, accompanied by withdrawal request with reason code. IESO approves SNPO request and withdrawal (subject to withdrawal charge).

Actor: DA-PCG-eligible generator, CRO

Procedure including version:

Internal Manual 2.1 Process Outages v0_1

Expected Results:

- CRO receives SNPO request and withdrawal request (revised dispatch data is queued for approval).
- CRO receives telephone call and reviews "Withdrawal" reason code queued for approval in OPGUI.
- Revised dispatch data is approved.
- CRO removes the constraints from Contract Manager.
- Outage proceeds.

Test Case ID: R-008

Test Case Description: Market participant submits new or revised dispatch data that expands their ADE with reason code. IESO approval is needed (IESO did not request additional bids and offers). IESO rejects request (does not meet requirements).

Actor: CRO, market participant

Procedure including version:

Internal Manual 2.15-4 Post DACP Processes v1.0

Expected Results:

- IESO receives dispatch data submission.
- The CRO can review the revised dispatch data and discuss the reason.
- MP reinstates their previous dispatch data.

– End of Section –

3. Settlements Test Cases

The test cases listed under this section have a focus on settlements technical system testing and also on the business processes related to the settlements process.

3.1 Technical System Test Cases

Development of test cases is underway.

3.2 User Acceptance Test Cases

Development of test cases is underway.

– End of Section –

EDAC Draft

Appendix A: Settlements Test Results

– End of Section –

- End of Document -

EDAC Draft