



**Market Manual 9: Day-Ahead
Commitment Process**

**Part 9.0: Day-Ahead
Commitment Process
Overview**

Issue 14.0

This document provides an overview of the Day-Ahead Commitment Process market manual.

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Table of Changes

Reference (Paragraph and Section)	Description of Change
Section 2	Removed reference to Market Manual 9.1, which is now retired. Information on submitting registration data for the Day-Ahead Commitment Process now resides in Market Manual 1.5: Market Registration Procedures.
Section 4.1 (old)	Removed Interrelation of Procedures section.
Section 4.2 (old)	Moved content to the beginning of Section 2.
Appendix A (old)	Removed DACP Background appendix.

1. Market Manuals

The *market manuals* consolidate the market procedures and associated forms, standards, and policies that define the processes that occur during the operation of the *IESO-administered markets*. They address and expand on various activities described in the *market rules*. However, where the provisions in the *market manuals* differ from the *market rules*, the *market rules* will prevail.

- End of Section -

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2. About this Manual

This document is Part 9.0 of the *market manuals* and provides an overview of “Market Manual 9: Day-Ahead Commitment Process”. Market participants intending to participate in the Day-Ahead Commitment Process (DACP) must first submit the required registration data, as described in Market Manual 1.5: Market Registration Procedures, Sections 3.4 and 3.5.

Market Manual 9 contains the procedures for submitting the data necessary to receive a schedule or commitment from the DACP or to withdraw from that commitment. Finally, this *market manual* describes the *settlements* procedures relating to the charges and guarantees resulting from a day-ahead commitment.

Participation in the DACP requires that *market participants* and the *IESO* perform certain actions within clearly defined timeframes. The timeframes for performing these actions are specified within each procedure in this *market manual*.

The “Day-Ahead Commitment Process Manual” contains the following parts:

Table 2-1: Table of Contents—Market Manual 9

Document ID	Part No.	Name of Procedure Document
IESO_MAN_0041	9.0	Day-Ahead Commitment Process Overview
IESO_MAN_0077	9.2	Submitting Operational and Market Data for the Day-Ahead Commitment Process
IESO_MAN_0078	9.3	Operation of the Day-Ahead Commitment Process
IESO_MAN_0079	9.4	Real-Time Integration of the Day-Ahead Commitment Process
IESO_MAN_0080	9.5	Settlement for the Day-Ahead Commitment Process

2.1 Purpose

The “Day-Ahead Commitment Process Manual” provides the procedures necessary for participating in the Day-Ahead Commitment Process (DACP), and for understanding the resulting *settlements* treatment. The specific steps to be followed are detailed in the individual parts of this manual and include registering *facilities*, submitting *dispatch* and daily generation data, operating during and after the DACP, and through the *settlements*.

2.2 Scope

This manual provides an overview of the DACP. The procedural workflows and steps described in component parts of the “Day-Ahead Commitment Process Manual” serve as a roadmap for *market participants* and the *IESO*, and reflect the requirements set out in the *market rules* and applicable *IESO* policies and standards.

2.3 Who Should Use this Manual

This manual is intended to be used if you are:

- Submitting registration data to the *IESO* in order to participate in the DACP, or
- Submitting daily generation data (DGD) and *dispatch data* for use in the DACP

The *market participants* listed below are required to perform the tasks identified:

1. *Generators* having dispatchable *generation facilities* are responsible for:
 - Submitting new and revised registration data
 - Submitting day-ahead *offers* for *energy* and *operating reserves* for *registered facilities* participating in the DACP in the required timeframe
 - Submitting daily generation data for *registered facilities* participating in the DACP in the required timeframe
 - Making revisions to daily generation data or *dispatch data*, if desired/applicable, within the required timeframe
 - Accepting day-ahead commitments and meeting those commitments in real time
 - Notifying the *IESO* when you intend to withdraw from your day-ahead commitment
2. *Generators* having a combined cycle *facility* that wish to be modeled as a *pseudo unit* in the DACP are responsible for:
 - Submitting new and revised registration data
 - Submitting day-ahead *offers* for *energy* and *operating reserves* for *registered facilities* participating in the DACP in the required timeframe
 - Submitting daily generation data for *registered facilities* participating in the DACP in the required timeframe
 - Making revisions to daily generation data or *dispatch data*, if desired/applicable, within the required timeframe
 - Accepting day-ahead commitments and meeting those commitments in real time
 - Notifying the *IESO* when you intend to withdraw from your day-ahead commitment
3. *Generators* having *self-scheduling generation facilities* are responsible for:
 - Submitting new and revised registration data
 - Submitting day-ahead *self-schedules of energy* within the required timeframe
 - Making revisions to *dispatch data*, if desired and applicable, within the required timeframe
4. *Generators* having intermittent *generation facilities* are responsible for:
 - Submitting new and revised registration data
 - Submitting day-ahead forecasts of *energy* as an input to the DACP within the required timeframe
 - Making revisions to *dispatch data*, if desired and applicable, within the required timeframe
5. *Dispatchable Loads* are responsible for:
 - Submitting day-ahead *bids* for *energy* and day-ahead *offers* for *operating reserves* for *registered facilities* participating in the DACP in the required timeframe

- Making revisions to *dispatch data*, if desired and applicable, within the required timeframe
6. *Hourly demand response (HDR)* resources are responsible for:
- Submitting day-ahead *demand response energy bids* for available *demand response (DR)* resources in the required timeframe
 - Making revisions to *dispatch data*, if desired and applicable, within the required timeframe
7. *Boundary Entities* are responsible for:
- Submitting and revising day-ahead *offers* and *bids* for *energy* and offers for *operating reserve* as an input to the DACP in the required timeframe
 - Making revisions to *dispatch data*, if desired and applicable, within the required timeframe

2.4 Conventions

The standard conventions followed for *market manuals* are as follows:

- The word ‘shall’ denotes a mandatory requirement.
- Terms and acronyms used in this *market manual* including all parts thereto that are italicized have the meanings ascribed thereto in Chapter 11 of the “Market Rules”.
- Double quotation marks are used to indicate titles of legislation, publications, forms and other documents.
- Throughout this *market manual* “we”, “our”, “us” refers to the IESO and unless otherwise specified, “you”, “your” and “yours” refers to *market participants* in the *IESO-administered markets* and the DACP.
- The times referred to in this manual are Eastern Standard Time (EST).
- Submission of data before, during and after DACP refers to *dispatch data* and daily generation data submitted day-ahead for next day operation.
- The documents referred to in this manual are available on our website at: <http://www.ieso.ca/Pages/Participate/Market-Rules-and-Manuals-Library.aspx>
- Reports will be published at: <http://reports.ieso.ca/index.html>

Any procedure-specific convention(s) shall be identified within the procedure document itself.

- End of Section -

3. About the Day-Ahead Commitment Process

3.1 Background

The Day-Ahead Commitment Process (DACP) was implemented in 2006 and was enhanced in 2011. Information on the evolution of the DACP can be found in Appendix A – DACP Background.

3.2 Optimization Process Overview

The DACP uses a dedicated calculation engine¹ to optimize *energy* and *operating reserve* for the 24 hours of the next day. The day-ahead calculation engine (DACE) operates over three passes to determine the least-cost security-constrained solution for a *dispatch day* based on the day-ahead *bids* and *offers* submitted by all resources.

The three passes of the DACE perform the following functions:

- **Pass 1: Commitment Pass** - determines the initial set of committed Day-Ahead Production Cost Guarantee (DA-PCG) eligible *generator facilities* and imports required to satisfy average hourly forecast *demand*.
- **Pass 2: Reliability Pass** - commits additional DA-PCG-eligible *generators*, imports or reductions to *dispatchable load* or exports to satisfy peak hourly forecast *demand*.
- **Pass 3: Scheduling Pass** - calculates day-ahead constrained schedules for all resources based on average hourly forecast *demand*.

The DACP process requires that *dispatchable loads*, *dispatchable generators*, and *HDR* resources submit initial *dispatch data* between 06:00 and 10:00 day-ahead that reflects expected conditions. Otherwise, they will not be eligible for dispatch in real time. The *dispatch data* submissions provide a declaration of a participant's capability and intent to submit *dispatch data* in real time. We need these submissions to make a meaningful assessment of the next day's capacity and *energy* situation, and to ensure that we take the appropriate actions to maintain the *reliability* of the *IESO-controlled grid*.

Except for eligible energy-limited resources (EELRs), no changes² to initial *dispatch data* are permitted without our approval during the period when the DACP process is underway (between 10:00 and 14:00). We will provide EELRs with a one hour window to revise their *offers* to respond to the scheduling requirements of resources with hydroelectric dependencies. This window will typically be between 11:00 and 12:00 unless we notify you otherwise. Between 12:00 and 14:00,

¹ The DACP uses a dedicated calculation engine that is separate from the Pre-dispatch and real-time dispatch system optimizer (DSO).

² Reference required to list of valid reasons for change.

EELRs are subject to the same *dispatch data* submission restrictions that apply to other dispatchable resources during the DACP.

We will *publish* the final DACP run results in the *DACP Schedule of Record* by 15:00. The schedules and commitments resulting from the *DACP Schedule of Record* are the basis for all day-ahead guarantees.

To give dispatchable generators and imports an incentive to perform in real time, the DACP *offers* two *reliability* guarantees:

- A day-ahead production cost guarantee (DA-PCG), offered to all dispatchable generators that receive a DACP schedule and meet certain qualification criteria
- A day-ahead intertie offer guarantee (DA-IOG), available to all imports that receive a schedule in the DACP

3.3 DACP Timeline

The timeline for the DACP process is summarized below and illustrated in Figure 3-1. These events are part of the larger timeframe for integration of the DACP with the *real-time market*.

1. We issue a pre-market Adequacy Report for the next day, no later than 05:30.
2. The DACP *bid/offer* submission window opens at 06:00.
3. The DACP *regulation* submission scheduling window closes at 09:00. At this time, an updated Adequacy Report is issued for the next day.
4. The submission deadline for requests for *Segregated Mode of Operation* is 09:00. Requests received after 09:00 will be assessed on a best effort basis and may not be used in the DACP.
5. The DACP *bid/offer* submission window closes at 10:00.
6. At 10:00, we will initiate the DACE.
7. Between 10:00 and 15:00 day-ahead, the DACE co-optimizes *energy* and *operating reserve* over a 24-hour period for the next day.
 - Following the completion of the first run of the DACE, certain ELRs will be allowed an opportunity to submit revised *dispatch data* to resolve sub-optimal scheduling of these resources.
 - We will commence a second run of the DACE using this updated information. Prior to *publishing*, we will make an assessment of the commitments and constrained schedules produced by the optimization.
 - Results of the DACP optimization will be *published* no later than 15:00. The *dispatch data* submitted by dispatchable generators and *dispatchable loads* considered in this optimization will be used to produce the Availability Declaration Envelope for the next day.
8. *Pre-dispatch schedules* for the next day will not be published between 10:00 and 15:00. The first Pre-dispatch run to include the results of the DACP will commence at 15:07 and the results will be published before 16:00. This first pre-dispatch run will include results for HE17 – HE24 of the current dispatch day and HE1 – HE24 of the next day.

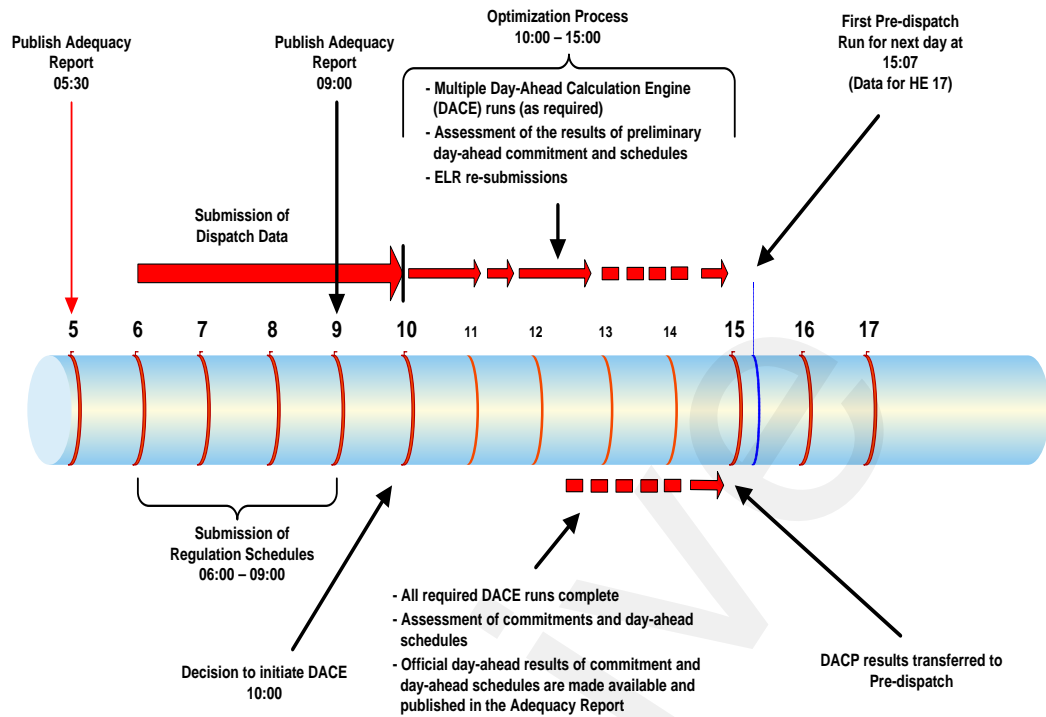


Figure 3-1: Timeline Showing DACP Process Overview

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4. Applicability of Procedures

The table below summarizes the most common situations or events that are likely to trigger activities described in this *market manual*. To use this table, select an event, then refer to the appropriate procedures document listed in the “Procedure” column.

A list of all procedure documents that comprise this *market manual* can be found in Section 2 of this document.

Table 4-1: Events and Procedures

Event	Market Manual
You wish to enroll for participation in the DACP.	MM 1.5: Market Registration Procedures
You are a dispatchable <i>generator</i> or have a <i>dispatchable load</i> in the DACP and you wish to: <ul style="list-style-type: none"> • Make an <i>offer</i> or <i>bid</i> for <i>energy</i> • Make an <i>offer</i> for <i>operating reserves</i> • Revise an <i>offer</i> or <i>bid</i> for <i>energy</i> • Revise an <i>offer</i> for <i>operating reserves</i> 	<ul style="list-style-type: none"> • MM 9.2: Submission of Operational and Market Data for the Day-Ahead Commitment Process • MM 9.3: Operation of the Day-Ahead Commitment Process
You are an <i>hourly demand response resource</i> and you wish to: <ul style="list-style-type: none"> • Make a <i>bid</i> to indicate demand response availability • Revise a <i>bid</i> to reflect changes to demand response availability 	
You have a <i>self-scheduling generation facility</i> and wish to submit a <i>self-schedule</i> in the DACP.	
You have an intermittent <i>generation facility</i> and wish to provide a forecast of <i>energy</i> which you expect to provide in the DACP.	
You wish to submit or revise an <i>offer</i> or <i>bid</i> of <i>energy</i> or <i>operating reserve</i> in the DACP for a <i>boundary entity</i> .	
You are a dispatchable generator, or have a <i>dispatchable load</i> or <i>intertie</i> transactions and receive a schedule or commitment from the DACP, or are an <i>hourly demand response resource</i> and receive a standby notice from the DACP.	
You have a commitment from the DACP and wish to withdraw from your commitment.	MM 9.4: Real-time Integration of the Day-Ahead Commitment Process
You are subject to a guarantee payment or a charge from the DACP.	MM 9.5: Settlement of the Day-Ahead Commitment Process.

– End of Section –

Appendix A: DACP Background

The Day-Ahead Commitment Process (DACP) was implemented in June of 2006 to address *reliability* issues that were exacerbated by two factors:

- *Energy* imports that failed to materialize in real time
- Difficulty in accurately forecasting and managing next-day *energy* shortfalls

The DACP with *reliability* guarantees provided:

- A dependable view of the next day's available supply (capacity and *energy*) and anticipated *demand*
- An opportunity for participants to use their energy-limited resources to most effectively meet *reliability* needs
- An incentive to imports that have been scheduled day-ahead to flow in real time
- An incentive to ensure sufficient internal generation resources are online in real time
- A way to mitigate the financial risk of commitment for importers and *generators*
- A mechanism for us to commit *generation facilities*, with the participant's agreement, when market-driven attempts in the day-ahead do not meet *reliability* needs

These guarantees allowed for the scheduling of imports day-ahead to give us more certainty that the *energy* would be delivered in real time. At the same time, it gave importers more time to navigate adjacent markets and coordinate with neighbouring jurisdictions. The DACP provided a guarantee that imports would not risk being settled at a loss if their real-time price-based revenues turned out to be less than their day-ahead as-offered cost.

For *generators*, the DACP lowered the financial risk associated with commitment by paying the *generators* if they did not recover their commitment costs through *real-time market* revenues. It also allowed them to use energy-limited resources (ELRs) to help solve *reliability* issues and assisted them in navigating other markets (e.g., gas).

The enhanced DACP, implemented in 2011, was largely an integration of new components with the original Day-Ahead Commitment Process, Pre-dispatch and *real-time dispatch processes* to improve the efficiency of the current market. This integration required modification to market rules, *market manuals*, procedures, IT systems, and business processes. The enhanced DACP allows the commitment of certain dispatchable *generation facilities* and the economic scheduling of imports in the day-ahead time frame, in return for a financial guarantee. The Enhanced Day-Ahead Commitment (EDAC) project introduced the following new or revised features to the new DACP:

- A separate calculation engine that optimizes *energy* and *operating reserve* over a 24-hour *dispatch day*
- Optimizes using 'total' costs for committable *generation facilities* (start-up, speed-no-load, and incremental *energy* costs via three part *offers*)
- Revised cost guarantee principles
- Revised/new failure charges
- The inclusion of exports and linked wheel transactions

- A daily opportunity to revise certain parameters associated with *generation units* when the technical characteristics of the *facility* change
- A model for combined cycle *facilities* that provides better scheduling of these *facilities*

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