

JULY 27 AND 28, 2023

Market Renewal Program Implementation

Market Rules and Market Manuals: Market and System Operations

Patricia Murray – Supervisor, Energy Implementation

Mark Gojmerac – Supervisor, Energy Implementation

Adam Tschirhart – Supervisor, Energy Implementation

Disclaimer

This document provides an overview of certain draft amendments to the market rules proposed in connection with the Market Renewal Program (MRP). The content of the proposed amendments is subject to further revision and the overview contained herein is provided for information purposes only. The information contained in this document shall not be relied upon as a basis for any commitment, expectation, interpretation and/or decision made by any market participant or other interested party. The market rules and market manuals, applicable laws, and other related documents will govern the future market. The IESO makes no representation or warranty, express or implied about the accuracy or completeness of the information contained herein.

Webinar Participation

- Ways to interact in today's webinar:
 - **Raise your hand** (click the "Raise hand" button in the top right corner) to let the host know you'd like to verbally ask a question or make a comment. The host will let you know when to unmute
 - **Enter a written question/comment in the chat.** The host will read it out for you
 - **Microphones should be muted at all times,** unless the host has called on you to unmute yourself

Meeting Purpose and Agenda

Purpose: Prepare stakeholders for their review of the draft Market and System Operations (MSO) batch of market rule and market manual amendments

Agenda:

- Market Rules and Market Manuals Batch Overview
- Summary of Key Concepts by Topic

Engagement Timeline

July 14: Draft documents published for stakeholder review

July 27 and 28: Batch walkthrough and discussion

September (various dates):

- Q & A sessions that focus on navigating dispatch data submission and scheduling outcomes from day-ahead to real time
- Number and format of sessions to be determined, but will cover the following resource types: virtual transactions, imports/exports, dispatchable generation, dispatchable loads, energy storage resources, price responsive loads, hourly demand response

Engagement Timeline (con't)

October 17: First Technical Panel Q & A session

November 8: Feedback on MSO batch market rule and market manual amendments due to the IESO



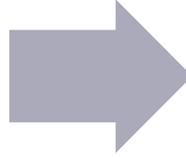
Market and System Operations: Batch Overview

Market Rules and Market Manuals

Refresher: Detailed Design Engagement

MRP Detailed Design

- MRP detailed design is comprised of 13 documents that describe the end-to-end process of participation in the energy market



Market and System Operations Batch

- Five detailed design documents are codified in the MSO batch:
 - Offers, Bids and Data Inputs;
 - Grid and Market Operations Integration;
 - 3 Calculation Engines (Day-Ahead Market, Pre-Dispatch and Real-Time)

Stakeholders were provided a period of review for the draft detailed design documents and encouraged to provide feedback to determine if any edits to the documents are required before transitioning to the implementation phase (i.e. draft rules, manuals, training, etc.)

Approach

- This presentation will draw attention to the key areas where stakeholders should focus their review
- References to the relevant market rule and market manual sections are included
- Key areas are organized into seven 'topics'

Batch Topic Overview



Impacted Market Rules

Market Rules

Market rule provisions that describe the obligations and authorities regarding...

Chapter 5: Power System Reliability

Chapter 7: System Operations and Physical Markets

Ch.7, Appendix 7.1: Energy Offer, Schedule or Forecast Information

Ch.7, Appendix 7.2: Energy Bid Information

Ch.7, Appendix 7.3: Operating Reserve Offer Information

Ch.7, Appendix 7.4: Transmission Information Required for Scheduling and Dispatching

Ch.7, Appendix 7.7: Scheduling and Scheduling Approval

Ch.7, Appendix 7.8: Economic Operating Point

Chapter 11: Definitions

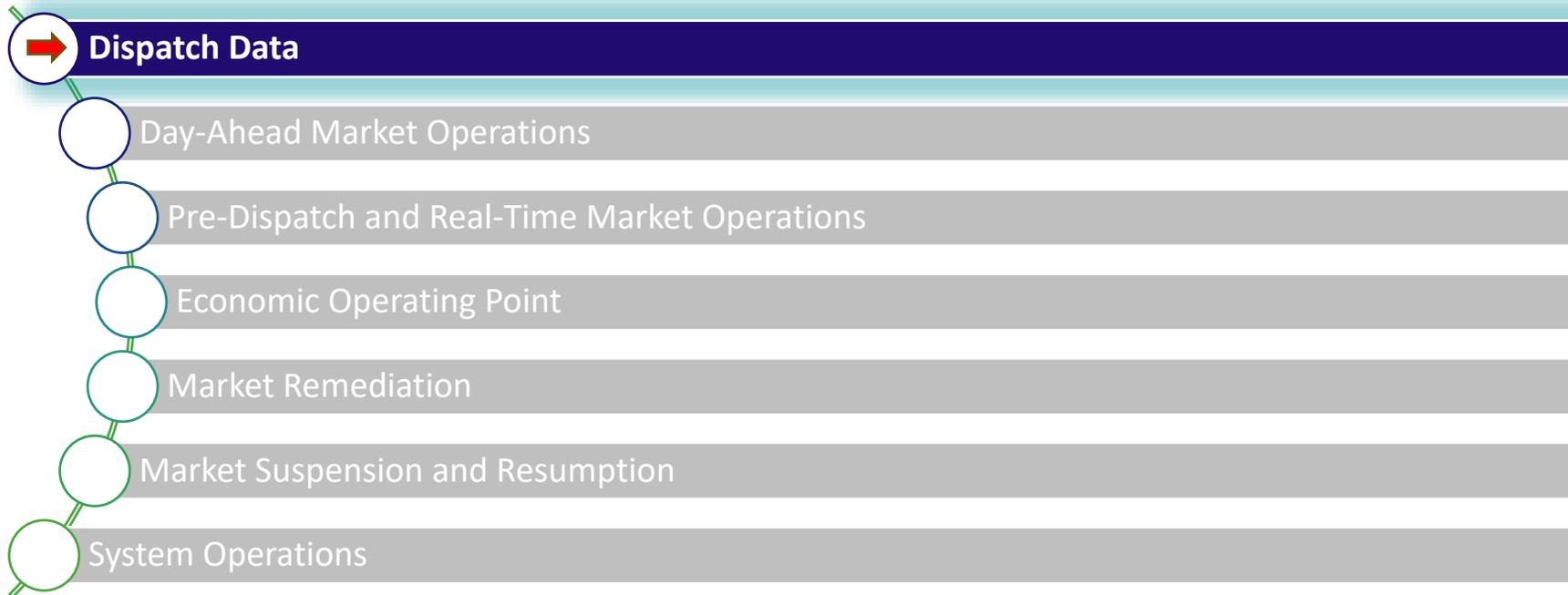
Impacted Market Manuals

Market Manuals

Market procedures and standards that describe the processes regarding...

- Market Manual 4.1 Submitting Dispatch Data in the Physical Markets
- Market Manual 4.2 Operation of the Day-Ahead Market
- Market Manual 4.3 Operation of the Real-Time Market
- Market Manual 4.5 Market Suspension and Resumption
- Market Manual 7.1 IESO-Controlled Grid Operating Procedures
- Market Manual 7.2 Near-Term Assessments and Reports
- Market Manual 7.3 Outage Management
- Market Manual 7.4 IESO-Controlled Grid Operating Policies

MSO Batch: Dispatch Data



Dispatch Data: Overview

Scope	Describes the obligations and requirements for dispatch data parameters and dispatch data submission processes
Market Rules and Market Manuals	Market Rules Chapter 7, Section 3 Market Manual 4.1 (replacing existing Market Manual 4.2)
Key Highlights	<ul style="list-style-type: none">• New Dispatch Data• Modified Dispatch Data• Submission Timelines for Daily Dispatch Data• Real-Time Market (RTM) Restricted Window for Daily Dispatch Data• Submission Timelines for Hourly Dispatch Data• Hourly Dispatch Data Submission Timelines After Day-Ahead Market (DAM)• Submission Validations• Revision Restrictions• Other Process Changes

New Dispatch Data

Parameter	Data Type	Resource Type	Details
Daily energy ramp rates	Daily	All except virtual, price responsive loads (PRL)	Defines the rate of energy increase and decrease Up to five sets of break point, ramp up rate, and ramp down rate
Linked forebays, Time lag and MWh Ratio	Daily	Hydroelectric	Intertemporal dependencies between two or more resources on the same cascade owned by the same market participant within a day
Forbidden regions	Daily	Hydroelectric	Up to five regions a resource must not be scheduled within
Minimum daily energy limit (DEL)	Daily	Hydroelectric	Minimum energy that must be scheduled within a day
Thermal state	Daily	Non-quick start (NQS) except nuclear	Indicates hot, warm, or cold state of the resource for the day-ahead market only
Lead times	Daily	NQS except nuclear	Amount of time needed for a resource to start-up and reach its MLP from an offline state One value for each of hot, warm, and cold states

New Dispatch Data (Cont'd)

Parameter	Data Type	Resource Type	Details
Ramp up energy to MLP	Daily	NQS except nuclear	Energy that a resource is expected to produce, per hour, from the time of synchronization to the time it reaches its MLP for each hot, warm, and cold states
Minimum hourly output (MHO)	Hourly	Hydroelectric	The minimum hourly dispatchable output required if economic
Hourly must run (HMR)	Hourly	Hydroelectric	The minimum hourly non-dispatchable output required
Capacity transaction flag	Hourly	Import and Export	Indicates association with a capacity call
Variable generation forecast quantity (VGFAQ)	Hourly	Variable generation (VG)	Hourly forecasted value for dispatchable variable generation for use in the day-ahead market only

Modified Dispatch Data

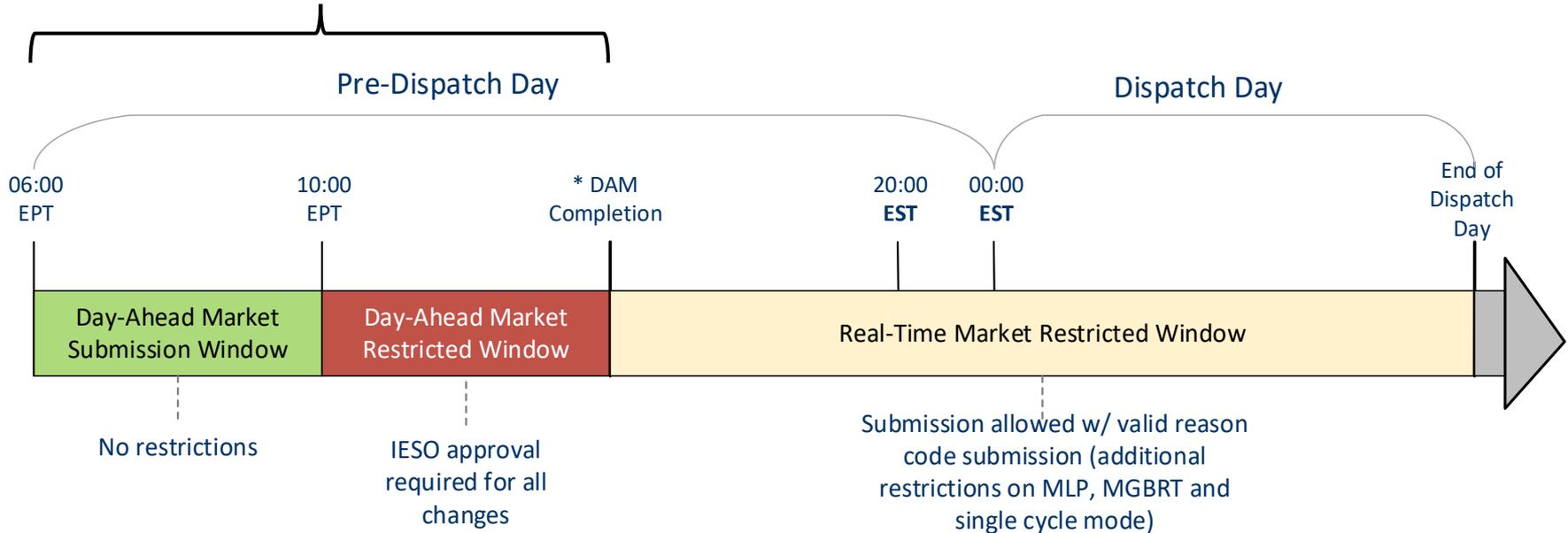
Parameter	Data Type	Resource Type	Details
Maximum DEL	Daily	All except nuclear	Submission can be made for the forebay
Maximum number of starts per day (MNSD)	Daily	Hydroelectric and NQS	Expanded to pre-dispatch (PD) (for hydro can be a value from 0 to 24*number of units)
Minimum loading point (MLP)	Daily	NQS except nuclear	Expanded to PD with caveat on revisions
Minimum generation block run time (MGBRT)	Daily	NQS except nuclear	Expanded to PD with caveat on revisions
Minimum generation block down time (MGBDT)	Daily	NQS except nuclear	Expanded to PD, and an integer for each hot, warm, and cold state

Modified Dispatch Data (Cont'd)

Parameter	Data Type	Resource Type	Details
Single cycle mode (SCM)	Daily	NQS (PSU only)	Expanded to PD
Start-up offer	Hourly	NQS except nuclear	Expanded to PD, and a value for each hot, warm, and cold state
Speed no-load offer	Hourly	NQS except nuclear	Expanded to PD
Operating reserve ramp rate	Hourly	All except virtual, PRL, HDR	A single value for submission for each hour (vs. single value applied to all dispatch hours)

Submission Timelines for Daily Dispatch Data

The DAM submissions windows are in EPT

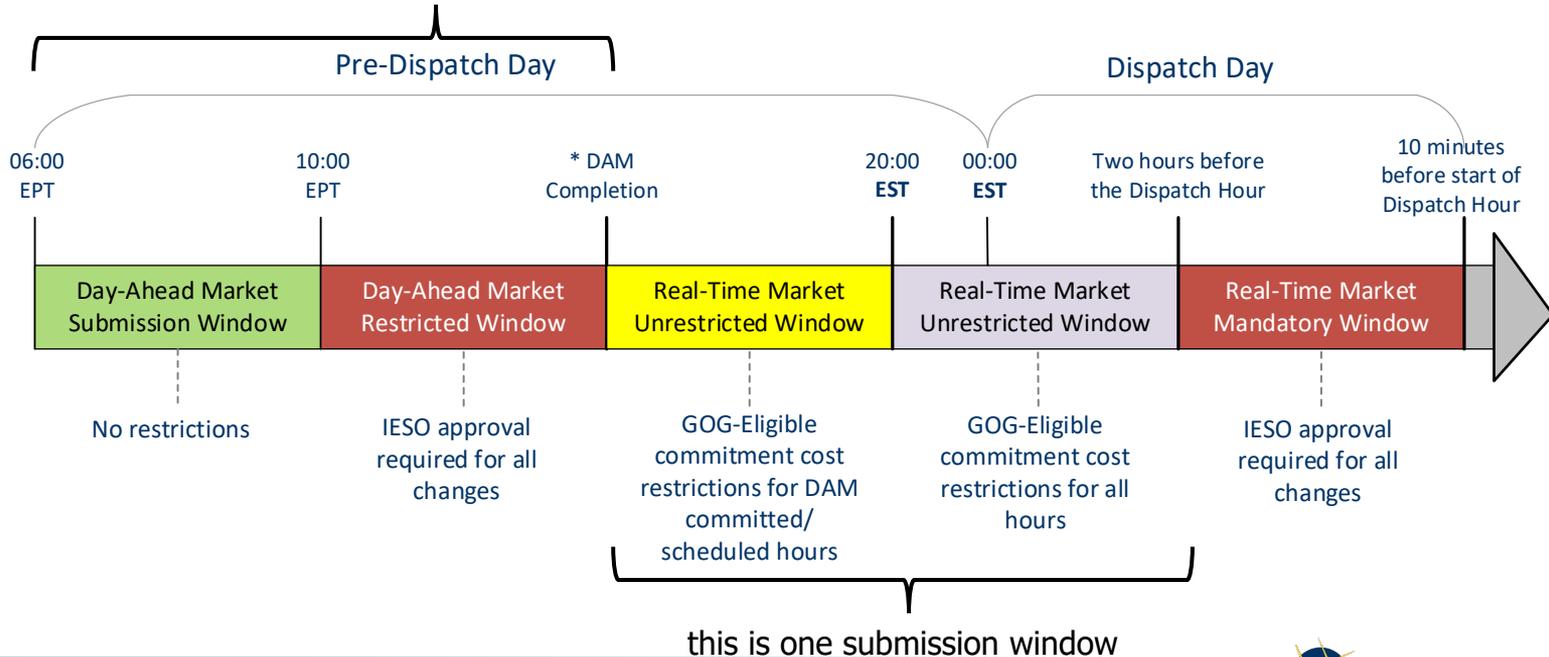


RTM Restricted Window for Daily Dispatch Data

- Similar in concept to the existing mandatory window for hourly dispatch data, but for daily dispatch data
- In effect from DAM completion until the end of the dispatch day
 - Changes to Minimum Loading Point (MLP) or Minimum Generation Block Run Time (MBGRT) not permitted;
 - Changes to Single Cycle Mode (SCM) is permitted subject to IESO manual approval;
 - Changes to all other parameters are permitted with a reason code

Submission Timelines for Hourly Dispatch Data

DAM window for daily and hourly dispatch data submission is the same



Hourly Dispatch Data Submission Timelines After DAM

- RTM unrestricted window for hourly dispatch data begins after DAM completion and continues until two hours before the start of the dispatch hour
- GOG-eligible resources are subject to revision restrictions for the commitment cost parameters upon receiving a DAM schedule and after 20:00 EST
- Additional revisions restrictions apply upon receiving a PD operational commitment
- No changes to RTM mandatory window for hourly dispatch data, which begins two hours before the dispatch hour until the start of the dispatch hour

Submission Validations

- There are several types of data validations:
 - Basic and registration – tool function and registration values
 - Prudential – virtual transactions have sufficient prudential posted
 - Market Power Mitigation (MPM) – non-financial parameters are within MPM thresholds
 - Cross validations – all submissions are cohesive
 - Market event based – commitment results and market timing

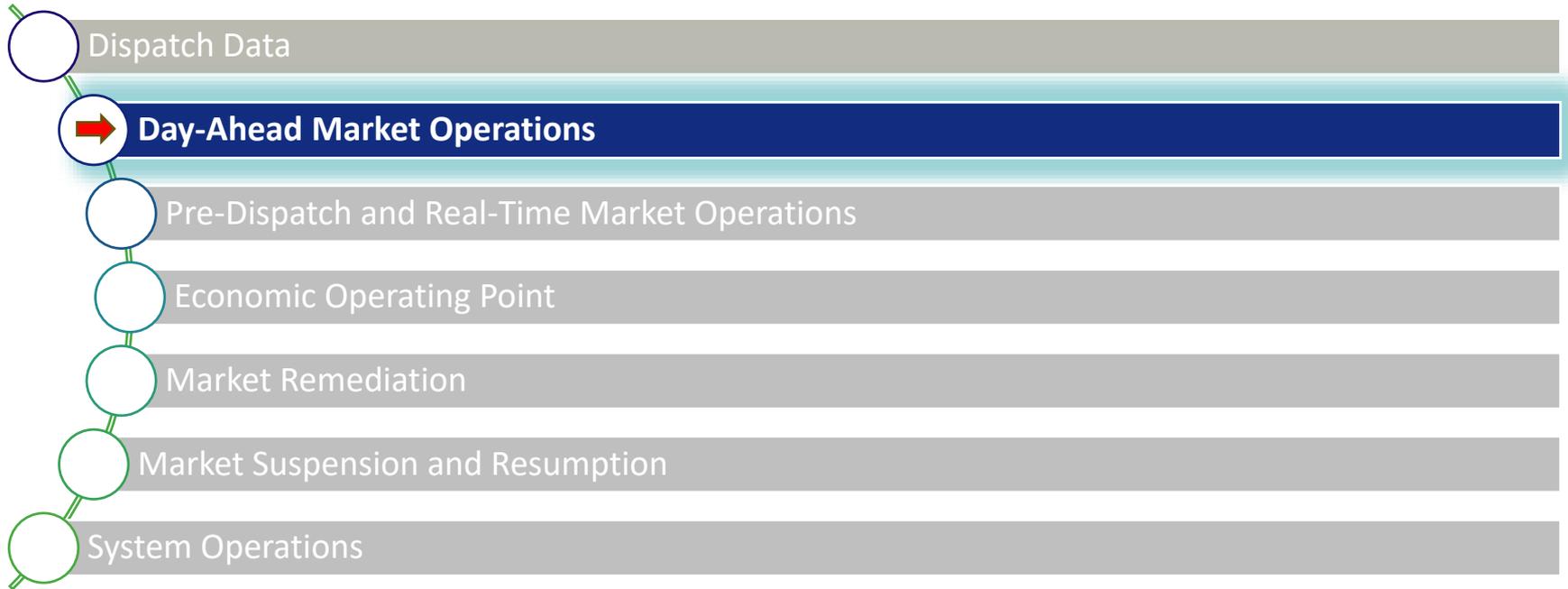
Other Process Changes

- Regulation offer submissions must now be received by 08:00 EPT (vs. 09:00 EST) on the pre-dispatch day
- Replacement offers are still accepted but commitments are not transferred to the replacement resource
- Linked-wheel submissions no longer require -\$50 for the import leg and \$2000 for export leg
- 'ICAP' designation no longer required to be included in the NERC tag ID for capacity transactions

Other Process Changes (Cont'd)

- Eligible Energy Limited Resource (EELR) resubmission feature under today's Day-Ahead Commitment Process (DACP) no longer applicable under DAM
- Availability Declaration Envelope (ADE) dead-band expanded to the lesser of 15% or 10 MW. Increases within the dead-band no longer require IESO approval
- No change to other elements of ADE, such as its application for dispatchable loads where the resource can offer \$2,000/MWh to indicate non-dispatchable which is not subject to the ADE

MSO Batch: Day-Ahead Market (DAM) Operations

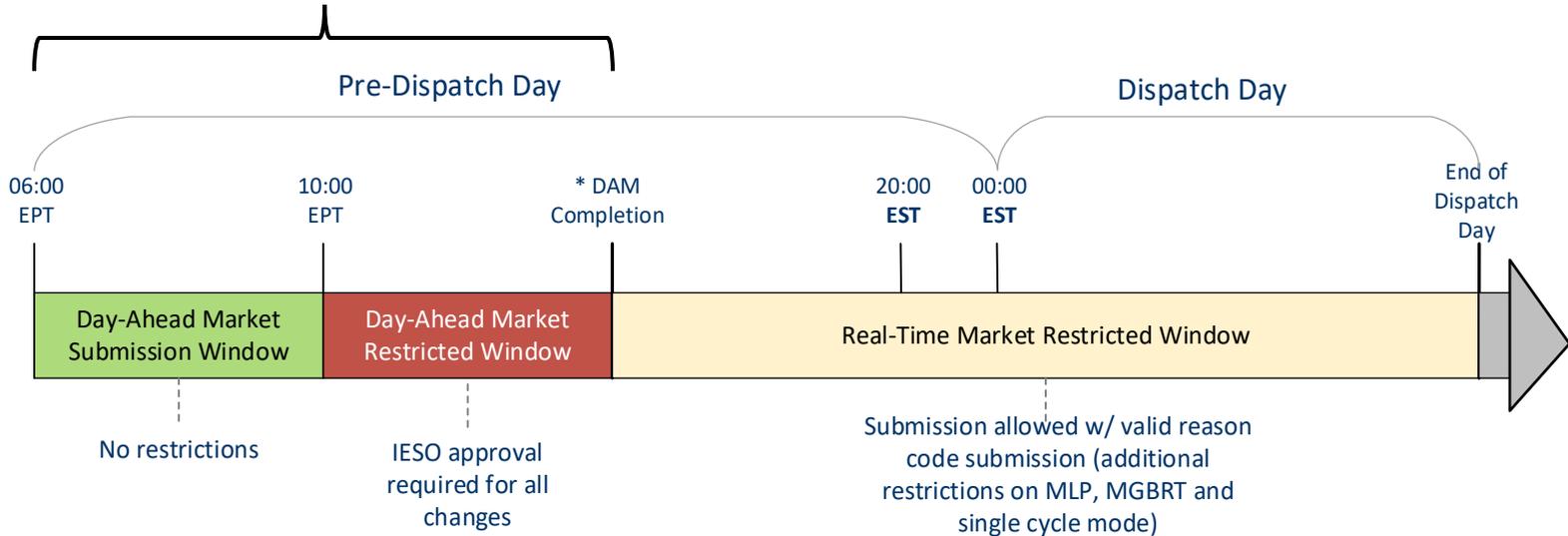


DAM Operations: Overview

Scope	Describes the timing and inputs into the DAM, provides an overview of the DAM calculation engine and describes DAM results
Market Rules and Market Manuals	Market Rules Chapter 7, Section 4 Market Manual 4.2 (replacing existing Market Manual 9.3)
Key Highlights	<ul style="list-style-type: none">• DAM Process Timing• DAM Calculation Engine Execution• DAM Calculation Engine Initializing Conditions• DAM Results (Schedules, Prices, Operational Commitments)• DAM Failure• Pre-DAM and Post-DAM Reports

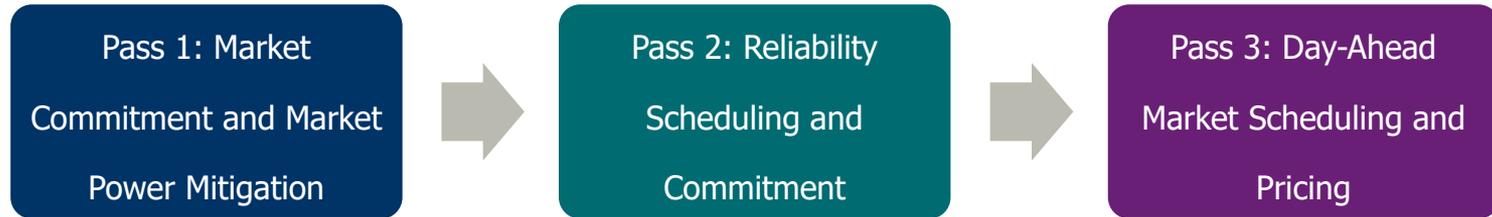
DAM Process Timing

The DAM submissions windows are in EPT



DAM Calculation Engine Execution

- Multi-hour optimization of energy and operating reserve
- New market participant inputs: PRL bids, virtual transactions, and additional dispatch data for hydroelectric resources, variable generators and NQS resources
- New IESO inputs: MPM data and more granular demand forecasts



- DAM calculation engine formulations documented as part of calculation engine batch of market rules in 2022 (Appendix 7.5); for more details, refer to the [recorded presentation](#)

DAM Calculation Engine Initializing Conditions

Initialization Condition	Description
MGBRT over midnight and initial hours of operation (IHO)	DAM calculation engine will commit an NQS resource to complete its MGBRT from the previous day if there is an existing DAM commitment or pre-dispatch commitment
Minimum generation block down time (MGBDT) over midnight	DAM calculation engine does not respect MGBDT over midnight
Thermal state	DAM calculation engine will use the selected thermal state when evaluating NQS resources
Linked forebays over midnight	Linked forebays are not respected over the midnight boundary, including at the start and the end of the day
Daily ramp rate	DAM calculation engine will use the daily ramp rate for all hours of the dispatch day

DAM Results

- After DAM results are validated, the IESO publishes prices, issues schedules and issues operational commitments, normally by 13:30 EPT
- DAM results may be delayed until 15:30 EPT
 - An advisory notice will be issued in the event of a delay

DAM Results: Schedules and Prices

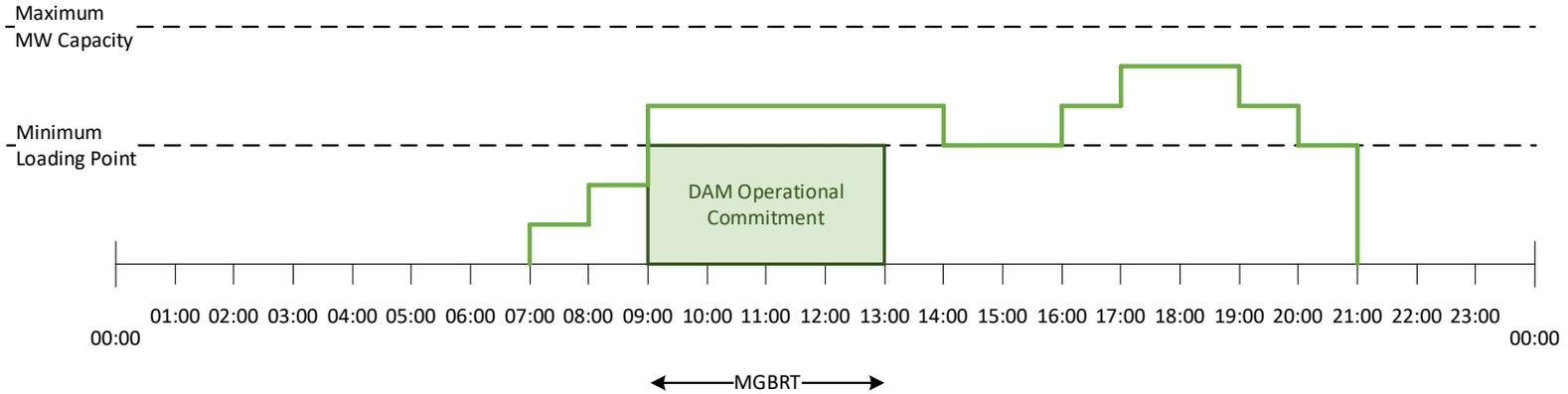
- DAM schedules include hourly quantity of energy expected for withdrawal or injection for every resource
- DAM schedules include hourly quantity of operating reserve expected to be provided for applicable resources
- DAM prices include locational marginal prices (LMP) for energy and operating reserve, virtual transaction zonal prices and the Ontario zonal price (OZP)
- DAM schedules and prices are financially-binding

DAM Results: Operational Commitments

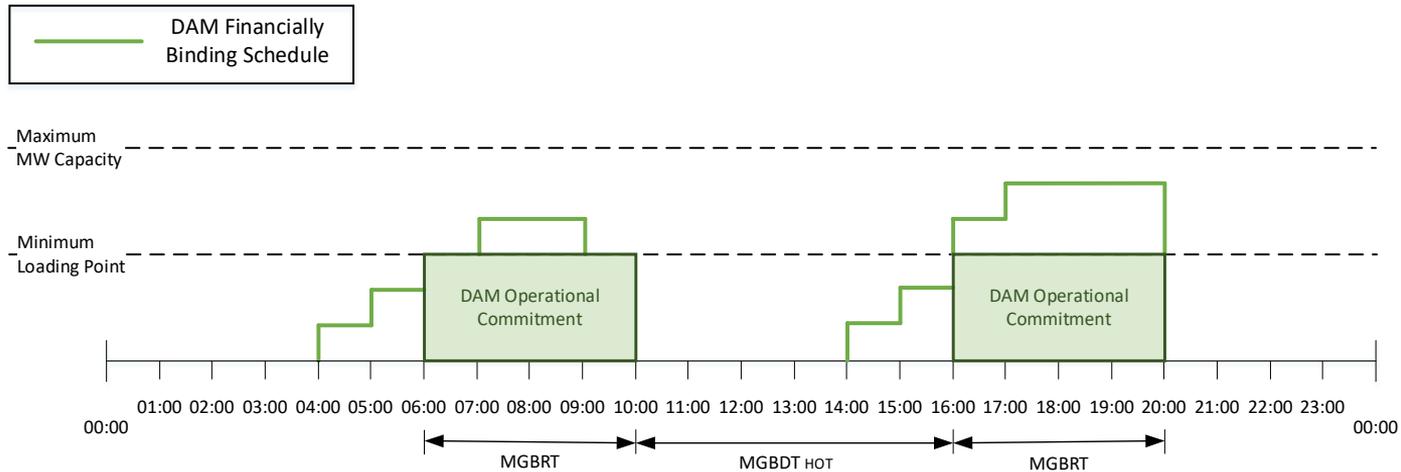
- GOG-eligible resources that receive a DAM schedule at or above its MLP will receive a DAM operational commitment for the duration of its MGBRT
- A GOG-eligible resource may receive more than one DAM operational commitment
- DAM operational commitments will pass to pre-dispatch as minimum constraints to MLP
- DAM operational commitments may be advanced or extended by the pre-dispatch process

Example: Single DAM Operational Commitment

DAM Financially Binding Schedule



Example: Multiple DAM Operational Commitments



- Multiple DAM Commitments are separated by at least $MGBDT_{HOT}$

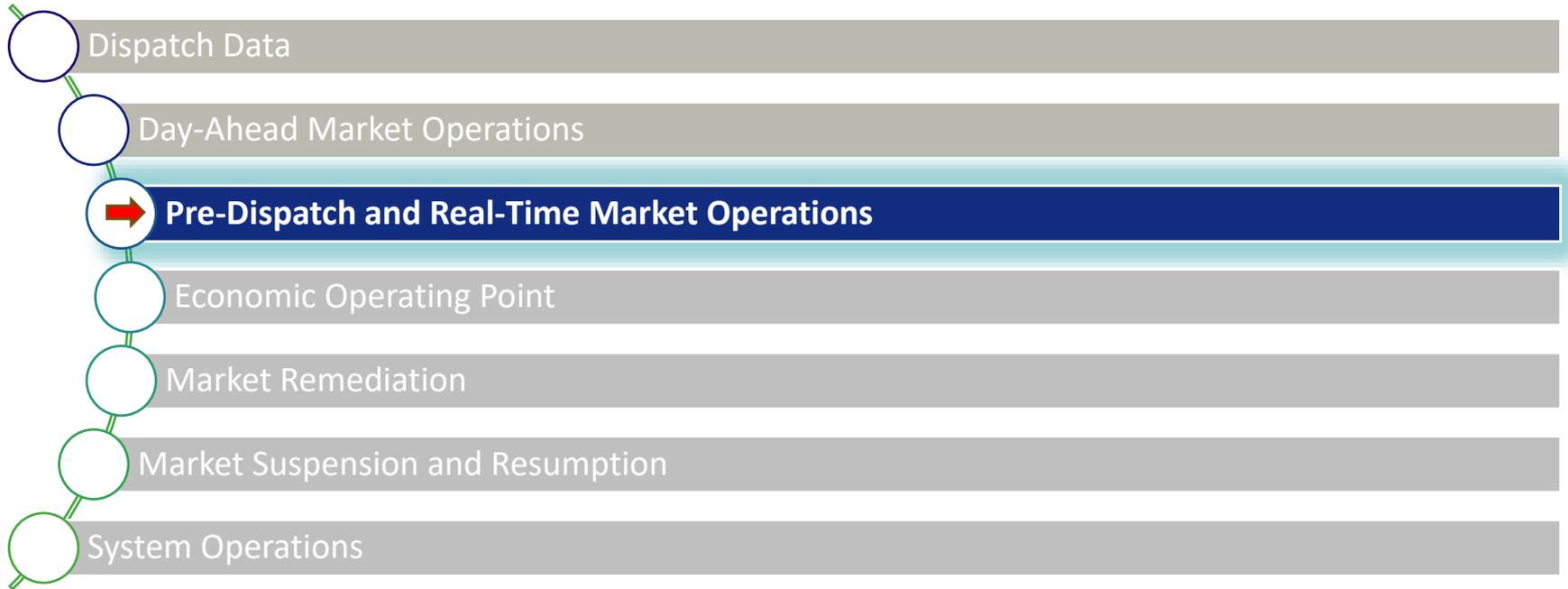
DAM Failure

- The IESO will declare a failure of the DAM via an advisory notice if valid results cannot be published by 15:30 EPT
- There will be no DAM schedules, prices, or operational commitments
- Pre-dispatch process will issue any operational commitments
- The IESO may manually issue reliability commitments prior to the first run of pre-dispatch at 20:00 EST

Pre-DAM and Post-DAM Reports

- Change in publishing times as follows:
 - Day 1 Adequacy Report at 5:30 EPT and 9:00 EPT (vs. 5:30 and 9:00 EST today)
 - Day-Ahead Area Reserve Constraints Report and Day-Ahead Intertie Scheduling Limits Report at approx. 9:00 EPT and 13:30 EPT (vs. 15:00 EST today)
 - Post-DAM reports at approx. 13:30 EPT (vs 15:00 EST today)
- Pre-DAM and post-DAM report content will continue to be presented in EST

MSO Batch: Pre-Dispatch (PD) and Real-Time Market (RTM) Operations



PD Process and RTM Operations: Overview

Scope	Describes the timing and inputs into the pre-dispatch process and real-time market, provides key aspects of engine calculations and describes results
Market Rules and Market Manuals	Market Rules Chapter 7, Sections 5 and 6 Market Manual 4.3 (rewrite of existing Market Manual 4.3)
Key Highlights – PD Process	<ul style="list-style-type: none">• PD Process Timing• PD Calculation Engine Execution• PD Results (Schedules, Prices, Operational Commitments)• PD Intertie Scheduling Process• PD Tracking Energy, Starts and Downtime• Pseudo-Units in PD• PD Failure
Key Highlights – RTM	<ul style="list-style-type: none">• RTM Process Timing• RTM Results (Schedules and Prices)• Pseudo-Units in RTM

PD Calculation Engine Execution

- PD calculation engine runs every hour
- Multi-hour optimization over the entire look-ahead period, enabling evaluation of daily dispatch data that more accurately reflect physical constraints for hydroelectric resources and NQS resources
- Performs ex-ante mitigation and mitigation decisions, which are carried through from one PD run to the next, and into real time

PD Results: Schedules and Prices

PD calculation engine runs each hour and produces:

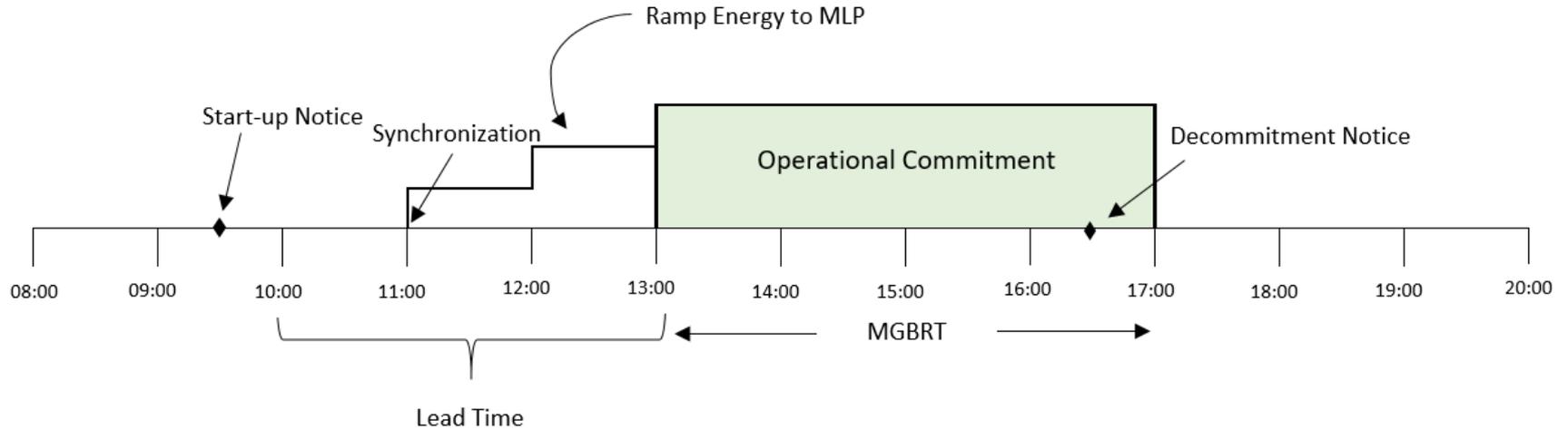
- Hourly energy and operating reserve schedules for all internal resources by 30 minutes past the hour
- Hourly interchange schedules for the next two hours by 15 minutes past the hour
- Hourly interchange schedules beyond two hours by 30 minutes past the hour
- Hourly advisory LMPs for energy and operating reserve and the OZP by 30 minutes past the hour

PD Results: Operational Commitments

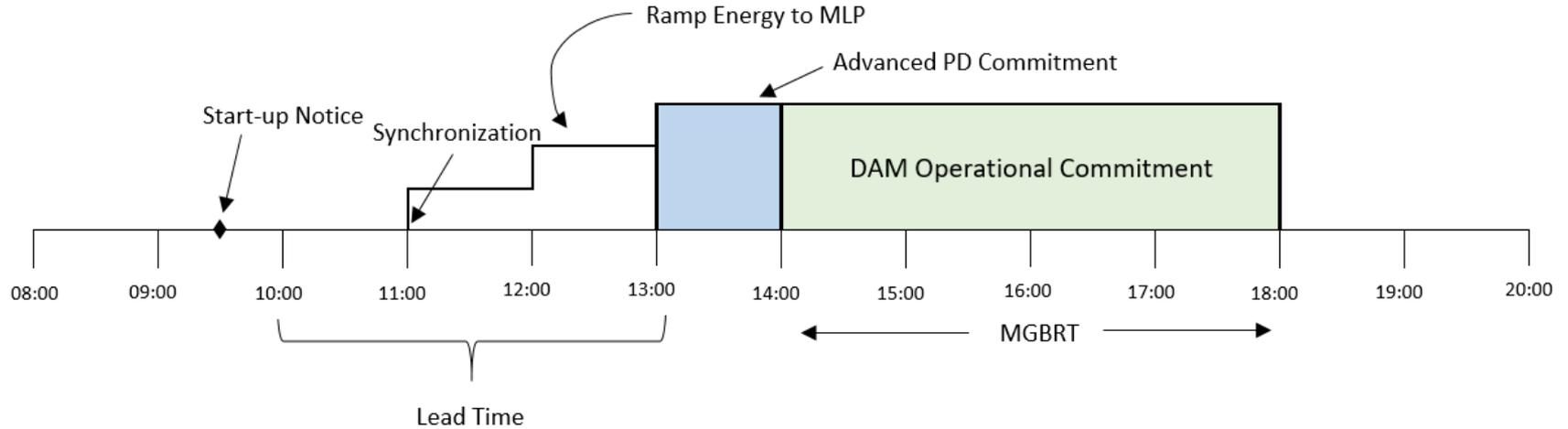
PD calculation engine automatically determines:

- New PD commitments by 30 minutes past the hour
- Start-up notifications for DAM and PD commitments in accordance with the resource's submitted lead-time
- Extensions to DAM and PD commitments by 15 minutes past the hour
- Advancements of DAM and PD commitments by 30 minutes past the hour
- De-commitment notification by 30 minutes past the hour

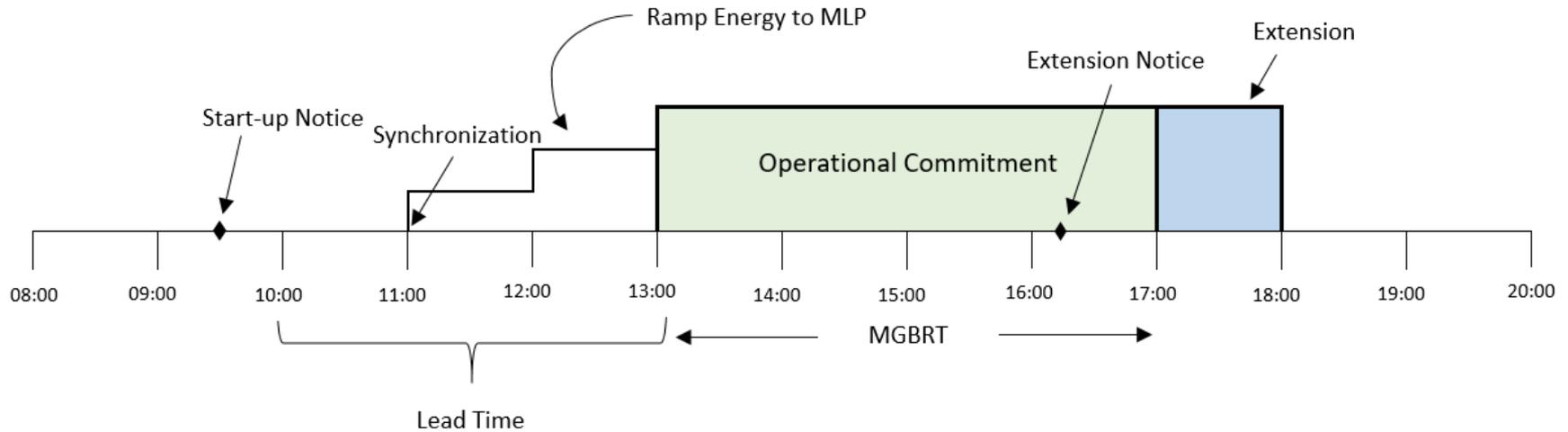
Example: Start-Up and De-commitment Notification



Example: Commitment Advancement



Example: Commitment Extensions



PD Intertie Scheduling Process

- PD calculation engine only evaluates DAM-scheduled transactions when determining hourly interchange schedules beyond the first two hours of the PD look-ahead period
- Incremental imports and exports above the DAM-scheduled quantities are only evaluated for the first two hours of the PD look-ahead period
- The IESO will have the ability to remove the two-hour limitation for reliability

PD Tracking of Energy, Starts, Downtime

For applicable resources types, the following dispatch data is compared against tracked production so future PD schedules respect remaining availability:

- Max DEL, min DEL, linked forebay schedules, maximum number of starts per day and MGBDT

Market participants will receive the tracked data via confidential reports:

- In the rare case where there is a discrepancy between tracked and actual values, market participants should update their dispatch data to correct the discrepancy and notify the IESO

Pseudo-Units in PD

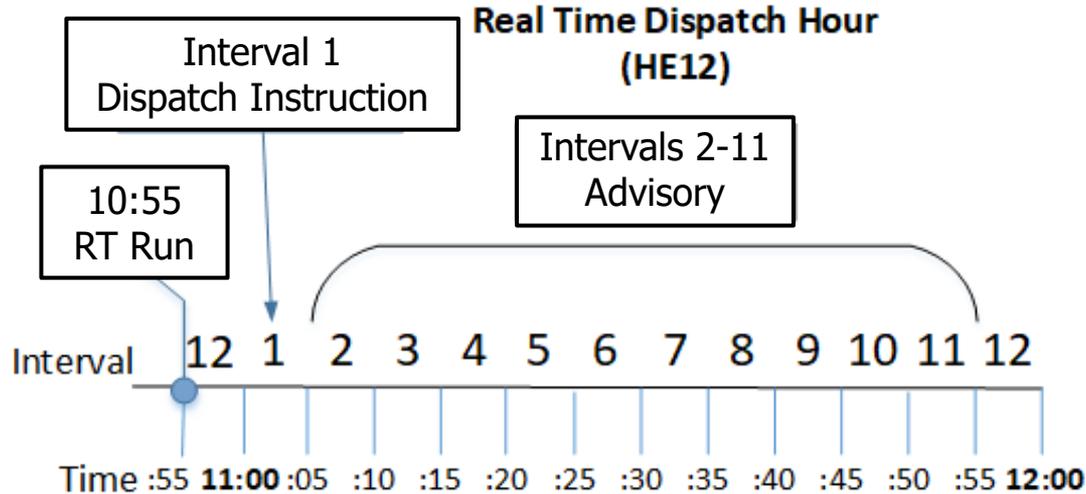
- The pseudo-unit (PSU) model will be included in the pre-dispatch calculation engine
- PD schedules for PSUs will be translated to physical resource equivalents
- PD schedules will be issued for the PSU and the associated physical resources
- PD operational commitments and corresponding start-up notifications will be issued for the physical resources

PD Failure

- The IESO will issue an advisory notice in the event that PD results are unavailable or deemed invalid
- The IESO will use the latest available valid PD results to:
 - Implement interchange schedules
 - Set operational commitments
 - Issue start-up, extension and de-commitment notifications

RTM Process Timing

- No change: Still produces 11 intervals every 5 minutes: 1 dispatch interval and 10 advisory intervals



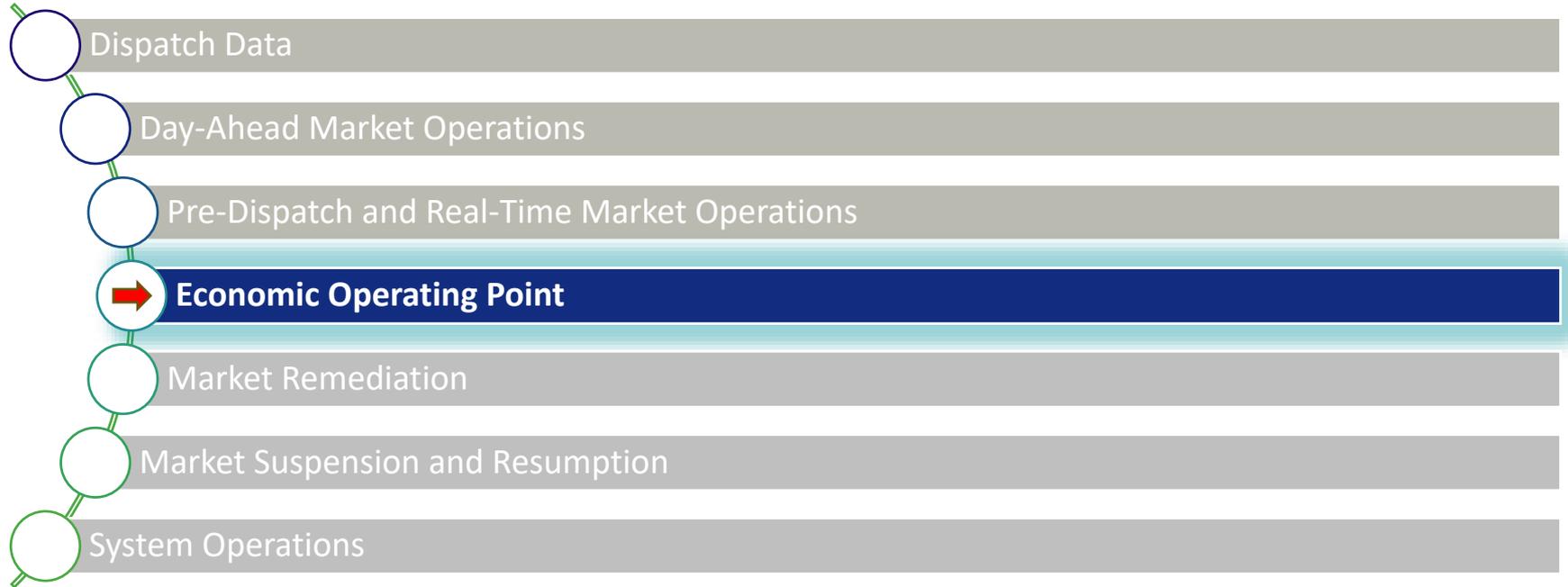
RTM Results: Schedules and Prices

- Today's constrained and unconstrained model will be replaced by a single model producing one set of schedules and corresponding prices
- LMPs for energy and operating reserve, the OZP and virtual zonal prices will be produced vs. today's uniform market clearing prices
- Any mitigated dispatch data from pre-dispatch will carry through to real time
- IESO reports will be modified to remove obsolete data associated with today's unconstrained model

PSUs in Real-Time

- The PSU model will be included in the real-time calculation engine
- RTM schedules for PSUs will be translated to physical resource equivalents
- RTM schedules will be issued for the PSU and the physical resources
 - RTM schedules are determined using the PSU model for scheduling efficiency
 - PSU schedules are translated to physical resources schedules in order to enable dispatch

MSO Batch: Economic Operating Point



EOP: Overview

Scope	Defines the mathematical terms and algorithms used to determine what an eligible resource should have been scheduled to given the LMP it received, for the purposes of determining make-whole payments
Market Rules and Market Manuals	Chapter 7 Appendix 7.8
Key Highlights	<ul style="list-style-type: none">• EOP Refresher

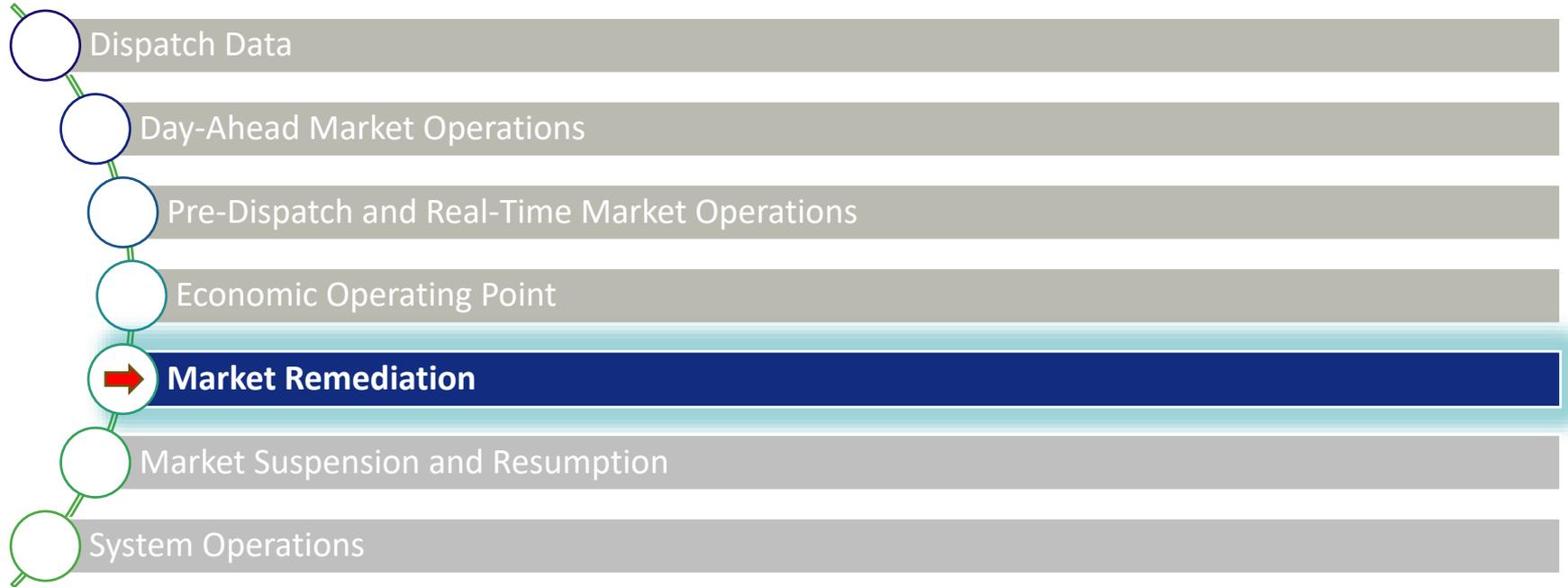
EOP Refresher

- EOP serves as the reference point from which make-whole payments for lost cost and lost opportunity scenarios are established – the ‘should have been’ schedule implied by a resource’s LMP
- Designed to incentivize a resource to follow its dispatch instructions in lost cost and lost opportunity scenarios
- Only applicable to dispatchable generation and load, imports/exports, price responsive loads and hourly demand response resources
- Three types of EOPs to support three types of MWP: Lost Cost for DAM, Lost Cost for RTM, Lost Opportunity Cost for RTM

EOP Refresher (Cont'd)

- EOP inputs include a resource's dispatch data (offers/bids + operating constraints), outages/deratings, and LMPs
- EOPs for energy and each class of operating reserve are calculated for each interval (24 hourly intervals in DAM; 288 5-min intervals in the RTM)
- EOPs are still calculated when LMPs are administered (more on this later)
- Refer to the [recorded presentation](#) on EOP delivered to stakeholders in 2022 for details about EOP scope and how it's determined for DAM and real-time

MSO Batch: Market Remediation



Market Remediation: Overview

Scope	Describes IESO accountabilities when real-time or day-ahead market prices for energy or operating reserve have been improperly calculated/published, or where they have not been calculated (i.e. market suspension events)
Market Rules and Market Manuals	Market Rules Chapter 7, Section 8.4A Market Manual 4.2, Section 9 Market Manual 4.3, Section 7
Key Highlights	<ul style="list-style-type: none">• DAM Remediation• Price Administration Timeline• Price Administration for Electrical Island• Price Administration Methodologies• Make-Whole Payment (MWP) Eligibility Under Administrative Pricing

DAM Remediation

- If published DAM prices for energy or operating reserve are determined to be materially incorrect and the error is isolated to market price calculation or publishing, these prices shall be re-published and administered if necessary by the IESO
- The IESO will declare a dispatch scheduling error for the DAM when:
 - A pricing error in the DAM cannot be corrected by normal means or within the price administration timeline
 - An error in the DAM impacted both day-ahead schedules and prices
- The IESO will issue advisory notices whenever material errors have been identified in published DAM results, DAM prices have been administered, or when a dispatch scheduling error has occurred

Price Administration Timeline

- The IESO shall establish administrative prices for the real-time market and the day-ahead market, where applicable, within four business days of the affected dispatch day
- This is a change from the current two business day timeline for price administration

Price Administration for Electrical Island

- NPCC definition of an electrical island: A portion of a power system or several power systems that is electrically separated from the interconnection due to the disconnection of transmission system elements
- The formation of an electrical island may result in publication of incorrect prices for resources within the island
- If published real-time market prices for energy or operating reserve are determined to be materially incorrect as a result of the formation of an electrical island, they will be subject to price administration

Price Administration Methodologies

Price Administration Methodology	Type of Change	Description
Previous dispatch interval	Modified	Prices from the closest preceding dispatch interval that have not been administered may be copied forward to administer up to a total of 12 dispatch intervals (reduction from current limit of 24 intervals)
Next dispatch interval	Modified	Prices from the closest subsequent dispatch interval that have not been administered may be copied backward to administer up to a total of 12 dispatch intervals (reduction from current limit of 24 intervals)
Hourly average prices	Modified	Hourly average prices from the corresponding hours of the four most recent business days or non-business days depending on the affected trade date may be applied as administrative prices (will no longer be restricted to market suspension events or price administration beyond 48 intervals)

Price Administration Methodologies (Cont'd)

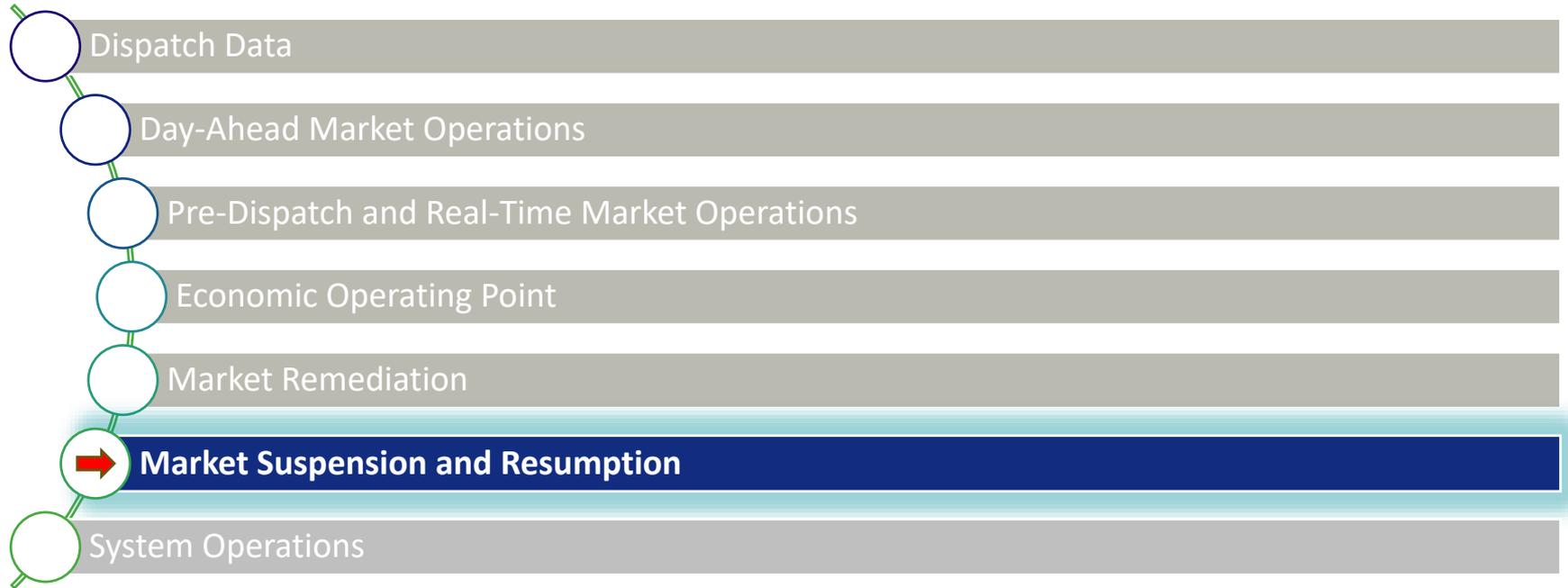
Price Administration Methodology	Type of Change	Description
Recalculation of prices	New	Prices re-calculated using an offline study tool which replicates the real-time or day-ahead market calculation engine may be applied as administrative prices
DAM prices	New	Prices that cleared in the day-ahead market from the corresponding hour and operating day may be applied as administrative prices
Similar delivery point	New	Prices which have not been administered from an electrically similar delivery point or intertie metering point in the same dispatch interval may be applied as administrative prices

- No restrictions to duration of application of all price administration methodologies except as noted for previous/next dispatch interval

Make-whole Payment Eligibility Under Administrative Pricing

- Economic operating points (EOP) will be determined using administrative prices for instances where prices have been administered
- Make-whole payments will be eligible in the future market regardless of the duration of the administrative pricing period
- Today, make-whole payments in the form of congestion management settlement credits (CMSC) are ineligible for periods of administrative pricing beyond 48 intervals (i.e. 4 hours)

MSO Batch: Market Suspension and Resumption



Market Suspension and Resumption: Overview

Scope	Describes IESO obligations surrounding the declaration of a market suspension, operation during market suspension, and resumption of normal market activities
Market Rules and Market Manuals	Market Rules Chapter 7, Section 13 Market Manual 4.5
Key Highlights	<ul style="list-style-type: none">• DAM Operation During Market Suspension• Day-Ahead Schedules During Market Suspension

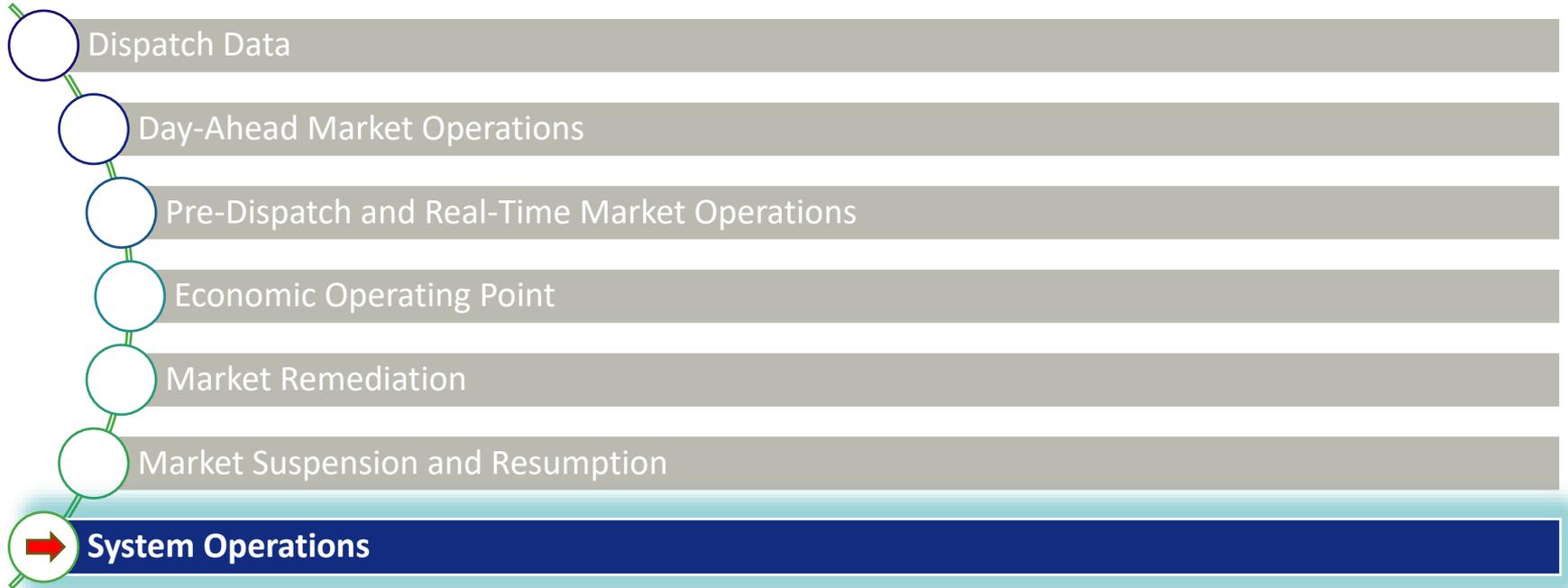
DAM Operation During Market Suspension

- If a real-time market suspension is expected to be in effect for future dispatch days, the DAM corresponding to those future dispatch days will also be suspended
- Market resumption advisory notices will include the dispatch day for which the DAM will resume

Day-Ahead Schedules During Market Suspension

- Under a real-time market suspension, the IESO will dispatch according to the current day-ahead schedule and/or the pre-dispatch schedule to the greatest extent possible

MSO Batch: System Operations



System Operations: Overview

Scope	Minor changes to emergency control action procedures and outage procedures.
Market Rules and Market Manuals	Market Rules Chapter 5 Market Rules Chapter 7, Section 11 Market Manual 7.1 Market Manual 7.2 Market Manual 7.3 Market Manual 7.4
Key Highlights	<ul style="list-style-type: none">• Control Action Operating Reserve (CAOR)• Emergency Procedure Updates• 1-Day Advance Approval Outage Timelines• Segregated Mode of Operation (SMO)

Control Action Operating Reserve (CAOR)

- References to CAOR have been removed as it is no longer included in the RTM
 - Dispatch data representing CAOR is being discontinued
- Available voltage reductions will continue to be counted towards operating reserve requirements as necessary
 - The IESO will manually include voltage reductions when evaluating available operating reserve if there is a scheduling shortfall

Emergency Procedure Updates

- References to CAOR have been removed
 - 3% and 5% voltage reductions remain as control actions
- Evaluation of incremental imports and exports above DAM-scheduled quantities beyond the first two hours of the PD look-ahead period has been included as a control action
 - This will allow the PD calculation engine to use the most recent dispatch data for imports and/or exports beyond the first two hours

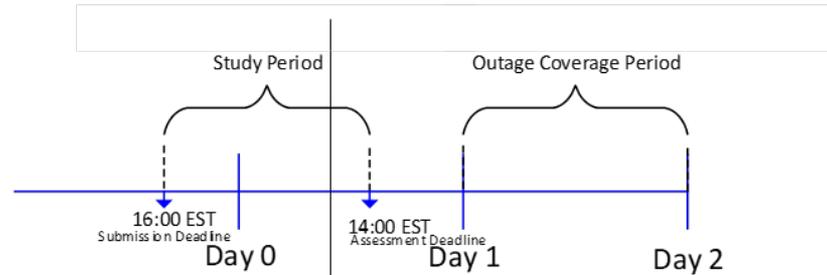
1-Day Advance Approval

The assessment timelines for 1-day advance approval outages have been modified to accommodate DAM timelines

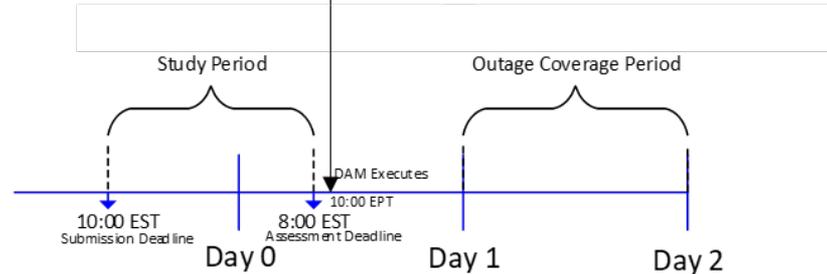
Current Timelines	New Timelines
<p>Market participant submission deadline:</p> <ul style="list-style-type: none">• 16:00 EST two business days before the start of the outage <p>IESO Assessment deadline:</p> <ul style="list-style-type: none">• 14:00 EST one business day before the start of the outage.	<p>Submission and assessment deadlines advanced by at least 6 hours</p> <p>Market participant submission deadline:</p> <ul style="list-style-type: none">• 10:00 EST two business days before the start of the outage; <p>IESO Assessment deadline:</p> <ul style="list-style-type: none">• 08:00 EST one business day before the start of the outage.

Illustration: Current vs. Future 1-Day Advance Approval Timelines

Current 1-Day
Advance Approval
Process Timeline



Future 1-Day
Advance Approval
Process Timeline



Segregated Mode of Operation

- Outage requests for Segregated Mode of Operation (SMO) that require the operation of a critical transmission element must be included in the DAM and submitted by 08:00 EPT on the day prior to the dispatch day
- The IESO will approve or reject the SMO outage request no later than 10:00 EPT on the day prior to the dispatch day

Segregated Mode of Operation (Cont'd)

- For SMO outage requests that do not require the operation of critical elements, there is no change to the submission deadlines
 - Option to submit non-critical SMO requests by 09:00 EPT on the day prior to the dispatch day for inclusion in the DAM, will be approved or rejected by the IESO by 10:00 EPT
 - IESO approval timelines for requests made after 09:00 EPT on the day prior to the dispatch day remain unchanged



Market and System Operations Batch

Next Steps: Reading the Batch and Providing Feedback

Next Steps

- **July and August:** Stakeholders review the documents, begin submitting questions to engagement@ieso.ca
- **September:** Segmented Q and A sessions to provide clarification and answer questions
- **November 8:** Written stakeholder feedback due

Thank You

ieso.ca

1.888.448.7777

customer.relations@ieso.ca

engagement@ieso.ca



[@IESO Tweets](https://twitter.com/IESO)



facebook.com/OntarioIESO



linkedin.com/company/IESO