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# Market Renewal Program

## **IESO Transmission Distribution Working Group**

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# What is the Market Renewal Program?

# An Introduction to the Market Renewal Program video



View video:

<https://youtu.be/PQPJSMIFYtQ>

# Ontario's Changing Market

## Existing market was designed when...

- Energy markets were *new*
- Dominated by traditional forms of generation
- Mostly passive consumers
- Focus on a real-time energy market price for efficient dispatch and to drive investment
- Interaction with neighbouring markets focused on energy imports

## Today...

- Energy markets and solutions are well established
- Supply is increasingly distributed and variable
- Consumers are more active and engaged in the market
- Other products such as capacity and enhanced ancillary services have emerged as distinct products, vital for efficient operation and to manage uncertainty
- Greater opportunities (and need) for coordination with neighbouring markets

# Market Renewal Overview

IESO's Market Renewal Program (MRP) is an ambitious set of initiatives that amounts to a significant redesign of Ontario's electricity markets and prepares us for future change.

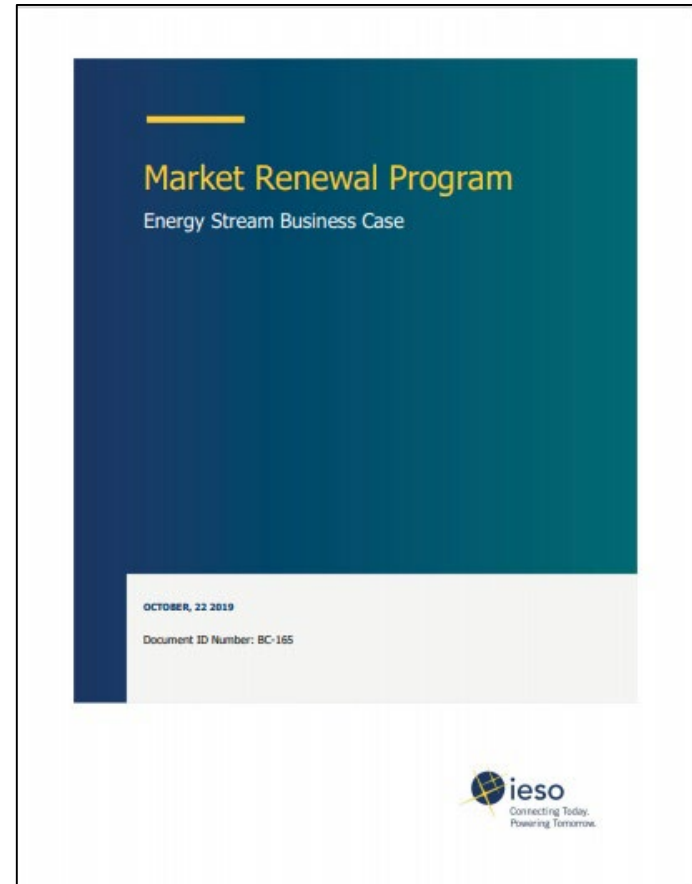
Mission: A more efficient, stable marketplace with competitive and transparent mechanisms that meet system and participant needs at the lowest cost.

# Market Renewal Principles

- Efficiency
- Competition
- Implementability
- Certainty
- Transparency

# MRP Benefits

- Significant market efficiencies:
  - More efficient use of inerties
  - Better commitment of resources
  - Greater competition between resources
- Positive financial benefits and customer savings
- Net benefits of \$800 million in the first 10 years alone





# What are MRP's Major Changes – Key Structures



# Key Market Structures

## Market Renewal - Energy Initiatives

### Key features

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#### Day-Ahead Market (DAM)

- Commits energy resources the day before operation
- Stabilizes real-time markets
- Reduces operational risks for the IESO and market participants

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#### Enhanced Real-Time Unit Commitment (ERUC)

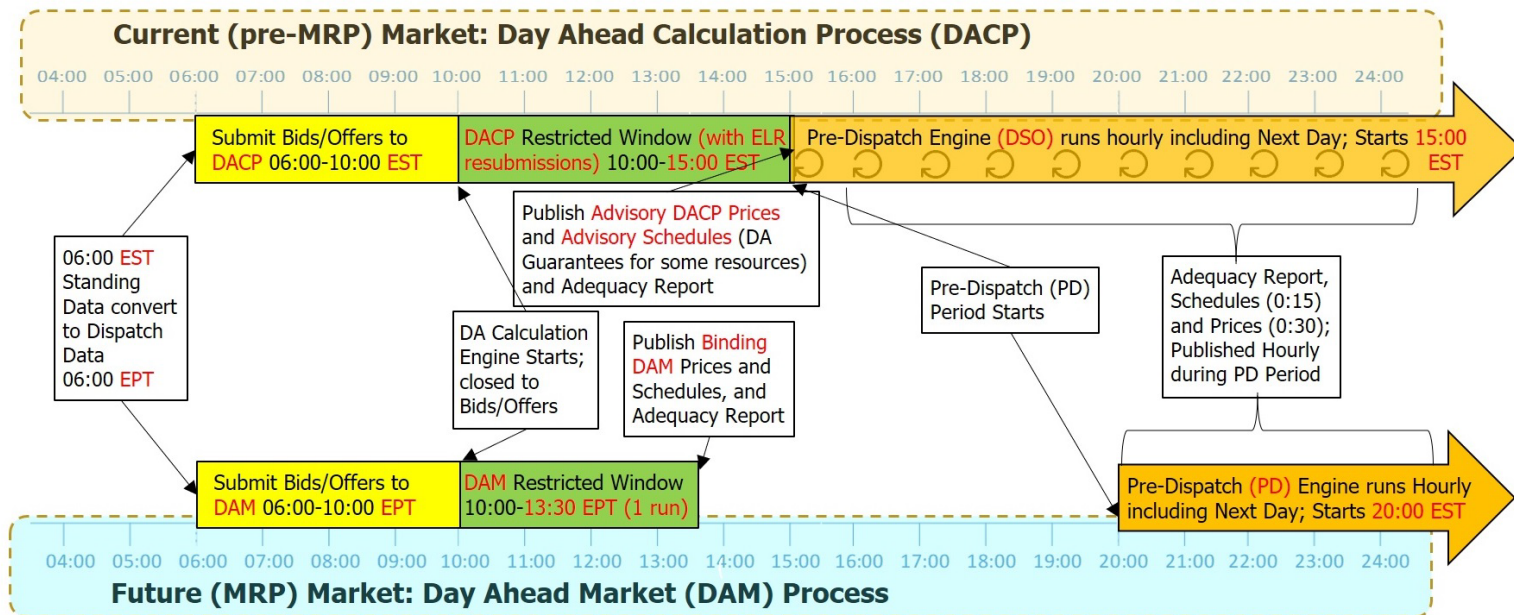
- Ensures optimal mix of resources are committed to deliver reliability at lowest cost
- Occurs 3-24 hours before operation

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#### Single Schedule Market (SSM)

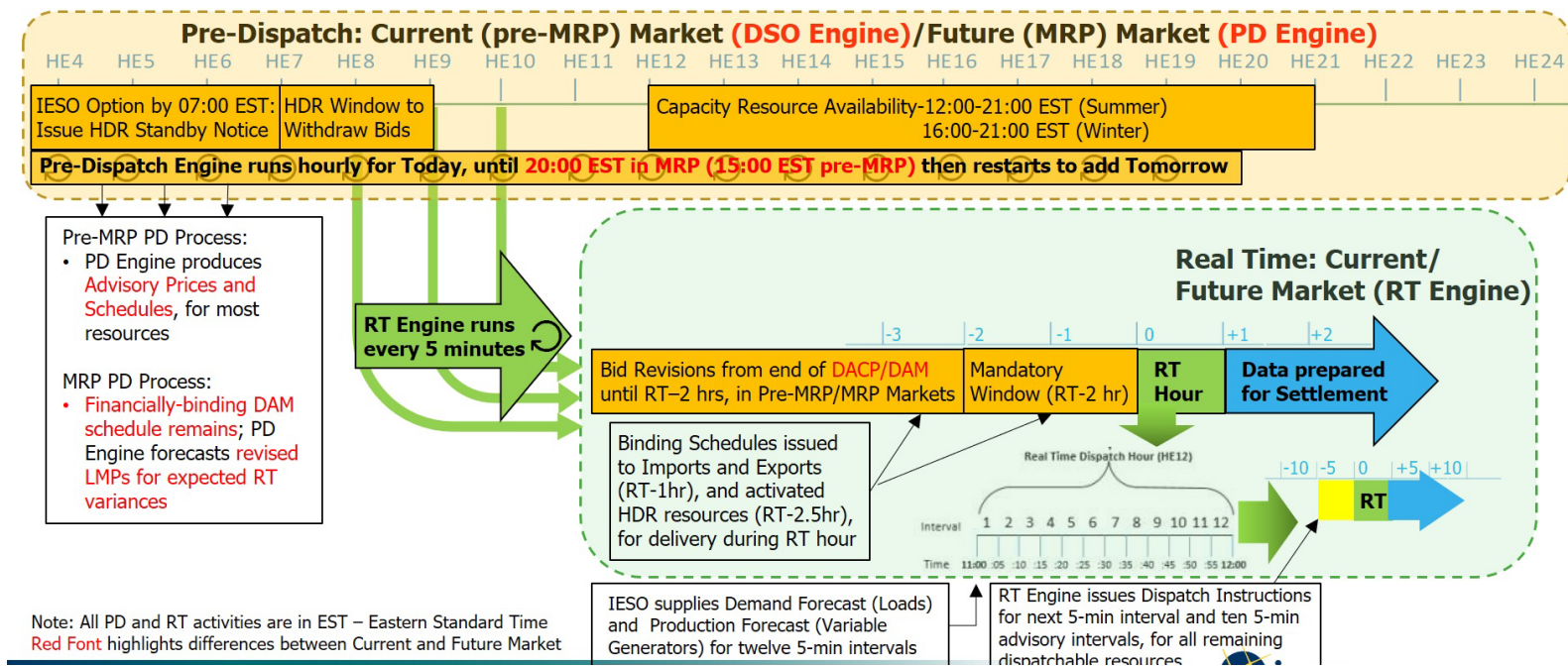
- Ensures energy pricing transparently reflects global and local system constraints on a real-time basis 5-15 minutes before operation to reduce costs
- Enables the implementation of DAM and ERUC

# Market Timings: Day Ahead of Dispatch (Basic)



EPT – Eastern Prevailing Time EST – Eastern Standard Time  
 Red Font highlights differences between Current and Future Market

# Market Timings: Dispatch Day (Basic)



# Process Mapping: Other Impacts to Participants

## No change

- Bid submission process and data parameters
- Authorization and meter registration
- Outage management

## Minor change

- Billing and payments
- Facility registration
- Prudential support
- Demand Forecasts



# What have we completed so far and what's ahead?

# Market Renewal Phases

We are here



- Key concepts and high-level decisions for the three key initiatives
- Published final documents in 2019

- Documents the design at the level of detail required to develop governing documents, user requirements, and business processes
- Final versions of documents published Jan 2021

- Specifies how the design will be implemented through market rules, procedures, business processes, and technical interfaces

## Current Project Status

- Market Rules revision batches for Market Entry/Prudentials, Calculation Engines, and Market Power Mitigation have been shared publically; following updates based on stakeholder responses, two batches have been provisionally approved by Technical Panel, third is in progress
- June 2022: participants will receive a “**Day in the Life**” view of their participation in a renewed market, to highlight potential changes, testing, and training requirements for MRP

# Summary

- Market Renewal will help to more efficiently deliver a reliable supply of energy to Ontarians; net benefits of \$800 million
- Best practices and stakeholder feedback being leveraged to develop a practical market design that works for Ontario consumers and suppliers
- MRP will provide a more accurate locational signal for the value of energy and operating reserve in Ontario allowing the resources that are best able to meet system needs to benefit
- MRP levels the playing field for resources, and prepares the province for a future with more diverse forms of supply, and more opportunity to participate in energy markets
- Visit [ieso.ca/market-renewal](https://ieso.ca/market-renewal)



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# Thank You

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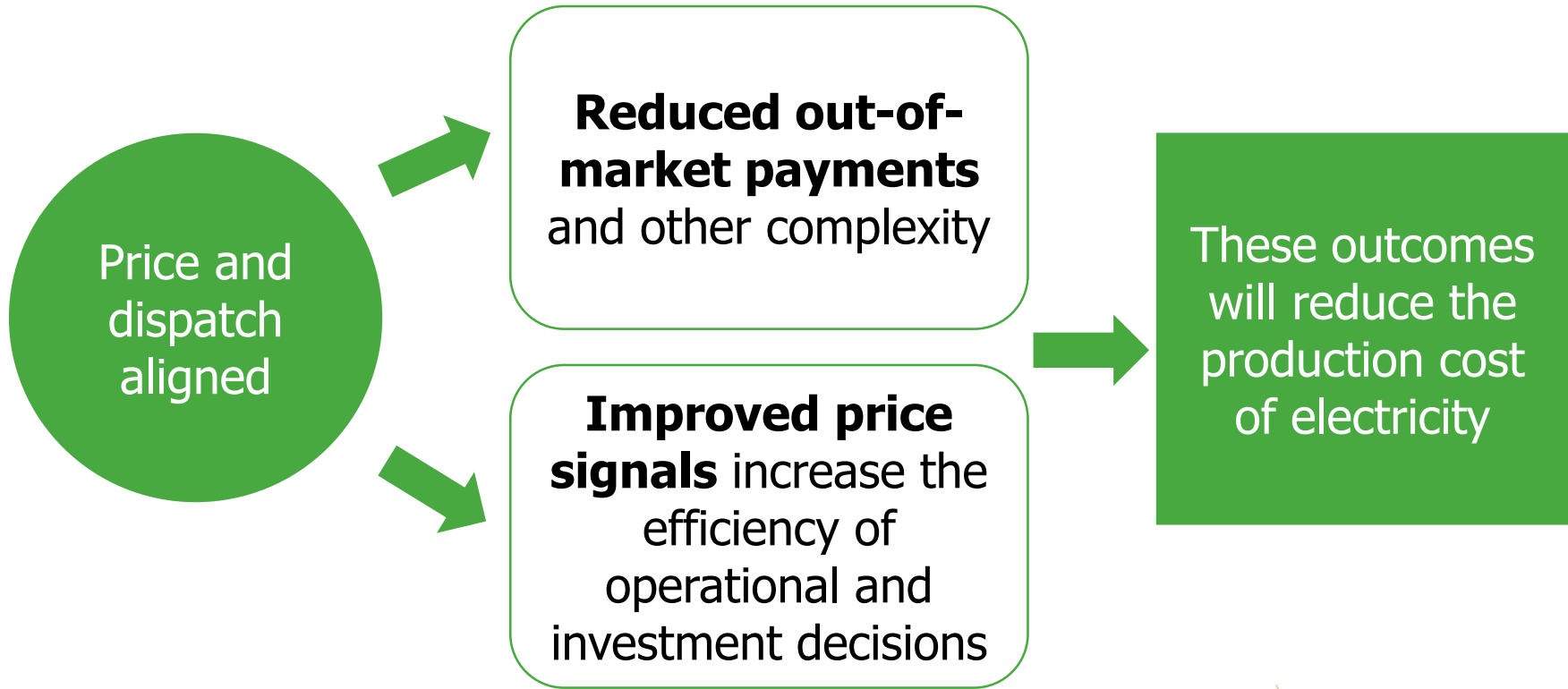


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# Appendix

# Single Schedule Market

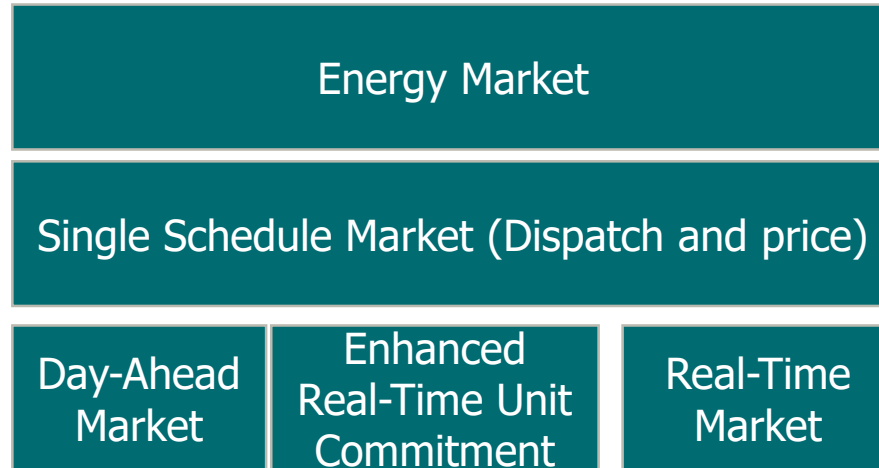


# Key takeaways from a Single Schedule Market

- SSM will introduce locational prices for energy and operating reserve that will more accurately reflect the value of those services, enabling more efficient operational decisions
- Unlocks other market changes including the day-ahead market
- Allows resources that can provide the most value to the system to benefit from accurate locational prices
- Platform for more efficient future investment decisions

# Day-Ahead Market: The Big Picture

- A day-ahead market will provide financially binding day-ahead schedules
- Enabled by the single schedule market design and will operate prior to pre-dispatch and real-time



# Why a Day-Ahead Market?

## Current Day-Ahead Commitment Process (DACP)

Participants submit day-ahead bids and offers primarily to declare availability in real-time

Day-ahead bids and offers may be less efficient because they are not competing for a price

Exports can participate but are not incentivized to do so

Resources are scheduled to meet Ontario demand, providing a rough approximation of tomorrow's operation

## Day-Ahead Market (DAM)

Participants submit day-ahead bids and offers to compete with other for a day-ahead price

Day-ahead bids and offers are more efficient because they are competitive

Exports have incentive to participate in the DAM

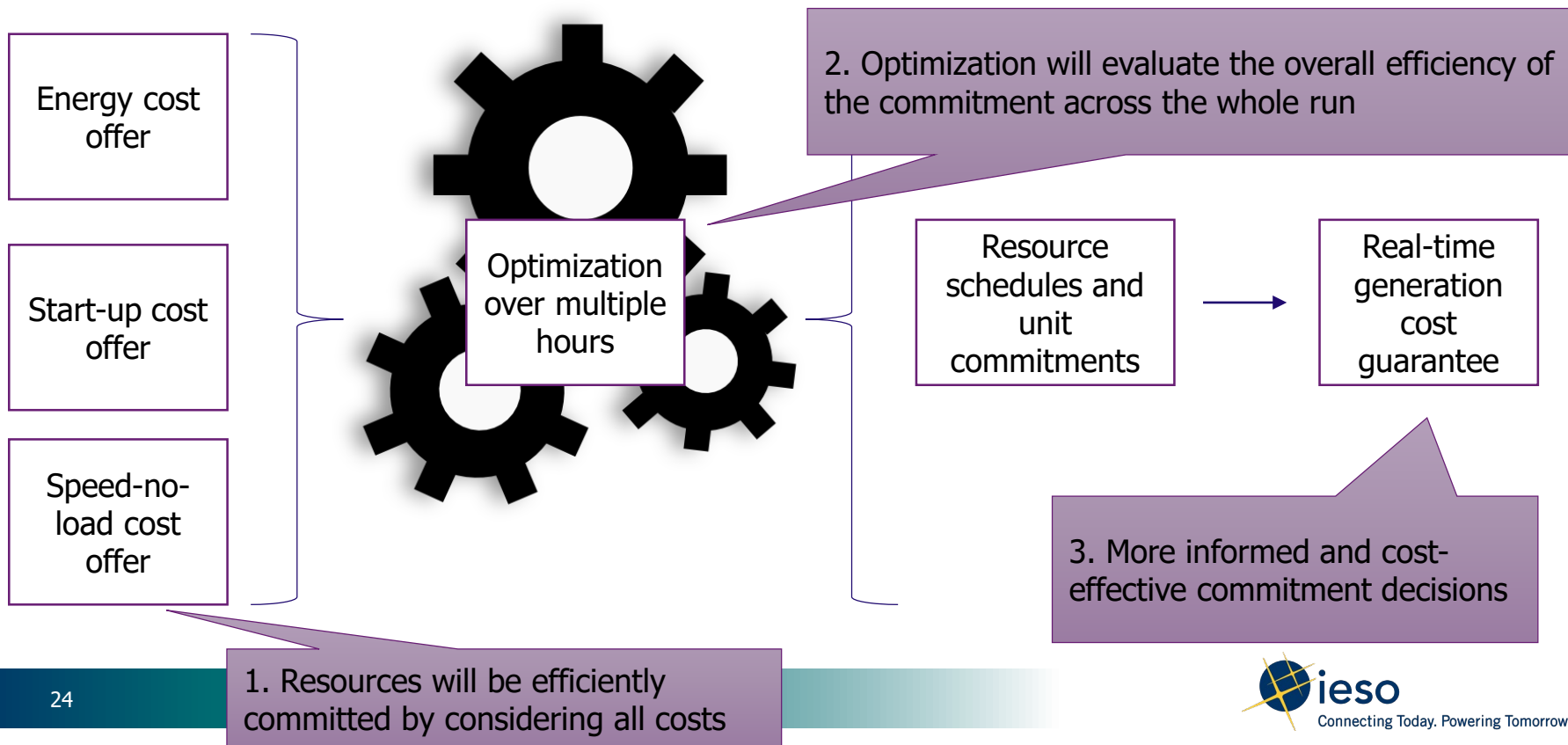
Resources are scheduled to meet total Market demand, providing a better view of tomorrow's operation

A day-ahead price signal incentivizes more efficient participation from all resources

# Key Takeaways from a Day-Ahead Market

- Financially binding DAM will improve participation in day-ahead scheduling, helping to ensure reliability while efficiently scheduling resources
- Participation in the DAM can help to reduce exposure to real-time price volatility
- DAM will improve modelling for hydroelectric resources helping to ensure that feasible schedules are produced

# Enhanced Real-Time Unit Commitment Process





# Key Takeaways Enhanced Real-Time Unit Commitment

- Improved hydro modeling will ensure more efficient dispatch outcomes
- ERUC is replacing today's pre-dispatch process and the Real-Time Generator Cost Guarantee program
- Improved pre-dispatch scheduling and three-part offers will help to ensure that resources are scheduled when they are among the lowest cost options
- Improved optimization will avoid instances of higher cost resources being committed ahead of more competitive options