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# Improving Awareness of System Operating Conditions - Technical Panel Educational Session

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# Executive Summary

- Past summer operations highlighted the need to improve communication with stakeholders, and provide more clarity on the system and market conditions that require the IESO and/or Market Participants to take actions. The proposed changes are as follows:
  - A new advisory notice framework is being proposed that consists of three types of advisory notices: Alert, Warning, Action.
  - A new operating state, Conservative Operating State, is being proposed to enhance situational awareness and posture the grid to be more resilient when system conditions are stressed.

# Agenda

- Background
- What is Changing? Advisory Notice Framework and a New Operating State
- Proposed Changes to Market Rules and Market Manuals
- Stakeholder Engagement
- Next Steps
- Appendix

# Background

- Today, the IESO informs stakeholders of system and market conditions through publishing advisory notices and the use of grid operating states.
- Past operating events over the summer (e.g. extreme weather) have highlighted opportunities to improve IESO communication to stakeholders and clarify Market Participants (MPs) actions.
  - Tighter system conditions and more frequent extreme weather events have increased the potential adverse impact of recognized contingencies on power system reliability.
- Being aware of these situations allows MPs to be informed, and prepare their operations and take action accordingly to maintain reliability and enhance grid resilience.



# **What is Changing? Advisory Notice Framework Revision and a New Conservative Operating State**

# New Advisory Notice Framework

Replace current advisory framework\* with a new framework consisting of three types of advisory notices: Alert, Warning and Action.

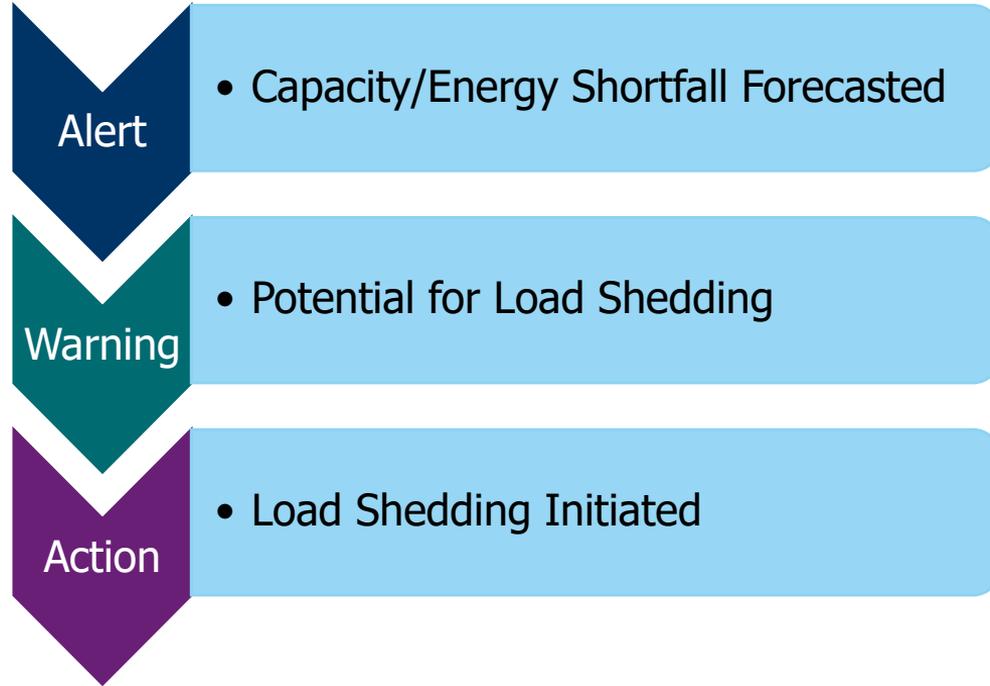
Any issued advisory notice will clearly indicate type.

The existing advisory notices will be aligned into the new types. This may also require the addition of new notices for better alignment as we transition through each type.

\*Refer to appendix for current advisory framework



# Advisory Notice Examples



# New Conservative Operating State

- Declared when there is a need to minimize potential risk to the grid or if there is a need to enhance the grid's resiliency due to actual or forecasted stressed system operating conditions. System conditions during a Conservative Operating State include:
  - Equipment is operating within its normal ratings.
  - Normal condition limits are being respected.
  - Contingencies could adversely impact system security and thus a heightened level of awareness is necessary.

Consistent with today, the IESO will publish an advisory notice to notify market participants when changing to a different operating state.

# Conservative Operating State: Triggers/Actions

- Extreme weather, tight supply conditions, geomagnetic disturbances, outages to IESO IT applications or tools that affect system security, and/or evacuation of the IESO primary control centre
- What does this mean?:
  - Non-Urgent\* maintenance of equipment and switching activities that could impact the grid will be suspended:
    - Certain Planned outages may not proceed.
    - Opportunity outages will not proceed.
    - Equipment already out of service may need to be returned to service.

\*See MM 7.3 Outage Management for what qualify as Urgent, Planned, and Opportunity outages

# Conservative Operating State: Triggers/Actions

- MPs may need to implement manual workarounds to fulfill their obligations (e.g., receive and execute verbal dispatch instructions), and/or
- The IESO may request MPs or neighbouring entities to monitor the IESO-controlled grid or the interties, respectively, on behalf of the IESO



# Proposed Changes to Market Rules and Market Manuals

# Market Rule Changes

- MR Chapter 5, Section 2: IESO-Controlled Grid and Operating States
  - Added new Conservative Operating State, the conditions when it can be declared, the triggers, and potential actions.
- MR Chapter 5, Section 6: Outage Coordination
  - Updated Section 6.4.9 to add the Conservative Operating State where advance approval can be revoked if Conservative Operating State is occurring or is reasonably likely to occur.
- MR Chapter 7, Section 12: Status Reports, Advisories, and Protocols
  - Updated to reflect new advisory notice framework

# Market Manual Changes

- Market Manual 7.1, Section 2.3: Grid Operating States
  - Updated to add description of the Conservative Operating State.
- Market Manual 7.1, Appendix B: Emergency Operating State Control Actions
  - Added the declaration of Conservative Operating State to the list of emergency control actions.
- Market Manual 7.2, Section 3: Advisory Notices
  - Updated to reflect new advisory notice framework
- Market Manual 7.4, Section 2.4: Grid Operating States
  - Updated the principles and added the new Conservative Operating State to existing list of operating states.

## Market Manual Changes [cont.]

- Minor updates to the following Market Manuals to incorporate proposed changes
  - Market Manual 7.3, 4.2, 4.3, 4.4, 4.5



# Stakeholder Engagement

# Stakeholder Sessions and Feedback

- March 23, 2021 (materials posted [here](#))
  - Provided an overview of the initiative and sought stakeholder feedback on the approach and proposed changes.
- April 22, 2021 (materials posted [here](#))
  - Provided a more detailed overview of the proposed revisions to the advisory notice framework and the new operating states.
  - Asked stakeholders for feedback on the proposed revisions and any information they would find helpful
- Jan 27, 2022 (materials posted [here](#))
  - Proposed minor changes to what was discussed at the April 22, 2021 stakeholder engagement session for simplification and presented proposed changes to MR/MM
- No feedback received from stakeholders on any of the changes

# Next Steps

Timing	Engagement Activity
February 17 2022	Stakeholder feedback due
March 2022	Phase 2: Confirm and email effective date to registered stakeholders.
April 2022	Recommend MR amendments to TP and vote to post
May 2022	Request that the TP vote to recommend the amendments to the IESO Board for Approval
May/June	IESO Markets Committee and Board Meetings
Late June 2022	Phase 2: Target effective date



# Appendix

# Advisory Notices: Current Framework Review

<b>Advisory Notice Category</b>	<b>Advisory Notices Type</b>
Normal	System Advisory
Normal	Major Change Advisory
*Emergency	System Emergency Advisory
*Emergency	Market Suspension/Resumption

\* An emergency category could also be any message to market participants requiring their immediate action

# Operating State: Current Practice Review

<b>*Three Operating States:</b>	<b>Conditions</b>
Normal	No adverse weather, outage plans are progressing, equipment is at normal ratings and system operating within normal limits.
High-Risk	Declared when there is an increased risk of a contingency occurring on the system.
Emergency	Declared when there is an emergency issue relating to energy, capacity or security

\*The three operating states are defined in Market Rules, Chapter 5, Section 2.

# Summary: Phase 1 and 2

	<b>Phase 1 – Enhance</b>	<b>Phase 2 – Revise</b>
Goal	Enhance situational awareness when the potential for stressed system conditions are more likely to occur.	Provide greater clarity on situational awareness when market participant actions may be needed.
Proposed Plan	Added two new advisory notices.	Revise advisory notice framework and add a new operating state.
Engagement	Completed. New advisory notices implemented	Longer, more in-depth input required from stakeholders.
Market Rule and/or Manual Changes	Not required	Required.
Market Participant Actions Post Changes	Not required	Required

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# Thank You

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