Market Rule Amendment Proposal Form

Part 1 - Market Rule Information

Identification No.:	MR-MR-00470-R0
Subject:	Improving Awareness of System Operating Conditions
Title:	Improving Awareness of System Operating Conditions
Nature of Proposal:	☒ Alteration ☐ Deletion ☒ Addition
Chapter:	Ch. 5, 7 & 11
Appendix:	N/A
Sections:	Ch. 5 sections 2.5, 5.9A & 6.4 Ch. 7 sections 7.2, 11.2, 11.3, 12.1 & 12.2 Ch. 11 definitions
Sub-sections proposed for amending:	Ch. 5 sections 2.5.1, 2.5.2, 2.5.3, 5.9A.1, 5.9A.2 & 6.4.9.1 Ch. 7 sections 7.2.2, 7.2.3, 11.2.1, 11.2.2, 11.3.1, 11.3.2, 11.3.3, 12.1.2, 12.1.3, 12.1.3A, 12.2.1, 12.2.2 & 12.2.3 Ch. 11 definitions
Current Market Rules Baseline:	Baseline 46.1

Part 2 - Proposal History

Version	Reason for Issuing	Version Date
1.0	Issued for Technical Panel review	April 12, 2022

Approved Amendment Publication Date:

Approved Amendment Effective Date:

Part 3 - Explanation for Proposed Amendment

Provide a brief description that includes some or all of the following points:

- The reason for the proposed amendment and the impact on the *IESO-administered markets* if the amendment is not made.
- Alternative solutions considered.
- The proposed amendment, how the amendment addresses the above reason and impact of the proposed amendment on the *IESO-administered markets*.

Summary

The IESO is proposing to replace current advisory framework with a new framework consisting of three types of advisory notices: Alert (Situational awareness to give time for advanced preparations), Warning (Potential for future action may be needed) and Action (IESO and/or market participants are taking action).

In addition, the IESO is proposing to introduce a new operating state, the Conservative Operating State which would be 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.

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.

Discussion

Chapter 5

2.4 -   Minor clerical cleanup to section.

2.5 -   New section is being added which introduces the new *conservative operating state*.

5.9A – New section is being added which describes operations under a *conservative operating state*.

6.4 –   Updated sub-section 6.4.9.1 to include *conservative operating state* into the Revoke Advance Approval section.

Chapter 7

7.2 -   Minor clerical cleanup to section.

11.2 - Minor clerical cleanup to section.

11.3 - Minor clerical cleanup to section.

12.1 – New advisory notice framework is being introduced under sub-section 12.1.2 which will consist of alert, warning, and action.

    Sub-section 12.1.3 is being updated to reflect the new notice framework in sub-section 12.1.2 and describe the reasons for which the IESO will issue notices.

12.2 – Added reference to *energy storage facilities* to the Over-Generation and Under-Generation Advisories section.

Chapter 11

Added the defined term *conservative operating state.*

Part 4 - Proposed Amendment

Chapter 5

2.   IESO-Controlled Grid and Operating States

2.4   High-Risk Operating State

2.4.1   The *IESO-controlled grid* shall be considered to be in a *high-risk operating state* when the observance of *security limits* under a *normal operating state* will expose the *integrated power system* to a significantly higher than normal probability of one or more *contingency events* and associated consequences, or of a condition that may lead to, but is not yet, an *emergency*. The conditions under which the *IESO-controlled grid* may be considered as entering into or exiting a *high-risk operating state* shall be defined in the *IESO*'s operating procedures, it being understood that, without limiting the generality of the foregoing, a *high-risk operating state* is normally associated with adverse or extreme weather conditions ~~(such as lightening or freezing rain) extreme weather conditions (such as tornadoes or hurricanes)~~ or equipment-related problems ~~(such as the operation of equipment known to be unreliable or defective)~~ that could lead to a *contingency event* on the *IESO-controlled-grid* that is not expected under a *normal operating state*.

2.4.2   The *IESO* shall not take any action or refrain from taking any action that will, in the opinion of the *IESO*, be reasonably likely to lead to a *high-risk operating state*.

2.4.3   The *IESO* shall promptly inform *market participants* when a *high-risk operating state* is anticipated or has been declared, and when it ceases to exist or to be anticipated. During a *high-risk operating state*, the *IESO* shall have the authority to modify

security limits as necessary to manage conditions and increase *reliability* on the *IESO-controlled grid*, and to take such other action or refrain from taking such other action consistent with *good utility practice* as may be required and with as little disruption to electric service or adverse impact on the operation of the *IESO-administered markets* as is reasonably practicable in the circumstances.

2.5   Conservative Operating State

2.5.1   The *IESO-controlled grid* shall be considered to be in a *conservative operating state* when the impact of a *contingency event* on the *IESO-controlled grid* could be more severe than under a *normal operating state*. Under a *conservative operating state* the *IESO-controlled grid* will be operated within equipment and *security limits* established for a *normal operating state*. The *IESO-controlled grid* will be in a heightened state of readiness due to anticipated, or actual, stresses on the grid itself, or due to the *IESO's* loss of ability to effectively monitor the *IESO-controlled grid*. Conditions that may require a *conservative operating state* are listed in the applicable *market manual.*

2.5.2   The *IESO* shall promptly inform *market participants* when a *conservative operating state* is anticipated or has been declared, and when it ceases to exist or to be anticipated. During a *conservative operating state*, the *IESO* shall have the authority to take such action or refrain from taking such action consistent with *good utility practice* as may be required and with as little disruption to electric service or adverse impact on the operation of the *IESO-administered markets* as is reasonably practicable in the circumstances.

5.9A Operation Under a Conservative Operating State

5.9A   Once a *conservative operating state* has been declared by the *IESO*, the *IESO* may take such action as it determines appropriate including, but not limited to:

5.9A.1   coordinating with neighbouring *control area operators*; and

5.9A.2   requesting *market participants* to monitor the *IESO-controlled grid* on the *IESO's* behalf.

5.9A.3   direct *market participants* to suspend all non-urgent maintenance and switching activities on *facility* elements for which outages must be reported or involve elements that could impact the operations of the *IESO-controlled grid.*

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Revoke Advance Approvals

6.4.9   The *IESO* may, where necessary to maintain the *reliability* of the *IESO-controlled grid*, or as provided in section 6.4.9.3, revoke an *advance approval* of a *planned*

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outage. Without limiting the generality of the foregoing, the *IESO* may revoke an *advance approval* if:

6.4.9.1   the *IESO* determines that ~~either~~ a *conservative operating state,* an *emergency operating state* or a *high-risk operating state* is occurring or is reasonably likely to occur at the time at which the *planned outage* would otherwise take place;

6.4.9.2   necessary to avoid recalling a *planned outage* pursuant to section 6.4.11; or

6.4.9.3   the *transmitter's planned outage* is to a *connection facility* that would prevent the delivery to the *IESO-controlled grid* of electricity from a *generation unit* or *electricity storage unit* that has committed capacity to an external *control area* in accordance with section 20.2 of Chapter 7; and

> 6.4.9.3.1   the *IESO* is advised by the *market participant* that has committed its capacity to an external *control area* in accordance with section 20.2 of Chapter 7, that the external *control area operator* has determined that a *transmitter's planned outage* would result in an unacceptable risk of an adequacy shortfall to the *external control area,* as may be specified in the applicable *capacity export agreement*; and

> 6.4.9.3.2   the *market participant* that has committed its capacity to an external *control area* in accordance with section 20.2 of Chapter 7 has demonstrated to the *IESO* that it has made best efforts to reschedule the *planned outage* with the *transmitter*, as prescribed in the applicable *market manual*.

A *planned outage* that receives *advance approval* under section 6.4.4 but does not receive final approval pursuant to section 6.4.3.3 shall be considered to have had its *advance approval* revoked.

Chapter 7

7.2   Information Used to Determine Dispatch Instructions

7.2.2   If the *IESO* anticipates that an over-generation or an under-generation condition may occur, it shall issue ~~system~~ advisory notices in accordance with section 12.1 but shall continue using the procedures described in sections 5 and 6 to determine *pre-dispatch schedules*, *real-time schedules* and the associated projected and *market prices* and *market schedules*.

7.2.3   If the *IESO* determines prior to issuing *dispatch instructions* that the market responses to the projected or *market prices* will be sufficient to eliminate the over-generation or under-generation condition, the *IESO* shall take no *emergency* action and shall issue ~~system~~ advisory notices so indicating.

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11.2   Process for Synchronization

11.2.1   A *generator* or *electricity storage participant* that intends to synchronize a *generation unit* or *electricity storage unit* to the *IESO-controlled grid* or embedding *facility*, as the case may be, must notify the *IESO* at least two hours in advance of the intended synchronization time unless an under-generation ~~system~~ advisory notice is in force, in which case the *IESO* may reduce the required notification time to that specified in the ~~system~~ advisory notice.

11.2.2   If a *generator* or *electricity storage participant* does not advise the *IESO* at least two hours in advance of synchronization, or any shorter interval allowed by an under-generation ~~system~~ advisory notice, the *IESO* may approve synchronization only if, in the *IESO*'s judgement, synchronization will not impair the ability of the *IESO* to maintain the *security* or *adequacy* of the *electricity system*.

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11.3   Process for De-synchronization

11.3.1   A *generator* or *electricity storage participant* intending to de-synchronize a *generation unit* or *electricity storage unit* from the *IESO-controlled grid* or embedding *facility*, as the case may be shall notify the *IESO* one hour in advance of the intended de-synchronization time, unless a~~n~~ ~~system~~ advisory notice for over-generation is in effect, in which event the *generation unit* or *electricity storage unit* may de-synchronize at will subject to the conditions of the ~~system~~ advisory notice.

11.3.2   If a *generator* or *electricity storage participant* does not advise the *IESO* at least one hour prior to its planned de-synchronization, or any shorter interval allowed by an over-generation ~~system~~ advisory notice, the *IESO* may approve de-synchronization only if, in the *IESO*'s judgement, the unit's de-synchronization will not impair the ability of the *IESO* to maintain the *security* or *adequacy* of the *electricity system*.

11.3.3   The *IESO* shall approve any request to de-synchronize unless:

    11.3.3.1   the *generation unit* or *electricity storage unit* is operating under the provisions of a *reliability must-run contract* and the *IESO* has directed it to operate;

    11.3.3.2   the *IESO* requires the *generation unit* or *electricity storage unit* to remain synchronized to maintain the *security* or *adequacy* of the *electricity system*; or

11.3.3.3   an under-generation ~~system~~ advisory notice is in force.

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12. Status Reports, Advisories, and Protocols

12.1   IESO System Status Reports and Advisory Notices

12.1.2   ~~[Intentionally left blank – section deleted]~~ Where the *IESO publishes* an advisory notice, it shall do so in one of the following forms, in accordance with the applicable *market manual*:

12.1.2.1   an alert notice, which shall provide situational awareness and provide time for advanced preparations;

12.1.2.2   a warning notice, which shall indicate the actions the *IESO* intends to take if the *IESO-administered markets* do not or cannot respond sufficiently to eliminate an identified or potential problem; or

12.1.2.3   an action notice, which shall indicate the actions the *IESO* and *market participants* must take in order to eliminate an identified or potential problem.

~~12.1.2.1 to 12.1.2.9   [Intentionally left blank – sections deleted]~~

12.1.3   ~~If required, the~~The *IESO* shall *publish*, in accordance with the applicable *market manual*, advisory notices ~~as follows~~for the following reasons:

12.1.3.1   ~~a major change advisory~~ if a major change in expected *generation capacity, electricity storage capacity* or *transmission capacity* has occurred since the last system status report was issued ~~-~~;

12.1.3.2   ~~a system advisory~~ if the *IESO* expects over-generation, under-generation or shortfalls in *operating reserve* or *contracted ancillary services*, or an advisory of the total MW of *energy* being directed to submit *bids* or *offers* from the aggregate of *reliability must run resources* under *reliability must run contracts*~~;~~. ~~Any system advisory shall indicate the actions the IESO intends to take if the market does not or cannot respond sufficiently to eliminate the problem;~~

12.1.3.3   ~~a system emergency advisory~~ if the *IESO* expects an *emergency operating state,~~ or~~* a *high-risk operating state*, or a *conservative operating state*. ~~Any such system emergency advisory shall indicate the actions the IESO intends to~~

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~~take if the market does not or cannot respond sufficiently to eliminate the problem~~; and

12.1.3.4   ~~a market suspension advisory or market resumption notice~~ if the *IESO* is suspending or resuming operation of all or part of the *IESO-administered markets*;~~.~~

12.1.3A   The *IESO* may *publish* advisory notices in addition to those in 12.1.3, in accordance with the applicable *market manual*, for any additional reason identified by the *IESO* in which the *IESO* believes that the *publication* of an advisory notice would be in the interest of the *IESO-administered markets*, *market participants*, or the *IESO-controlled grid.*

12.1.4   Where applicable, the corresponding information related to the advisory notices in section 12.1.3 shall be included by the *IESO* in a subsequent *publication* of a scheduled report under section 12.1.1.

12.1.5   The reports referred to in section 12.1.1 and 12.1.3 shall be prepared by the *IESO* in such form and shall contain such information as may be specified in the applicable *market manual*.

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12.2   Over-Generation and Under-Generation Advisories

12.2.1   If the *IESO* issues an over-generation ~~system~~ advisory notice pursuant to section 12.1.3, the *IESO* shall, unless the *IESO* determines that it is not able to do so for operational or system *security* reasons, and notwithstanding any notification requirements or other conditions specified elsewhere in these *market rules*:

12.2.1.1   solicit and accept additional or revised *bids* from *dispatchable loads*~~-~~ or *electricity storage facilities* willing to increase demand in response to low prices;

12.2.1.2   allow *generators* or *electricity storage facilities* to de-synchronize from the *IESO-controlled grid* or the embedding *facility*, as the case may be, without penalty, some or all of the *generation units* or *electricity storage units* within any *registered facility* in locations designated by the *IESO;* and/or

12.2.1.3   solicit and accept revised *offers* from *generators, electricity storage participants* or *wholesale sellers* that will decrease generation resources in response to low prices, in locations designated by the *IESO*.

12.2.2   If the *IESO* issues an under-generation ~~system~~ advisory notice pursuant to section 12.1.3, the *IESO* shall, unless the *IESO* determines that it is not able to do so

for operational or system security reasons, and notwithstanding any notification requirements or other conditions specified elsewhere in these *market rules*:

12.2.2.1 solicit and accept additional or revised *bids* from *dispatchable loads* and *electricity storage facilities* that will reduce load in response to higher prices;

12.2.2.2 allow *generators* or *electricity storage facilities* to synchronize to the *IESO-controlled grid* or the embedding *facility*, as the case may be, without penalty, some or all of the *generation units* or *electricity storage units* within any *registered facility* in locations designated by the *IESO*; and/or

12.2.2.3 solicit and accept additional or revised *offers* from *generators, electricity storage participants* or *wholesale sellers* that will increase generation resources or injections of *energy* in response to higher prices, in locations designated by the *IESO*.

12.2.3 If the *IESO* issues an *operating reserve* shortfall ~~system~~ advisory notice pursuant to section 12.1.3, the *IESO* shall, within the period specified in the advisory notice, accept additional or revised *offers* for *operating reserve*.

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Chapter 11

conservative operating state means the state described in section 2.5 of Chapter 5;