Post Go-Live True-Ups for the Renewed Market

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Agenda

- Overview

- Four Categories of Proposed Market Rule Amendments:

  1. Market and System Operations

  2. Market Power Mitigation

  3. Settlements

  4. Miscellaneous Clean-Up Items

- Next Steps

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Overview

- A limited number of market rule amendment "true-ups" were identified prior to MRP go-live, some of which were managed in the interim via temporary workarounds where necessary.

- The proposed amendments are non-substantive changes required to better align market rules with the correct functioning of MRP implementation. They do not reflect changes in design principles, and are limited to typographical, clean-up, clarifications or computational corrections.

- The proposed changes are categorized in the following four themes:

1. Market and Systems Operations – 3 items 1A-1C;
2. Market Power Mitigation - 3 items 2A-2C;
3. Settlements – 7 items 3A-3G;
4. Miscellaneous Clean-Up Items – 3 items 4A-4C.

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Category 1: Market and System Operations

1A – Time Constraint on Price Revisions for GOG-eligible Resources

- **Background:** MR Ch.0.7 ss.3.3.3.8 to 3.3.3.13 restricts GOG-eligible resources that have not received a day-ahead operational schedule from increasing offers for energy and operating reserve upon receipt of a binding pre-dispatch advisory schedule.

- **Timing Challenge:** The binding pre-dispatch advisory schedule is issued 30 minutes <u>after</u> the start of a dispatch hour, allowing market participants an opportunity to increase offer prices in the first 30 minutes of the hour.

- **Market Impacts:** This creates the risk of unwarranted revenues resulting from increases in offer prices and misalignment between commitments and real-time pricing.

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1A – Time Constraint on Price Revisions for GOG-eligible Resources (cont'd)

- Proposed new **MR Ch.0.7 s.3.3.3.14** will prohibit price increases in the first 30 minutes of any hour of the real-time market unrestricted window, consistent with the original design intent. The IESO may adjust settlements if offer price increases occur:

> 3.3.3.14 During *the real-time market unrestricted window* a *registered market participant* for a *GOG-eligible resource* shall not increase its *energy offer* prices for quantities above the *resource's minimum loading point,* or its *operating reserve offer* prices, within the first 30 minutes of any *dispatch hour.* Where a *registered market participant* for a *GOG-eligible resource* increases its *energy offer prices* for quantities above the *resource's minimum loading point,* or its *operating reserve offer* prices, within the first 30 minutes of any *dispatch hour* during the *real-time market unrestricted window,* the *IESO* may adjust *settlement amounts* paid or payable to that *registered market participant* to place that *market participant* in the position it would have occupied but for that *dispatch data* revision.

- Corresponding changes to **MM 4.1 - Submitting Dispatch Data in the Physical Markets, ss.2.1.1.3, 3.1.1 and Appendix F.7** are required.

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1B – Revision Restrictions for Daily Dispatch Data: Single-Cycle Mode

Existing Revision Restriction

- **MR Ch.0.7 s.3.3.7.3** restricts single cycle mode revisions during the real-time market restricted window if a pseudo-unit:

  - Has a day-ahead or pre-dispatch operational commitment; or

  - Is synchronized.

- **Exception:** Revisions to single-cycle mode are permitted if the steam turbine of the pseudo-unit operating in combined cycle mode experiences a forced outage.

- **Proposed Clarification:** Amendment to **s.3.3.7.3a., b. & c.** to clarify that the revision restrictions above apply to the remaining hours of the dispatch day that the revision is intended to impact.

1B – Revision Restrictions for Daily Dispatch Data: Single-Cycle Mode (cont'd)

Need for New Market Rule – Commitments Through Midnight

- **Issue:** The calculation engine is unable to determine the appropriate single-cycle mode to apply when commitments span across midnight and there is a change to the single-cycle mode submission (i.e. current day vs. next day).

- **Impact:** Potential for a misalignment between scheduled commitments and revised single-cycle mode submissions.

- **Proposed Solution:** Proposed **MR Ch.0.7 s.3.3.7.3A** requires participants to ensure that single-cycle mode is revised to align with the requirements of the commitment for its entire duration for commitments which span across midnight, to ensure operational consistency.

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1B – Revision Restrictions for Daily Dispatch Data: Single-Cycle Mode (cont'd)

Proposed market rule amendments:

3.3.7.3 During the *real-time market restricted window*, a *registered market participant* shall not revise its submission of *single cycle mode* where:

    a.   the *pseudo-unit* has received a *day-ahead operational commitment* for any of the remaining hours of the *dispatch day* that the revision is intended to apply;

    b.   the *pseudo-unit* has received a *pre-dispatch operational commitment* for any of the remaining hours of the *dispatch day* that the revision is intended to apply; or

    c.   the *pseudo-unit* is synchronized and the revision is intended to apply to the current *dispatch day*;

unless the *pseudo-unit* is operating in combined cycle mode, and the associated steam turbine *resource* of the *pseudo-unit* experiences a *forced outage* and the *registered market participant* submits a *forced outage* slip for the steam turbine *resource*.

3.3.7.3A Notwithstanding section 3.3.7.3, if the *pseudo-unit* has received a *day-ahead operational commitment* or *pre-dispatch operational commitment* that will keep the *resource* synchronized through midnight after a revision to its *single cycle mode* for the next *dispatch day*, the *registered market participant* shall, as soon as reasonably practicable, revise its submitted *single cycle mode* to align with the requirements and the duration of such commitment, in accordance with the applicable *market manual*.

- Corresponding changes to **MM 4.3 – Operation of the Real-Time Market, ss.2.3.3.1 (Table 2-1)** are required.

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1C – Operating Reserve for Storage Resources

- The legacy market rules contain limitations on what a storage provider can offer in the energy market when offering operating reserve (OR).

- OR can be offered on either the injections or the withdrawals. However, there are physical limitations to what the storage provider can provide on the "opposite side" during the same or subsequent dispatch hour:

  - E.g. if offering OR from its injections, the storage provider must not submit bids to withdraw energy in either the dispatch hour it is providing OR, nor for the subsequent dispatch hour, nor can it offer OR on the opposite side in the subsequent dispatch hour.

- The renewed market rules contain limitations on offering OR in the subsequent dispatch hour. However, in the translation of the legacy to the renewed market rules, the prohibition to offer/bid (in the opposite direction of OR supply) <u>during the subsequent dispatch hour</u> in the energy market was omitted.

1C – Operating Reserve for Storage Resources (cont'd)

Proposed market rule amendments:

Injections	Withdrawals
21.6.2 An *electricity storage participant* shall only submit an *offer* to provide *operating reserve* for a *dispatchable electricity storage resource* accompanied by an *offer* to inject *energy* if: 21.6.2.1 The *electricity storage participant* submits an *offer* for the *electricity storage resource* to inject *energy* for the entire *dispatch hour* and has not submitted any *bids* for that *electricity storage resource* to withdraw *energy* for that *dispatch hour*; 21.6.2.2 The *electricity storage participant* does not submit a *bid* to withdraw *energy* nor an *offer* to provide *operating reserve* accompanied by a *bid* to withdraw *energy* in the subsequent *dispatch hour*; and	21.6.3 An *electricity storage participant* shall only submit an *offer* to provide *operating reserve* for a *dispatchable electricity storage resource* accompanied by a *bid* to withdraw *energy* if: 21.6.3.1 The *electricity storage participant* submits a *bid* for the *electricity storage resource* to withdraw *energy* for the entire *dispatch hour* and has not submitted any *offers* for that *electricity storage resource* to inject *energy* for that entire *dispatch hour*; 21.6.3.2 The *electricity storage participant* does not submit an *offer* to inject *energy* nor an *offer* to provide *operating reserve* accompanied by an *offer* to inject *energy* in the subsequent *dispatch hour*; and

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Category 2: Market Power Mitigation

2A – Maximum Number of Starts per Day

- If a market participant does not provide certain non-financial dispatch data parameters for the purposes of setting reference levels, default values are assigned.

- Accordingly, MR Ch.0.7 s.22.3.3.7 assigns a default reference level of 10,000 starts per day for a *maximum number of starts per day*, which was established with the intent of setting the most permissive limit.

- Instead, read in conjunction with other sections, it has the opposite effect.

2A – Maximum Number of Starts per Day (cont'd)

- MR Ch.0.7 s.22.13 outlines the validation the IESO undertakes when reviewing submitted dispatch data.

- As part of this review, the IESO rejects any dispatch data where the maximum number of starts per day is "**50% less than the reference level value or less than one**".

  - Where a resource's *maximum number of starts per day* is the default of 10,000, any offers submitted with a *maximum number of starts per day* less than 5,000 would be rejected.

  - The rejection would always occur given market participants are obligated to submit *maximum number of starts per day* less than 24 (MR Ch.0.7 s.3.5.28.2).

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2A – Maximum Number of Starts per Day (cont'd)

- Changing the default maximum number of starts per day to **one** from 10,000 in MR Ch.0.7 s.22.3.3.7 will correct this issue:

> 22.3.3   If a *market participant* fails to provide the information or supporting documentation required by the *IESO* pursuant to section 22.1.3, the *IESO* may register the following values for a *reference level* determined pursuant to section 22.3.1:
>
> 22.3.3.7   *maximum number of starts per day reference level*: ~~10,000~~ one starts per day;

- As per Ch.0.7 s.22.13 the validation process will accept any *maximum number of starts per day* over 1 (since submitted data must be whole numbers).

2B – Market Control Entities

- On January 27, 2025, the IESO posted draft market rule amendment MR-00484-R00: Market Power Mitigation - Market Control Entities.

- The proposed amendments were in response to stakeholder feedback and are intended to remove unnecessary administrative burden to disclose affiliated entities that have limited or no ability to control or influence a market participant.

- The IESO received one set of written comments from stakeholders related to this amendment - Stakeholder Feedback and IESO's Response.

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2B – Market Control Entities (cont'd)

- On April 10, 2025, MACD posted a [Statement of Approach](#) providing a temporary forbearance on enforcing the current market control entity (MCE) requirements to disclose such affiliated entities.

2C – Publication of Potential Constrained Areas

- As part of the Technical Panel vote to recommend the MRP Final Alignment batch, the IESO committed to publish the potential constrained areas (PCAs) that will be used during the designation period.

- Proposed market rule amendments to Ch.0.7 s.22.10.1:

    22.10.1.3 The *IESO* shall *publish* a list of *potential constrained areas,* along with each of the *resources* and the transmission constraints within each *potential constrained area,* at least once per year, in accordance with the applicable *market manual.*

    22.10.1.4 The *IESO* may update the list of *resources* or the name of any system element in a *potential constrained area* in accordance with the applicable *market manual.*

- Amendments to Market Manual 14.1 – Market Power Mitigation Procedures will provide details on the publication of PCAs.

Category 3: Settlements

3A – Called Capacity Exports Ineligible for DAM Make-Whole Payments (MWPs)

- Amend the language of the DAM MWP (Ch0.9 s.3.4.4.2) ineligibility for called capacity exports with the same ineligibility in the Real-Time (RT) MWP provisions (Ch.0.9 s.3.5.2).

- The RT MWP ineligibility for called capacity exports is agnostic as to the resource to which it applies, whereas in contrast, the DAM MWP specifies the resources to which it applies. The proposed amendment brings consistency to these two provisions.

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3A – Called Capacity Exports Ineligible for DAM Make-Whole Payments (MWPs) cont'd

Real-Time Make-Whole Payment - Ineligibilities

3.5.2   Notwithstanding this section 3.5 but subject to section 3.5.3, a real-time make-whole payment *settlement amount* shall not be paid for:

a. a *called capacity export*;

Day-Ahead Market Make-Whole Payment - Ineligibilities

3.4.4   Notwithstanding this section 3.4 but subject to section 3.4.6, ~~the following~~ *~~resources shall not be eligible to receive~~* a *day-ahead market* make-whole payment *settlement amount* <u>shall not be paid</u> for:

3.4.4.1   a *resource* that is a *GOG-eligible resource* or has a primary fuel type of uranium for any *settlement hour* where the *resource* has a *day-ahead schedule* less than its *minimum loading point*;

3.4.4.2   a ~~*generation resource* or a *dispatchable electricity storage resource*~~ for a *called capacity export*~~.~~

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3B – DAM Reliability Scheduling Uplift

- Amend the formula for the DAM Reliability Scheduling Uplift – "DAM_P2_PMT" (MR Ch.0.9 s.4.14.5): insert brackets to clarify the "+DAM_GOG" forms part of the summation function:

- $DAM\_P2\_PMT = -1 \times$
$\sum_{H,K}^{M}[Max(Imp\_DAM\_MWP_{k,h}^{i,p2} - Imp\_DAM\_MWP_{k,h}^{i,p1}, 0) + DAM\_GOG_{k,h}^{m}]$

- A corresponding change to Charge Types and Equations - CT 1851 – Day-Ahead Market Reliability Scheduling Uplift is required.

3C – Real-Time MWP Reversal Charge

- For consistency, amend s.3.10.17 to add "dispatchable load" to this section, consistent with s.3.10.2 and the title header of the section:

3.10.2   The real-time make whole payment reversal charge *settlement amount* for *market participant* 'k' for *delivery point* 'm' in *settlement hour* 'h' ($RT\_MWP\_RC^m_{k,h}$) shall be calculated for each *settlement hour* for the *market participants* of *dispatchable loads, dispatchable electricity storage resources,* or *dispatchable generation resources,*

Real-Time Make-Whole Payment Reversal Charge for Dispatchable Loads, Dispatchable Electricity Storage Resources, and Dispatchable Generation Resources That Are Not Pseudo-Units

3.10.17   For a *delivery point* 'm' associated with a *dispatchable load, dispatchable electricity storage resource* or a *dispatchable generation resource* that is not a *pseudo-unit,* the real-time make-whole payment reversal charge *settlement amount* ($RT\_MWP\_RC^m_{k,h}$) is calculated as follows:

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3D – Hourly Uplift Settlement Amount

- The Hourly Uplift Settlement Amount (HUSA) is used to allocate costs associated with operating reserve and other ancillary services

- Amend the formula for HUSA in MR Ch.0.9 s.3.11.1 to add variable "k." listed as "GFC_MPC" which was erroneously omitted from the formula for "HUSA":

$$
\begin{aligned}
HUSA_h \\
= \sum_{K} \big(HORSA\{1\}_{k,h} + HORSA\{2\}_{k,h} + DAM\_BC_{k,h} + RT\_MWP_{k,h} + RT\_IOG_{k,h} + RT\_NISLR_h \big) \\
- \sum_{K} \Big(\sum_{R} ORSSD_{r,k,h} + \sum_{R} ORSCB_{r,k,h} + RT\_IMFC_{k,h} + RT\_EXFC_{k,h} \\
+ DAM\_IMFC_{k,h} + DAM\_EXFC_{k,h} + GFC\_MPC_{k,h} + RT\_RLSC_{k,h} + DAM\_RLSC_{k,h} \Big)
\end{aligned}
$$

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3E – DAM Make-Whole Payment Offer/Bid Substitutions

- MR Ch.0.9 s.3.4.3 specifies an offer/bid substitution used for the purposes of calculating the DAM MWP – this market rule mirrors the offer/bid substitution for the RT MWP.

- The offer/bid substitution for the DAM MWP is not applicable, since DAM MWPs do not have a lost opportunity cost. Therefore, this provision has no effect and, as a matter of clean-up, s.3.4.3 should be deleted in its entirety.

- A corresponding change to MM5.5 – IESO-Administered Markets Settlement Amounts to delete the "DAM_MWP bid price adjustment" in section 2.3 is required.

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3E – DAM Make-Whole Payment Offer/Bid Substitutions cont'd

Proposed market rule amendments:

3.4.3 ~~Notwithstanding anything in section 3.4 to the contrary and for the purpose of determining the *day ahead market* make-whole payment *settlement amount* for a *market participant,* the *IESO* shall adjust any:~~[Intentionally left blank – section deleted]

3.4.3.1 ~~*Offer* price and their substitutions as per section 5.1.2.2, as applicable, associated with a *generation resource, dispatchable electricity storage resource* that is registered to inject, or an *energy trader* participating with a *boundary entity resource* that is injecting that is less than (i) 0.00 $/MWh; and (ii) the applicable *day ahead market locational marginal price* for the applicable *metering interval,* to the lesser of 0.00 $/MWh and such *day ahead market locational marginal price;* and~~

3.4.3.2 ~~*Bid* price and their substitutions as per section 5.1.2.2, as applicable, associated with a *dispatchable load, price responsive load, dispatchable electricity storage resource* that is registered to withdraw, or an *energy trader* participating with a *boundary entity resource* that is withdrawing that is less than (i) the price determined in accordance with the applicable *market manual;* and (ii) the applicable *day ahead market locational marginal price* for the applicable *metering interval,* to the lesser of the price determined in accordance with the applicable *market manual* and such *day ahead market locational marginal price.*~~

3F – DAM Balancing Credit

- MR Ch.0.9 s.3.3.2.2(a) incorrectly referred to *GOG-eligible resources*, whose eligibility for the DAM balancing credit was intended to be captured by s.3.3.2.2(b).

3.3.2.2   Where:

     a.   ~~a GOG-eligible resource or~~ an *energy trader* participating with a *boundary entity resource*, ~~as the case may be,~~ is *dispatched* to a quantity of *energy* less than its *day-ahead schedule* by the *IESO* in order to maintain the *reliability* of the *IESO-controlled grid* and does not receive a real-time make whole payment *settlement amount* pursuant to section 3.5 in relation to such *energy* for the same *metering intervals*; or

3F – DAM Balancing Credit (cont'd)

- Modify s.3.3.2.2(b) to clarify that eligibility for the DAM balancing credit is not limited to the day ahead operational commitment but rather day-ahead schedules associated with the gog-eligible resource's commitment:

  b. for all *metering intervals* with *day-ahead schedules* associated with a *GOG-eligible resource's day-ahead operational commitment* for *energy* that is cancelled by the *IESO* in order to maintain the *reliability* of the *IESO-controlled grid* and such *resource* does not receive a real-time make whole

3G – Hourly Operating Reserve Settlement Amount (HORSA) – Real-Time Balancing Settlement

- As a matter of consistency with other real-time balancing charge types calculated at the hourly level, amend the real-time balancing of HORSA (MR Ch.0.9 s.3.1.11) by dividing the quantities by 12:

$$HORSA\{2\}_{k,h} = \sum_{R}^{M,T} \left\{ RT\_PROR_{r,h}^{m,t} \; x \; \left(\frac{RT\_QSOR_{r,k,h}^{m,t} - DAM\_QSOR_{r,k,h}^{m}}{12} \right) \right.$$

$$\left. + \; RT\_PROR_{r,h}^{i,t} \; x \; \left(\frac{RT\_QSOR_{r,k,h}^{i,t} - DAM\_QSOR_{r,k,h}^{i}}{12} \right) \right\}$$

- Corresponding changes to Charge Types and Equations – CT213, 215, and 217 are required.

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Category 4: Miscellaneous Clean-Up Items

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4A – Prudential Review Clean-Up

- The Final Alignment amendments deleted the general market rule obligation for the IESO to review the prudential security regime at least once every three years:

> 5.1.2   ~~The *IESO* shall review the *prudential support* requirements set out in this chapter at least once every three years. The first review shall be completed no later than September 30, 2010.~~ [Intentionally left blank – section deleted]

- As a matter of clean-up, the IESO proposes to delete the following redundant provision to review the capacity prudential requirements at least once every three years, as part of the general prudential review in historical section 5.1.2:

> 5B.1.2   The *IESO* shall review the *capacity prudential support* requirements set out in this chapter at least once every three years, as part of the review of the *prudential support* requirements pursuant to section 5.1.2.

4B – Removal of Transitional Rules

- The move from the legacy market to the renewed market required some transitory legal provisions. The successful completion of market transition means these transitory provisions should now be removed.

- Specific rule amendments required:

  - Re-labelling all market rule chapters to remove the zero series in the headers; e.g. Ch.0.7 should become Ch.7;
  - Delete "Section A's" from each market rule chapter and "Section B's" which are no longer operative;
  - Delete transitory rules in Ch.0.7 s.13.2A.
- Similar changes will be made in the market manuals – removal of "Market Transition" sections and zero series labelling.

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4C – Cross References, Defined Terms and Typographical Errors

- *Minor amendment,* in respect of the *market rules*, means an *amendment* to the *market rules* to correct a typographical or grammatical error, or to effect a change of a non-material procedural nature.

- Several such corrections have been identified and will be batched as part of this amendment package.

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Summary of Stakeholder Feedback

Summary of Stakeholder Feedback

- The IESO held a stakeholder engagement webinar on Aug 19th to walk stakeholders through the proposed market rule amendments and market manual changes:

  - Several clarification questions were asked on some of the proposed changes
  - No issues or concerns were raised at the webinar
  - Stakeholders were given a one week period to submit written comments on the proposed market rule amendments and manual changes

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Summary of Stakeholder Feedback (cont'd)

- One set of comments were received from OPG on Market Power Mitigation batch:
  - OPG supported the proposed removal of the requirement for market participants to disclose affiliated market control entities;
  - OPG suggested that the IESO report on all resource types within a Potential Constrained Area (PCA) designation; The IESO responded that reporting other types of resources other than dispatchable generation and dispatchable storage resources could create confusion by including resources that are not impacted by the declaration of a PCA.
- Stakeholder feedback with IESO responses can be found on the [Post Go-Live True Ups engagement](#) page.
- No revisions have been made to the amendment proposals in response to stakeholder feedback.

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Next Steps

Next Steps

- September 9 – Technical Panel (TP) Education and vote to post

- September 17 – Deadline for stakeholder and TP comments

- October 7 – TP vote to recommend

- October 24, 2025 – IESO Board consideration of MRP True-Up market rule amendments

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