



FEBRUARY 13, 2024

Market Renewal Program – Final Alignment Batch

In-Depth Discussion on Approach

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Agenda

- Objective
- Recap – Market Rule Amendment Approach
- Final Alignment – Content & Redline strategy
- Proposal on TP Education Approach & Schedule
- Transition Plan
- “Parking Lot” Issues
- Next Steps
- Appendix – Engagement and Approval Summary of MRP Batches to Date

Objective

- The IESO is seeking TP member feedback on the proposed approach and schedule to support an efficient and effective review process
- Recognizing the extensive engagement that has already taken place on the market rules batches, and that the final review period will take place over summer months, the IESO is looking to minimize the incremental burden on TP members while ensuring we have a process that will support the TP's ability to make a formal determination

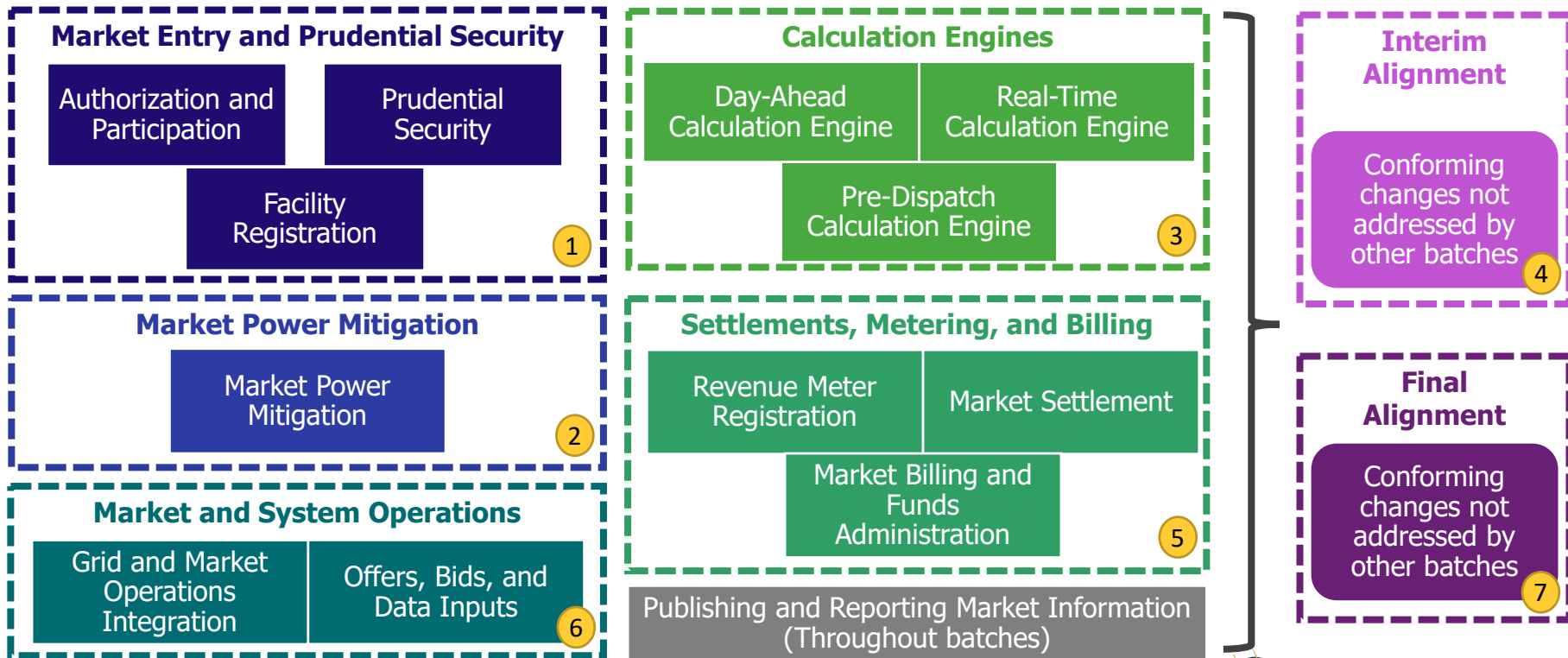


Recap – Market Rule Amendment Approach and the MRP Batches

Recap: The MRP Market Rule Amendment Approach

- Due to the complexity and volume of MRP market rule amendments, the IESO has staged the review into a series of seven smaller batches
- Recognizing the interconnections between the batches, Technical Panel (TP) was not asked for formal recommendations to the IESO Board for final approvals on any batches until the full set of proposed rule amendments have been presented and finalized
- Instead, "provisional" recommendations and approvals were sought from the TP and the Board, respectively.
- Formal TP recommendation of MRP rule amendments will be sought only once, via the Final Alignment (FA) batch reflecting the proposed MRP market rule amendments in totality.
- TP has Provisionally Recommended four batches to date*

Batch Overview – Mapping of 13 Detailed Design Docs



Batch Approval Status

- ✓ 1 - Market Entry and Prudential Security (*Provisionally Approved*)
- ✓ 2 - Market Power Mitigation (*Provisionally Approved*)
- ✓ 3 - Calculation Engines (*to be approved with MSO*)
- ✓ 4 - Interim Alignment (*Provisionally Approved*)
- ✓ 5 - Market Settlement (*Provisionally Approved*)
- 6 - Market and System Operations (*Targeting **Provisional** Approval: June 7, 2024*)
- 7 - Final Alignment (*Targeting **Formal** Approval: Oct 17, 2024*)



Final Alignment - Content & Redline strategy


Contents of the Final Alignment Batch

The Final Alignment (FA) Batch will be a restatement of all market rule and market manual amendment proposals, from all provisionally approved batches; with the following three types of further modifications:

1. updates or corrections to earlier batches resulting from the ongoing implementation and engagement processes (stakeholdered in advance of TP review of FA)
2. administrative “conforming changes” not included in any of the provisionally approved batches (i.e. updates to internal references and defined terms); and
3. a limited number of “transitional market rules” required to facilitate the mechanics of transitioning from the old market, to the renewed market

Final Alignment Package – Redline Strategy

- The FA market rule amendment proposals will be presented as full chapters (Chapters 1-11 and corresponding Appendices), with the consolidated MRP amendments redlined against the most recent baseline publication of the market rules
- Consistent with the approach taken for incremental amendment proposals to date, supplemental versions of the amendments showing only the changes or 'deltas' to the versions that received the TP's provisional recommendation will also be provided
- Consolidated 'Reader's Guides' will be provided with the FA package

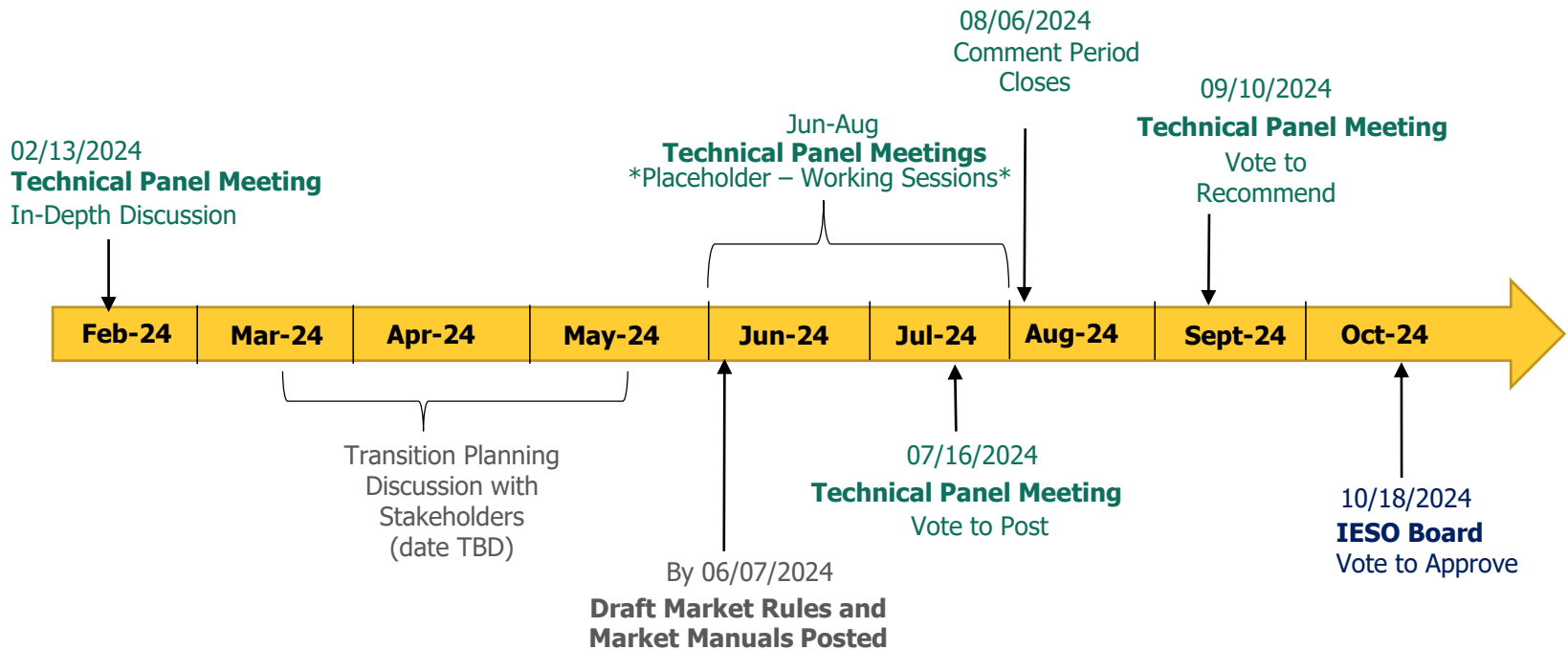


Proposal on TP Education Approach & Schedule

Proposal for FA Engagement with TP

- IESO proposes to focus TP engagement on the **new content** introduced in the FA batch of market rule amendments; which include transition/cutover, updates for market power mitigation and settlements and other conforming changes
- Follows format of other batches with education beginning June 2024
- At the TP's request, add additional meetings as necessary to discuss any issues or topics related to potential interdependencies between the MRP batches (e.g. additional working group sessions during June-Aug and prior to the Sept 2024 TP vote to recommend the FA batch)
- TP members would recommend the need for additional meetings and proposed topics by the end of May

FA Batch Technical Panel Overview: Timeline





Transition Plan

Transition Plan

- The transition to the MRP market is planned to occur in May 2025
- Certain MRP market rule amendments will be required to come into effect prior to MRP go-live: market rules related to participant authorization, registration, and market power mitigation will need to be staged into service over the preceding months
- The IESO is in the process of creating a detailed, multi-step plan to transition from the current market to the new MRP market – market rule amendments will be required, and will be part of the FA batch of rule amendments
- The multi-step transition plan will include a series of readiness tool checks and stages leading up to and following the MRP commencement date



“Parking Lot” Issues

“Parking Lot” Issues

- Recap - Parking Lot Criteria:
 - “Questions with respect to specific terms or provisions that arise in the context of the Panels review of the current batch that can only be addressed or fully assessed in light of specific information that the IESO knows will be provided as part of a future batch”
- To date, two items were added to the Parking Lot – one has been addressed, and the other will be discussed during the course of the MSO batch

“Parking Lot” Issues

- Parking Lot items:
 1. Definition of *resource*, as it will relate to energy storage
 - The IESO had committed to revisit the defined terms and provisions related to energy storage, that was under development for a future batch
 - This item was addressed with the integration of storage resources as part of the Interim Alignment batch – MR-00457-R02 – Storage Integration and MR-00461-R03: MRP Interim Alignment – Defined Terms
 2. Definition of *shared daily energy limit*
 - The IESO had proposed to further assess in light of its application in MSO
 - Update: As part of the Settlements batch, shared daily energy limit was replaced with the defined term ‘forebay’
 - The IESO proposes this item be considered addressed following the TP’s review of the MSO batch if no further concerns are raised



Next Steps

Next Steps

- Finalize the FA approach at the April 9th TP Meeting incorporating TP member feedback
- Finalize the FA schedule in June

Thank You

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Appendix – Engagement and Approval Summary of MRP Batches to Date

Recap: Market Entry and Prudential Security

- In April 2021, the TP voted unanimously to provisionally recommend the draft market rule amendments for Market Entry and Prudential Security; the IESO Board provisionally approved the amendments in June, 2021
- The Market Entry and Prudential Security batch of market rule amendments:
 - Incorporate participation in the day-ahead market into participant authorization requirements
 - Specify the registration requirements for market participants for day-ahead market and real-time market physical transactions
 - Incorporate day-ahead physical transactions into the existing prudential support provisions, creates new sections governing virtual transactions in the day-ahead market, and creates a consolidated monitoring regime for participants conducting both physical and virtual transactions
 - Amend defined terms

Recap: 1 - Market Entry and Prudential Security

- Stakeholder and TP member Feedback:
 - No significant issues were raised with the proposed amendments
 - Panel members noted the need to assess any potential impacts, discrepancies, or misalignments between MRP proposed market rule amendments and any OEB codes or instruments
 - Panel members requested that the IESO maintain a running list of open issues identified in connection with the review of each batch, where it is anticipated that those issues will be addressed in subsequent batches – the Technical Panel “parking lot”

Recap: 2 - Market Power Mitigation

- In March 2022, a majority of the TP voted to provisionally recommend the draft market rule amendments for Market Power Mitigation (MPM); the IESO Board provisionally approved the amendments in August, 2022
- The MPM batch of market rule amendments include the following:
 - Determination of reference levels and quantities for dispatchable resources
 - Designation of constrained areas, uncompetitive intertie zones and global market power reference intertie zones
 - Ex-post mitigation for physical withholding
 - Ex-post mitigation for economic withholding on uncompetitive interties
 - Ex-post mitigation for make-whole payment impact on uncompetitive interties
 - Amendments to defined terms

Recap: 2 - Market Power Mitigation

- Stakeholder and TP member Feedback:
 - 269 comments were received from stakeholders, with more than half coming from the TP
 - The majority of comments were requests for clarification (175), followed by editorial (41), modifications (20), additions (17), requests on forthcoming market manual content (11), and updates to defined terms (5)
 - Five TP members abstained from the provisional vote to recommend the amendment proposals, with the following rationale:
 - Uncertainty with respect to how the MPM rules will interact with future market rule batches, including the Market and System Operations and Calculation Engines batches
 - Belief that there was insufficiency of the independent review process (IRP) and a need to supplement market manual content on how all aspects of the IRP will be operationalized
 - Concerns regarding potential significant effort and burden required on market participants to determine reference levels and quantities

Recap: 2 - Market Power Mitigation

- In advance of the IESO Board's provisional approval of the MPM batch in Aug, 2022, the TP and Markets Committee held an in-camera session to discuss stakeholder concerns with the MPM batch
- The IESO Board directed IESO staff to commit to the following (informed by the TPs input):
 - Continue working with suppliers to address concerns about the process for determining reference levels and reference quantities, in particular for hydroelectric resources
 - Review the circumstances under which an independent reviewer's finding will not be accepted through the independent review process, with the intent to limit such instances; and
 - Seek stakeholder comments on the criteria used to procure the independent reviewers

Recap: 2 - Market Power Mitigation

- In response to the IESO Board's direction, the IESO has worked with stakeholders as follows:
 - In July 2022, the IESO introduced incremental updates to the MPM market manuals and reference level workbooks and example workbooks
 - In September 2022, the IESO published the interim alignment batch, which included minor editorial changes to the MPM market manuals
 - In March 2023, the IESO introduced incremental updates to the MPM market rules, market manuals, reference level workbooks and example workbooks:
 - Incremental updates to the IRP
 - Market rules – reorganization, clarifying language, correction of typos, implementing design changes resulting from solution development, conforming changes;
 - Market manuals – included clarifying content on: determination of physical withholding settlement amounts, intertie economic withholding settlement amounts; how the impact test for physical withholding is assessed for electricity storage resources
 - Updates to blank and example thermal workbooks

Recap: 2 - Market Power Mitigation

- In December 2023, the IESO introduced incremental refinements to the market rules, market manuals, reference level workbooks, and blank and example workbooks:
 - New eligible costs for thermal resources and hydroelectric resources
 - Information regarding supporting materials for temporary reference level change requests for electricity storage resources
 - Updates in response to feedback received following the March 2023 stakeholder session
 - Various clarification, alignment, and other incremental enhancements

The above refinements are based on TP feedback, significant collaboration with market participants through reference level consultations, public comments, and working sessions with various technology types; as well as internal feedback received in response to solution development and process design reviews

Recap: 3 - Calculation Engines

- The Calculation Engines batch of market rule amendments, consisting of three Chapter 7 Appendices to the market rules (Day-Ahead, Pre-Dispatch and Real-Time Calculation Engines) were stakeholdered at the engagement level beginning in February 2022; based on written feedback from stakeholders updated calculation engine market rule amendments were posted in July 2022
- The Calculation Engine market rule amendments were reviewed by the TP in 2022, but approval for the batch will be sought as part of the MSO batch of market rule amendments
- Background:
 - Defines the mathematical terms and algorithms that optimize dispatch data from market participants to meet power system needs
 - Terms and algorithms for the current calculation engines are captured in appendices, providing transparency for how the IESO meets its Chapter 7 obligations to schedule and price the market
 - The IESO has maintained this approach in codifying the terms and algorithms used to support the renewed market

Recap: 3 - Calculation Engines

- Background cont'd:
 - The calculation engine appendices codify the highly technical content reviewed by stakeholders during detailed design
 - A third-party review is currently underway to ensure tool functionality matches the appendices, results of this review will be shared in the coming months
- Summary of Stakeholder feedback:
 - Clarifying questions on terms and equations; no changes to equations themselves
 - Grammatical corrections and suggestions
 - Clarifying questions about dispatch data submissions that will be addressed as part of the MSO batch

Recap: 4 - Interim Alignment

- In April 2023, the TP unanimously voted to provisionally recommend the draft market rule amendments for the Interim Alignment Batch; the IESO Board provisionally approved the amendments in June 2023
- The Interim Alignment batch of market rule amendments include the following:
 - Simplification of the structure of the participant authorization rules by further eliminating redundant content and better aligning market rules and market manuals
 - Clarification of participation options for price responsive loads and further integration of load definitions – Market Entry and Prudentials
 - Introduction of electricity storage resources into previous MRP amendments
 - Further integration of the new defined term 'resource' into the market rules
 - Amendments to defined terms

Recap: 4 - Interim Alignment

- Stakeholder and TP member Feedback:
 - Limited written feedback was received during the stakeholder and TP review periods, and where appropriate, changes have been integrated into the batch
 - TP members representing market participant Consumers and Demand Response expressed concerns about price responsive loads (PRLs) being ineligible to participate as contributors to virtual hourly demand response (HDR) portfolios
 - The potential to accommodate such a participation model is outside of MRP's scope
 - The IESO committed to working with the demand response community to the extent that creating a load participation model that supports PRL participation as contributors to virtual HDR portfolios is identified by the demand response community as a priority – Update: In December 2023 at the first DR technical session, this issue was not identified as a priority

Recap: 5 - Settlements, Metering and Billing

- In June 2023, the TP unanimously voted to provisionally recommend the draft market rule amendments for Settlements, Metering and Billing; the IESO Board provisionally approved the amendments in August 2023
- The Settlements batch of market rule amendments include the following:
 - Extensive rewrites of Hourly Settlement Amounts, including the calculation of day-ahead market settlement and real-time balancing settlement; New: DAM Balancing Credit, Day-Ahead Market and Real-Time Make Whole Payments, Real-Time Intertie Offer Guarantee, Real-Time Intertie Failure Charge, Hourly Settlement Amounts for Transmission Rights, Hourly Uplifts
 - Extensive rewrites of Non-Hourly Settlement Amounts, including - New: DAM Generator Offer Guarantee, RT Generator Offer Guarantee, Real-Time Ramp Down Settlement, Generator Failure Charge, Fuel Cost Compensation Credit, Non-Hourly Uplifts
 - New section 5 – Market Power Mitigation – Settlements which specifies the settlement mitigation process applicable to specific settlement amounts and adding new settlement amounts related to market mitigation processes

Recap: 5 - Settlements, Metering and Billing

- Consequential amendments to the remainder of Chapter 9
- New Chapter 9 Appendices to specify data inputs and variables, pseudo unit translation, and settlement mitigation
- Amendments to defined terms
- Other market rule amendments relating to metering, optional hydroelectric registration parameters, physical bilateral contracts and transmission rights as part of the Settlements batch of market rule amendments include the following:
 - Chapter 6 - Minor, consequential amendments to meter registration to be inclusive of the day-ahead market
 - Chapter 7 – amendments to further specify the optional resource-specific information that may be submitted by hydroelectric resources
 - Chapter 8 - Consequential amendments to be inclusive of the day-ahead market

Recap: 5 - Settlements, Metering and Billing

- Stakeholder (91 comments) and TP (51 comments) member feedback:
 - Stakeholders and TP members have not expressed any significant concerns with the Settlements batch of market rule amendment proposals to date:
 - Stakeholders indicated that additional questions may arise following review of the 'Market and System Operations' batch of market rule and manual amendments
 - Some comments related to Replacement of Settlement System project and the potential need to increase notice of disagreement timelines as part of MRP transition
 - Independent of the substance of the market rule amendment proposals, stakeholders in the engagement requested further details on market participant readiness/testing plans
 - The Distributor representative on the TP also expressed general concerns with respect to the time required for local distribution companies (LDCs) to implement necessary changes to their settlement systems and processes

Recap: 6 - Market and System Operations

- The Market and System Operations (MSO) batch market rule and market manuals were published in July 2023 for stakeholder comment
- Stakeholder engagement:
 - The IESO presented a series of overviews and question and answer sessions for the MSO and Calculation Engine batches in September/October 2023, via individual sessions for the following participation types:
 - Energy storage resources, renewable generators, nuclear generators and non-dispatchable generators
 - Hourly demand response resources, dispatchable loads, and price responsive loads
 - Virtual traders
 - Intertie traders
 - Dispatchable hydroelectric generators
 - Generator-Offer-Guarantee Eligible Non-Quick Start Generators

Recap: 6 - Market and System Operations

- IESO Responses to stakeholder comments on MSO, revised market rule amendments, market manuals and Reader's Guide will all be published in March, 2024
- The schedule for the TP's review of the MSO market rule amendments is as follows:
 - April 9, 2024 – TP vote to post
 - May 14, 2024 – TP provisional vote to recommend