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Market Renewal Program (MRP) Go-Live Plan: Overview of Timelines and Activities to Support Market Participants' Readiness for Launch of the Renewed Market

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Introduction

- The transition from the current market to the renewed market will require changes to almost all aspects of the IESO-Administered Market, and as such requires extensive planning and coordination
- The IESO is developing a detailed step-by-step plan to facilitate this transition, and wants to ensure Market Participants (MP) understand the key elements of the plan



 This understanding will help facilitate Market Participant preparation activities in advance of Go-Live, as well as support their review of the Final Alignment batch of market rules

Topics Covered

- Go-Live Plan Overview
- Go-Live Date
- Impact on Existing Processes
- Registration and Reference Level Launches
- Cutover Plan
- Contingency Planning
- Market Participant Readiness



Go-Live Plan Overview

Q2 2024 – Post Go-Live



Transitioning to the Renewed Market

- Transitioning from the current market to the renewed market is a significant undertaking that will require a number of coordinated steps to ensure:
 - The IESO is able to continue to reliably operate the grid and settle the market
 - Market Participants at all times have clarity on their obligations and can effectively participate in the market
- This transition will require staging-in relevant processes, tools, and market rules across a period of multiple months



Go-Live Plan Objectives

- Maintaining reliability and minimizing overall sector risk was the priority when developing the Go-Live Plan; this will be accomplished by:
 - Minimizing disruption to Market Participants
 - Providing clarity on roles and responsibilities
 - Advancing work where possible prior to the main cutover
 - Executing extensive system testing internally and with Market Participants
 - Developing robust contingency plans



Transitional Market Rules

- "Transitional" Market Rules will be required as an administrative measure to facilitate certain aspects of the Go-Live plan, for example:
 - Only one set of market rules can be in force at a given time with regards to a
 particular process or requirement, so a mechanism is needed to provide clarity on
 when legacy and renewed market rules are in effect
 - Certain processes require historical data to be available to execute, IESO will require authority to use certain interim measures to bridge to steady-state
- Transitional Market Rules will be discussed in a separate presentation and the amendments will be introduced as part of the Final Alignment batch; the balance of this presentation assumes required enabling rules are in place

Terminology Used in this Presentation

- Go-Live Date The first trade date of the renewed market
- Go-Live Plan Overarching term for the collection of activities and milestones necessary to launch the renewed market, which occurs over a period of months; this plan will include:
 - Cutover Plan It is the set of steps required to change over from current systems, market rules, and processes to those of the renewed market, which occurs over a period of days
 - Rollback Plan The set of steps by which, if required following a contingency event, the operation of the market is returned to legacy systems, market rules and processes



Target Go-Live Date

- A crucial early step in establishing the overall Go-Live Plan was to determine the date on which the renewed market will come into service
- When assessing potential Go-Live dates, several principles underpinned the IESO's decision-making:
 - Go-live should occur at the earliest time when both the IESO and the sector are expected to be ready
 - Costs and impacts on the normal operations of the sector should be minimized
 - The date should consider stakeholder feedback
 - Preference to avoid launching during potential high electricity demand periods



Target Go-Live Date (cont'd)

- While adhering to these principles, several specific factors were considered:
 - First-of-Month vs. Mid-Month First-of-month greatly simplifies
 market and contract settlements compared to mid-month as it avoids
 settling a single month using two sets of market rules. Mid-month go-live
 would require additional sector preparation and testing, although it would
 provide more flexibility (see Appendix for additional details)
 - Weekday vs. weekend or statutory holiday Weekends and statutory holidays can present sector staffing issues, but are less likely to present reliability concerns such as high electricity demand



Target Go-Live Date (cont'd)

- Season Risk of high electricity demand in summer or winter periods, although planned outages in shoulder periods can also constrain supply relative to demand in the event of contingencies
- Capacity Auction Coinciding with start of obligation periods provides benefits for both MPs and the IESO in terms of reduced complexity and greater certainty
- These factors and principles would also apply to the selection of any potential back-up dates should contingencies occur (discussed in more detail later in this presentation)



Target Go-Live Date (cont'd)

 Based on consideration of these factors, and following consultation with the Implementation Working Group and others, the target date for cutover to the renewed market is:

Thursday May 1, 2025



Go-Live Plan Overview

Q2 2024	Q3 2024	Q4 2024	January 2025	February 2025	March 2025
IESO Solution	Testing, MP Readi	iness & Testing	MP End-to-End	Testing & Readine	ess Assessments
Network	Transmission Rights	/ Market Rules	MP P	roduction Conne	ctivity Testing
Model Build Schedule Published	Auctions Cancelled	In Effect (November 11) Registration System Launch (November 11)	Market Power Mitigation Reference Levels Launch (<i>Available</i> for Review February 1)	Readiness Checkpoint	
		Capacity Auction For May 2025 to			

April 2026

April 2025 **Go-Live**

Decision

(Early April)

Registration Change Restriction Period (∼1 week prior & after cutover)

Cutover Start **Decision** (April 30)

May 2025

Cutover

Start: April 30 End: May 7

1st Trade Date: May 1 **Prudentials Transition** Price Administration **Real-Time Market** Rollback (if required)

Real-Time Market Launch Advisory Notice (May 2 early morning)

Day-Ahead Market Settlements Registration Restrictions end Price Responsive Loads in effect Virtual Traders authorization process started

Post Go-Live

Enhanced Support (as required)

Market Power Mitigation **Designations**

Transmission Rights Auctions Resumed



Network Model Build Schedule for 2025

Q2 2024



Network Model Build - Background

The IESO performs an update of its Production Network Model, known as a "Network Model Build" (NMB), every four to six weeks to ensure our systems reflect any recent and pending physical changes in the power system

PRIOR TO CUTOVER: To ensure system changes are synchronized and tested in advance, it will not be possible to have an NMB in the weeks prior to cutover

AFTER CUTOVER: Initial focus will be completing integration activities and performing any necessary troubleshooting, after which the process of implementing NMB updates can resume





Key Takeaway: System changes not ready for inclusion in the last pre-MRP NMB on April 2, 2025 will not be able to be accommodated until the first post-MRP NMB approximately seven weeks afterwards



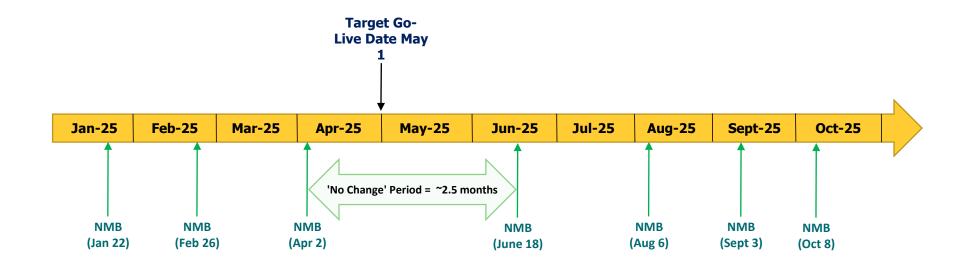
NMB - Modified Schedule to Support MRP

- The impact of a May 1st go-live date on the NMB schedule is shown below; key changes from the typical NMB schedule are:
 - April 2025 NMB moves from end of the month to the start of the month to allow changes to be integrated into the MRP production environments
 - As a result of advancing the April NMB, no March NMB to maintain spacing
 - May 2025 will be dedicated to MRP cutover (no NMB)

	2023		2024					2025						
	Dec	Jan	Feb	Mar	Apr	May	Jun	Dec	Jan	Feb	Mar	Apr	May	Jun
	06-Dec-23	24-Jan-24	21-Feb-24	27-Mar-24	24-Apr-24	29-May-24	26-Jun-24	11-Dec-24	22-Jan-25	26-Feb-25	Skip	02-Apr-25	01-May-25	18-Jun-25
Days Since Last NMB	n/a	49	28	35	28	35	28	n/a	42	35	n/a	35	MRP Cutover	48



NMB – 2025 Timeline





NMB - Key Takeaways Regarding 2025 Schedule

- The IESO is aware that (i) new resources that secure positions in the Capacity
 Auction have frequently used the late April NMB to be ready to meet their
 obligations starting in May, and (ii) new resources secured via recent
 procurements may look to commence commissioning or achieve commercial
 operation during this timeframe
- Market Participants anticipating a need to make system changes during this
 period should begin any necessary planning to ensure they have completed
 all necessary workflows to support their inclusion in the April 2025 NMB





NMB - Key Takeaways Regarding 2025 Schedule (cont'd)

- The IESO will assist MPs with their planning efforts to take the 2025 NMB schedule into account and enable a successful integration into the IESO's systems
- The NMB schedule is normally published in Q4 of each year; however, the IESO has released the 2025 schedule early to support MP planning



Transmission Rights Auction

Q3 2024



Transmission Rights Auction - Modifications to Schedule

- Subsequent to the <u>June 21, 2022</u> stakeholder engagement meeting, the IESO Board approved a market rule exemption to cancel TR auctions that overlap Go-Live
- With a May 1 Go-Live, the April 2025 short-term auction for May will be cancelled
- Long-term (LT) auctions are planned to be modified as below:



LT TRs not sold will be sold as ST TRs at the next possible ST auction



Registration Launch Plan

Q4 2024



Registration Launch - Milestones

- November 11, 2024: Launch of the Updated Registration System
 - This is the day when the IESO will cutover to the updated registration system and MRP workflows, and make them available in Production Online IESO
- November 12, 2024 onwards: Post-Registration Launch Activities
 - Market Participants will need to navigate the workflows and enter/verify their MRP registration and authorization data, via Production Online IESO



Registration Launch - Plan

November 4th

Planned Activity Date(s)	Description
April 30, 2024	Due date for Market Participants with hydroelectric resources on a cascade river system to submit their cascade group, forebay, and time lag data to the IESO. Impacted Market Participants were provided with an Excel workbook last year to complete offline and to send the requested data to the Market Renewal mailbox (market.renewal@ieso.ca) by this date
September 30, 2024 – November 3, 2024	IESO will prepare and validate registration data for Registration Launch
November 4, 2024 – November 11, 2024	Access to Production Online IESO will remain available with the following restrictions: • No request for additions or changes of generation, load, and storage resource and synchronous machine/motor. The IESO will reject these requests
	 All other changes will be permitted, including activities like: Changes to organization profiles, contact roles, and user accounts Changes to other resource types (i.e., stations) and equipment (i.e., switches, transformers, breakers, etc.) Registration Approval Notices (RANs) with effective dates during this period that were approved prior to



Registration Launch - Plan (cont'd)

Planned Activity Date(s)	Description
November 11, 2024	Registration Launch; cutover to the updated registration system and MRP workflows. Registration-related Market Rules are in effect as of this date
November 12, 2024 onwards	Post-Registration Launch. Market Participants should log in to Production Online IESO to view the new MRP workflows, and to validate and maintain their authorization and registration data



Registration Launch - Market Control Entities (MCEs)

- Market Rule Chapter 7, Section 22.9 defines MCEs
- MCEs are a new registration parameter that applies to Market Participants who:
 - own a generation resource, dispatchable load resource, and/or an electricity storage resource; and/or
 - are authorized as an energy trader

Key Takeaway: MPs will be unable to request updates to equipment, resource, facility and/or organization data in Production Online IESO until they provide the necessary MCE data. Online IESO will prompt MPs to provide the relevant information as requested in these workflows



Registration Launch - Market Control Entities (cont'd)

- Market Participants will be able to submit their MCEs in Production Online
 IESO as of Registration Launch, and are recommended to provide this data by
 December 31, 2024 so subsequent registration updates can be processed
 and approved before Go-Live
- Instructions on how to submit MCEs to the IESO can be found in Section 3 of the <u>Guide to Submitting New Registration Parameters and Forms in Online</u> <u>IESO</u>



Registration Launch – Resource Parameters

- Mandatory new and updated parameters for generation, load, and storage resources will be established by the IESO using existing registered information on the Market Participant's behalf and loaded in Production Online IESO at Registration Launch
- Optional new and updated parameters for generation, load, and storage resources will have a default of 'not selected'; elections must be submitted by market participations after Registration Launch for review and approval



Registration Launch – Resource Parameters

- Market Participants should log in to Production Online IESO to validate and maintain their authorization and registration data. If an MP does not validate their data, the IESO-established values will be used at Go-Live until the MP updates the data
- Changes to resource parameters may trigger a new reference consultation to ensure that the registered RLs/RQs reflect the current state of the resource
- Instructions on how to submit or update resource parameters are in sections 2.1, 2.2, and 2.3 of the <u>Guide to Submitting New Registration</u> Parameters and Forms in Online IESO

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Registration Launch - Hydroelectric Resource Parameters

- Cascade group/forebay data provided by Market Participants with hydroelectric resources on a cascade river system will be loaded in Production Online IESO at Registration Launch to expedite the registration process; this data will be used to support MP testing
- Failure to provide data or submitting a different set of cascade group/forebay data from what was used during reference consultations will impact the Reference Levels and Reference Quantities (RLs/RQs) used at Reference Level Launch (discussed later)
- Impacted Market Participants that do not submit their cascade group/forebay data will be treated as independent resources at Go-Live
- Market Participants who were unable to provide their cascade group/forebay data in advance will be able to submit this information through their Enrolment Specialist after Registration Launch

Registration Launch - Price Responsive Loads

- For those interested in updating their load resources to a PRL, Market Participants
 can submit the request between Nov. 12, 2024 and Feb. 21, 2025. Updates to
 resource and equipment data will be restricted once that resource has elected to
 become a PRL which will last until the specified effective date. Therefore, Market
 Participants are recommended to initiate this change starting in February 2025
- Resources that elect to become a PRL must set an effective date at least 75 days after they submit the request, and this effective date must be at least 6 days after Go-Live (i.e., May 7 trade date)
- MPs can cancel their PRL request via Production Online IESO and should do so before March 21, 2025, to ensure their desired participation is reflected at Go-Live



Capacity Auction

Q4 2024



Capacity Auction

- The Capacity Auction summer 2025 obligation period begins May 1, 2025, which coincides with the Go-Live target date
- The IESO's Capacity Auction Team is preparing an MRP-focussed module within their regularly scheduled summer 2024 Capacity Auction participant training in preparation for the November 2024 Capacity Auction and associated May 2025
 - April 2026 commitment period
- The IESO will communicate information about the training to registered Capacity Auction participants and in upcoming IESO Bulletins



Capacity Auction - PRLs & Demand Response

- Any demand response provider registered as a Price Responsive Load (PRL) is not eligible to contribute to a virtual HDR resource
- A Non-Dispatchable Load (NDL) resource that intends to become a PRL and
 is a contributor to a virtual HDR resource must work with their HDR resource
 owner (aggregator) to de-register from the portfolio by the PRL effective date
- No changes are required for NDL resources that have elected to become a PRL and are registered as a Physical HDR resource



Capacity Auction - Price Responsive Loads

- Dispatchable loads which secure a capacity obligation for summer 2025 in the
 2024 Capacity Auction cannot fulfill such obligation as a PRL
 - Any DL looking to transition to a PRL should set an effective date that is after the end of any obligation period for which they have secured a position
- See section 2.4 of the <u>Guide to Submitting New Registration Parameters and</u>
 <u>Forms in Online IESO</u> for instructions on changing to a PRL resource type



Market Power Mitigation - Reference Level Launch Plan Q2 2024 to February 2025



MPM Reference Level Launch - Plan

Planned	Activity
Date(s)	•

Description

June 30, 2024

Market Participants are asked to have fully addressed any outstanding comments or questions regarding their reference level consultations by this date. Preliminary view (PV) reports will be issued to Market Participants by the IESO on a rolling basis between this date and Registration Launch (Nov 11, 2024)

November 11, 2024

Registration Launch. Market Rules enabling registration of reference levels are in effect as of this date

November 12, 2024 – January 31, 2025

- PV reports are issued via Workspaces and are available for review
- MPs are provided access to the Independent Review Process (IRP) as of this date
- MPs are given **11 days after the IESO issues the PV report** to request an IRP
- Once the 11-day period has elapsed, the IESO will register RL/RQs and execute any necessary IRPs

February 1, 2025

Reference Level Launch. Workflows for entering RL/RQ data are available to MPs. All registered RL/RQs will be visible in Production Online IESO. Participants can initiate workflows to initiate further consultations to update these values and assign an MPM Contact as of this date



MP MRP Production Connectivity Testing

January to March 2025



MP Production Connectivity Testing

- As part of preparations for the renewed market, Market Participants (upon request) are provided access to a 'sandbox' environment to test connectivity in preparation for Market Trials and End-to-End Testing
- To ensure that MPs have uninterrupted access to IESO's production systems and avoid issues during cutover, MPs should also verify that they have access to MRP Production interfaces and services, such as EMI, MIM API, and URLs
- Connectivity testing of MP systems will be available in the IESO MRP Production systems well before Go-Live

Key Takeaway: MP access to legacy IESO production interfaces – EMI, MIM API, and URLs will be unavailable as of cutover start (~21:00 April 30)



Readiness Checkpoint

February 2025



Readiness Checkpoint

 A readiness checkpoint in early February will provide an opportunity to assess IESO and MP readiness and confirm preparations remain on track for a May 1 Go-Live. The readiness checkpoint will consider the following:

Assessment Category	Criteria
Governance	Market rules approved and in effect
IESO Readiness	On-track to operate renewed market and solutions
Participant Readiness	On-track to be ready to operate in the renewed market
Solution Readiness	No significant unresolved issues with solutions to support deployment to production



Go-Live Decision

Early April 2025



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Go-Live Decision - Assessment Criteria

• IESO expects a go-live decision will be made and communicated to the sector in early April to confirm that all necessary conditions for Go-Live have been achieved and that final preparations for cutover should commence; this decision will consider the following:

Assessment Category	Criteria
Governance	Market rules approved and in effect
IESO Readiness	Ready to operate the renewed market and solutions
Participant Readiness	Ready to operate in the renewed market
Solution Readiness	Solutions are working as designed and can be deployed to production

Registration Restrictions

Late April to early May 2025



Cutover - Registration Restrictions

- Production Online IESO will be available continuously for MPs to enter changes to their registration data; however, the effective dates of any changes will be restricted:
 - The effective date must occur either 6 days or more before the start of cutover, or one week or more afterwards
- This will minimize risks of managing registration transitions and help maintain data integrity during cutover; exceptions will only be made for changes that are necessary to ensure reliability
- Effective dates set for post-cutover will be conditional on the successful launch of the renewed market, and will be firm only once a final Registration Approval Notification (RAN) is issued



Cutover Plan Overview

April 30 – May 8, 2025



Cutover Plan Overview

Wed, April 30 Thu, May 1 Sat, May 3 to Tue, May 6 Wed, May 7 Wed, May 8 Fri, May 2 Day 0 Day +1 Day +6 Day -1 Day +2 to Day +5Day +7**Advisory Notice** MRP settlements MRP 1st Trade Date sent for Day 0, May 1 Real-Time and Day-Ahead Cutover start decision confirming market Markets operating made - MP's notified MRP real-time market transition in operation completed Price Responsive Legacy market stopped Loads MPs submit Manual dispatch and in effect **MRP** DAM dispatch data price administration Cutover during cutover **Completed** Virtual Traders can Legacy market continues to be settled begin MRP real-time market authorization initiated – MPs enter process dispatch data; pre-**Registration Changes Restricted** dispatch runs Prudential system **MP Prudential System Unavailable** & processes Prudential alternative monitoring and exposure mitigation methods cutover



Cutover Start Decision & Market Suspension

- A decision will be made by the IESO the morning of the cutover to confirm that it is advisable to proceed with Go-Live as planned, considering weather and grid conditions
- Once the decision to start cutover has been made, the IESO will issue an Advisory Notice specifying the start time of market suspension
- Upon successful launch of the real-time market, the IESO will issue an Advisory Notice advising the sector of the end of the market suspension and indicating that there will be no rollback
- The Real-Time Market will be launched first and for the first two days will operate subject to the rules applicable during a DAM failure



Rationale for RTM Before DAM

- While DAM runs before the RTM during normal operation of the renewed market, for cutover purposes the RTM will be launched first for the following reasons:
 - Allows MPs to submit bids and offers into one MIM system at a time
 - Avoids significant complexity in the event of a rollback
 - Supports initialization of the DAM using data from the updated predispatch process
 - Provides Market Participants opportunity to see locational marginal price (LMP) results from the new RTM prior to participating in the DAM

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Legacy Market Stopped and MRP Systems Activated

- To avoid MPs receiving conflicting information regarding future schedules, Day-Ahead Commitment Process (DACP) will continue to run on the usual schedule through April 30, however results will not be published after April 29 commitments are issued
- Around 21:00 EST on April 30, the legacy Market Information Management (MIM) system will be stopped, and the new MIM system will be made available for MPs to submit dispatch data for the renewed market
- The new (i.e., MRP version of the) pre-dispatch (PD) process will run starting at 22:00 EST, with the first PD schedules published only once IESO has validated the results

Market Systems Staging - Real-Time Market

- Cutover will involve manual dispatch of resources and administration of prices for approximately two hours
- The real-time market (RTM) will then be launched at midnight
- The new RTM will need to be run for at least one full day to ensure steady state has been reached before it can be confirmed that a rollback will not be required*
- When IESO confirms the successful launch of the new Pre-Dispatch and Real-Time Market the IESO will issue an Advisory Notice notifying the sector that we have completed the transition to the renewed market and are ending the market suspension



Administrative Pricing During Cutover

- During the cutover of real-time systems:
 - Administrative pricing will be required for missing intervals for the <u>legacy</u> market; anticipated to be 36 intervals or less (i.e., DSO will shutdown shortly after 9pm until midnight)
 - Administrative pricing may be required for any intervals for which new prices
 are not able to be established during the start of the <u>renewed market</u>
- Prices will be administered using similar mechanisms to those in section 8.4A of Chapter 7 of the draft Market Rules with slight modifications to account for certain timing and data limitations during cutover; details will be contained in the transitional rules as part of Final Alignment



Cutover – Related Supporting Transitions

- Day-Ahead Market
- Prudentials
- Settlement
- Virtual Traders
- Reports

April 30 to May 7, 2025



Initializing the Day-Ahead Market

- Market Participants will enter DAM dispatch data starting 6:00 EPT Day +1 (i.e., May 2, the 2nd trade date of the renewed market)
- DAM engine will run ~ 10:00 EPT
- DAM results will be published 13:30 EPT to 15:30 EPT (no-later)
- First set of DAM results will apply to Day +2 (i.e., May 3, the 3rd trade date of the renewed market)



Prudentials

- An MP's prudential support obligation (PSO) is an amount of money that the IESO can call upon if an MP defaults on an invoice. The IESO monitors an MP's PSO on an ongoing basis to ensure it is sufficient and valid
- During the MRP cutover period the Market Participant Prudential System (MPPS) will be temporarily inactive; starting Day –1 (April 30)
- As the data from the renewed market required for running the MPPS and determining PSOs will not be available until the 7th trade date, the cutover to the new MPPS is planned for that day
- For the period where MPPS is not available, alternative monitoring and exposure mitigation methods will be employed



Prudentials

- During the planned six-day period when the updated prudential system
 is unavailable, estimated actual exposure will be calculated using an average
 of the three most recent invoices in which a market participant has conducted
 physical transactions for energy, to determine a daily actual exposure estimate
- The IESO will issue margin call warnings and margin calls to Market Participants using this method of calculating actual exposure



Prudentials

- MPPS will be updated Day +6 (May 7) and available by 10:00
- Prudential support obligation calculations for physical transactions will be sent to Market Participants shortly after the updated system is available
- The Prudential transitional rules will end once the Prudential Systems and related processes are operational



Market Settlements

- The core of the Commercial Reconciliation System (CRS) is not changing. No significant changes are being introduced to main settlement processes and controls (e.g., settlement schedules and Notices of Disagreement)
- The CRS will support settlement of legacy and new charges according to the applicable market rules. All existing charges will continue to be available for settlement until the end of the 2-year limitation period. Market Participants will receive a single settlement statement with both legacy and new charge types
- First settlement run of the renewed market will occur 6 days after cutover (on the 7th trade date)



Virtual Traders

- Virtual traders must post required prudential support prior to having their participation authorization finalized
- The deployment of the prudential system after Go-Live means that virtual trader authorization cannot be completed until then
- Market Participants will be able to register as a Virtual Trader as of Registration Launch but will only be authorized 6 days after Go-Live
 - Applicant virtual traders can complete all other registration/ authorization tasks in advance



Public and Private Reports

- Some current public and private reports will continue unchanged after cutover
- Some reports will cease to be published at cutover
 - They will remain available as per current timelines
- Some reports have cumulative historical values and are continuing into the renewed market
 - If no format changes, they will simply continue
 - If format modifications (e.g., additional columns), two reports will be produced – one up to cutover and another from that point onwards



Market Power Mitigation – Designations

Post Go-Live



Market Power Mitigation - Designations

- Several new data inputs are essential for effective MPM processes; however, not all required data will be available immediately upon cutover
- As a result, the designation of Narrow and Dynamic Constrained Areas, and Uncompetitive Intertie Zones will be delayed by at least 90 days after the first trade date of the renewed market
- The IESO will communicate designations and effective dates after Go-Live



Go-Live Contingency Planning



Go-Live Contingency Planning

- The IESO is committed to launching the renewed market as soon as possible
- However, thorough planning requires consideration of factors that could potentially arise in the days/weeks/months leading up to the target date that would prevent beginning the cutover to the renewed market
- There is also the potential that once begun, cutover could be suspended part way through the process due to technology or reliability event related challenges
- The potential for a contingency event to occur requires that both the IESO and MPs be prepared to complete cutover on alternative dates



Go-Live Contingency Events - Causes & Impacts

A wide range of potential impacts to Go-Live timing exists depending on the specific contingency event encountered

Months Before

- Issues that can be identified this far in advance are likely material (e.g. Market Rule challenge, major stakeholder concerns, significant issues with IESO tools, etc.)
- Delay likely of at least a month and high likelihood of longer

Weeks Before

- Most likely to result from issues found late in End-to-End testing that cannot be resolved prior to Go-Live
- Delay likely in the weeks to months range

Days-Hours Before

- Delays most likely to result from adverse system conditions that create reliability concerns (e.g., severe weather, major system disruption)
- Delays likely to be minimal in duration, with potential to reschedule to the next first-of-the-month option

During

- · Most likely technical issues with solutions/tools, if not able to be resolved within a few hours, would need to suspend cutover and roll back
- Uncertain length of delay, smaller issues may be resolved in days, larger issues requiring vendor support could take weeks or months to assess, test, and implement before another cutover could be attempted

After

Note issues that occur after the cutover has completed (i.e., post the "point of no return"), will not result in a rollback. These issues will need
to be resolved in the renewed market on a go forward basis



Rollback

- The decision whether to "rollback" to the legacy market (i.e., market rules, market interface tools, etc.) will be made no later than May 2, 2025
- A rollback will be executed if the IESO determines that:
 - the software, hardware, communication systems or business processes that support normal market operations have experienced a critical failure;
 - this failure prevents the IESO from dispatching the IESO-controlled grid or administering the IESO-administered markets in a manner consistent with normal market operations or reliability; and
 - the IESO is unable to resolve the failure within a reasonable time



Rollback - Actions

- MPs will be notified promptly via Advisory Notice if a rollback is required
- Rollback involves reverting to legacy systems, market rules and processes
- Market Participants, depending on participation type, would be required to:
 - Revert systems and data to connect and operate with IESO legacy systems and interfaces; e.g.,
 - Connect MP systems to legacy interfaces (EMI, MIM API, URLs)
 - Submit dispatch data (bids, offers, self-schedules) to legacy MIM
 - Receive and process reports and instructions, including pre-dispatch reports, DACP, and dispatch services



Rollback - Actions (cont'd)

- ii. Disregard reports produced by the renewed market
- iii. Receive and follow manual dispatch instructions until notified that normal dispatch has resumed
- iv. Reconcile market settlement statements and data files according to legacy market rules
- In the event of rollback, prices will be administered as per market rules to determine applicable Hourly Ontario Energy Price and other needed prices; seamless and continuous market settlement will be ensured



Determining Back-up Dates - Decision Framework

- Should any of the contingency events discussed earlier occur, an alternative first-of-the-month date would need to be identified on which to (re)attempt cutover
- To support launching the renewed market in as timely a manner as possible, and depending on the nature of the contingency event encountered, it may not be feasible to avoid going live on a weekend/holiday or during summer months
- Selection of the specific back-up date will be confirmed once the IESO
 has completed an assessment of the nature of the contingency (refer to
 slides 65) and identified the required solution; once determined the IESO will
 communicate the date promptly to the sector



Determining Back-up Dates - Decision Framework (con't)

Communicate Delay

As soon as practical

Assess and Communicate Issue and Root Cause for Delay

 May require days to weeks depending on the nature and impact of the issue

Remediate and Validate Resolution

 Remediation and validation of resolution will depend on root cause

Set and Communicate New Go-Live Date

- 1st of the Month
- 2 weeks minimum notice

 Following a contingency event the 2025 network model build (NMB) schedule may need to be revisited; any changes would take into consideration impacts on the IESO and Market Participants and be communicated promptly



Next Steps



Support for Market Participant Readiness

- IESO is helping participants prepare for the launch of the renewed market through:
 - Training: <u>Education and training</u> to understand the changes; an <u>overview</u> of the types of training and when each will be issued is available
 - Market Overview e-Learning courses available for each participation type (register here: <u>customer.relations@ieso.ca</u>)
 - Testing: <u>Testing opportunities</u> to ensure participant-IESO interfaces and end-to-end processes function properly
 - Assessments: Participant readiness will be assessed on a periodic basis through surveys sent to the designated MRP Contact for each market participant; this input will also help IESO adjust support as needed

MP Actions to Prepare for Go-Live

- Ensure organization has a designated MRP contact to receive important updates from the IESO on training, testing and other MRP readiness activities and provide status updates on your organization's progress (contact market.renewal@ieso.ca to register your contact or confirm if one is still needed)
- Sign up for the MRP newsletter (register here: Subscribe to Updates)
- Complete Sandbox Connectivity Testing before it ends May 24, 2024 to ensure readiness for Market Trials and End-to-End testing if intending to participate
- Complete Production Connectivity testing late January 2025 to March 2025 to ensure readiness for Go-Live (see *slide 39*)



Upcoming Release Timelines

- Registration Launch and Reference Level Launch Readiness Plan will be available in June 2024
- MRP Go-Live Readiness Plan will be available in Q4 2024. This plan will bring together the information provided in this presentation and other readiness documents and also provide guidance for Market Participants on production data they should submit to the IESO and tasks to execute during the cutover period and post go-live support



Thank You

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Appendix



Target Go-Live Date (cont'd)

The IESO considered the following in making the decision to launch the renewed market on the 1st of the month

Aspect	First-of-Month Launch	Mid-Month Launch
Flexibility in Timing	Lower flexibility, as launches are restricted to the beginning of each month	Higher flexibility, allowing for launches on preferred days of the week and times of the month
Market Settlements	Simplifies market settlements by avoiding the need for dual sets of rules for monthly charges. This benefits the IESO and Market Participants	Complicates market settlements by necessitating two sets of market rules in a single month for handling monthly charges, which could lead to increased complexity for the IESO and MPs
Investment in Tools	Avoids the need for both IESO and sector participants to invest in updating settlement tools and systems, thereby reducing implementation costs	Requires investment in updating settlement tools to accommodate handling of monthly charges for two sets of rules in a single month, leading to additional costs
Preparation and Testing	Simplifies sector preparation and testing requirements since the market mechanism would be simpler	Necessitates additional sector preparation and testing to handle the complexities of a mid-month transition, increasing workload
Contract Administration	Facilitates contract settlements by maintaining consistent market rules throughout the month	Greater complexity for IESO and MPs to administer contracts with dual market rules in a single month

Cutover Plan Overview (Draft Detailed Plan)

Wed, April 30 Day -1

Cutover Start Decision ~9:00 to 9:15

Advisory Notice

Market Suspension Market Transition start 21:00 9:15 to 10:00

Legacy Market Systems Stopped

DACP Publish 10:30 MP Access via EMI, MIM API, URLs ~ 21:00 MP Prudential System ~21:00 RTM Systems ~21:00 to 22:00

MPs submit dispatch data

MP accessing new EMI, MIM API, URLs ~21:00 onwards

Manual Dispatch & Price Administration ~22:00 to 24:00 +

MRP Real-Time Market **Systems Activated** ~21:00 to 23:15

PD (new) Results Published ~23:15

Thu, May 1 Day 0

MRP 1st Trade Date

Real-Time Market **Systems Operational**

Dispatch data PD & RTM engines Prices & Schedules Dispatch & Reports

Manual Dispatch & Price Administration (if required during issue diagnosis and resolution

Fri, May 2 Day +1

Advisory Notice

Market Transition Completed Commencement Date Market Suspension Ended ~1:00 to 1:15

MPs submit DAM dispatch data

~6:00 to ~10:00 Day +1, May 2, for Day +2, May 3

Day-Ahead Market Activated (Run) ~10:00

For Day +2, May 3

Dav-Ahead Market Results Published 13:30 no later than 15:30

For Day +2, May 3

Sat, May 3 to Tue, May 6

Day +2 to Day +5

Real-Time and Day-Ahead Markets Operating

Data collection and processing for MRP Settlements

Settlements of Legacy Market and Charge Types Wed, May 7

Day +6

Wed, May 8 Day +7

MRP

Cutover

Completed

MRP Settlements Run

~10:00 For Day 0, May 1

Price Responsive Loads In Effect

Virtual Traders can begin authorization process

MP Prudential System & Processes Cutover ~10:00

Prudential Transitional **Rules Ended**

MP Prudential System Unavailable - Prudential alternative monitoring and exposure mitigation methods

Registration Changes Restricted

