
NOVEMBER 15, 2023

Transmission Rights Market Enhancement and Platform Refresh Project

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Agenda

- Recap of Project and Changes
- Overview of Market Rule (MR) Amendments
- Overview of Market Manual (MM) Amendments
- Request for Stakeholder Feedback

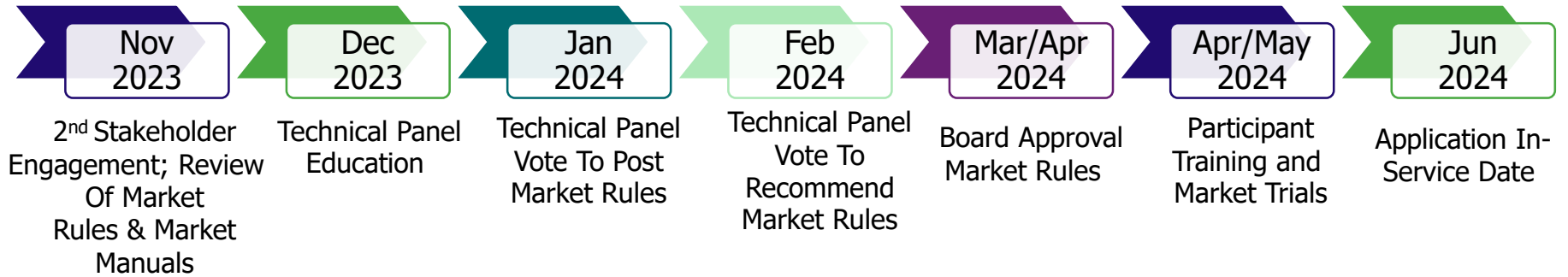
Purpose of Today's Discussion

- Inform Transmission Rights (TR) auction participants of required changes to the Market Rules and Manuals to support implementation of project
 - Provide overview of the changes, rationale, and timelines
 - Provide stakeholders the opportunity to review and provide feedback prior to Technical Panel review and approval



Recap of Project and Changes

Anticipated Project Timeline



Project Scope/Purpose

1. Updating TR auction platform to align with current IESO software

- Required change given the aging system/technology it was built upon
- Modern platform will improve functionality for TR auction participants (i.e. User can represent multiple accounts, etc.)
- Eliminates additional costs by leveraging existing investments such as infrastructure, security, databases, etc.

2. Enhance market by introducing multiple bid laminations

- A high-value opportunity that received unanimous stakeholder support from the TR Market Review that will improve flexibility for traders and encourage more active and competitive bidding
- Allows traders to express different price sensitivities when bidding
- This improvement was able to leverage the TR auction platform refresh without impacting MRP implementation

Additional Information

- The project plans to deliver a training webinar and a draft copy of the new external user guide prior to market trials. The webinar would be coordinated via Customer Relations adhering to the Market Facing Release calendar.
- *TR auction participants are encouraged to have resources available to participate in the new platform training and testing, so they can participate in the auction without issue when implementation occurs*



Market Rule Changes

Overview of Market Rule (MR) Changes

- MR changes are required to complete the project, but will also be done to clarify auction design
 - Required for the submission of multiple bid laminations and new auction clearing requirements from market enhancement
 - Removal of obsolete items and design considerations that are not available to MPs, clarifying auction design
- Changes are in Chapters 3, 5, 8, 9, and 11; as well as Appendices 2 and 8

NOTE: MR amendments are not displayed in slides. Please access the MR change document that was communicated in addition to these slides to see full extent of MR changes.

MR Changes – Multiple Laminations Submission

- MR changes are required to clarify the new option of multiple bid lamination submission by market participants. These include:
 - Defining TR lamination. *Rationale* – new defined term needed to distinguish from bid
 - New bidding requirements on how to structure laminations, if choosing to submit multiple laminations. *Rationale* – *structure of laminations is required to ensure that calculation engine can calculate and award TRs. This is similar to how the energy market requires bid and offer structures to schedule and dispatch the system.*
 - Bidding limits will be impacted by submitting multiple laminations. *Rationale* – *The participant's highest valued lamination (price X quantity) will be used to update their bidding limits with each additional bid. It will be the maximum award that they may be required to pay if clearing the auction (This is applicable in all cases for short term auction, prior to round 1 clearing, and during round 2 of a long term auction)*

MR Changes – Multiple Laminations Submission

- Changes are required in the following sections:
 - Chapter 8 – Sections 4.13, and 4.14
 - Chapter 11

Example - Multiple Laminations Submission

Laminations show the maximum quantity of TRs a participant is looking to purchase at a maximum price. A participant can display different total quantities they would like to purchase at different price points. Participants can submit up to 20 laminations. Below shows an example of 3 laminations could be submitted.

Lamination #	Price (\$ / MW of TR)	Quantity (# of MWs of TRs requested)
1	\$100	50
2	\$80	75
3	\$65	100

Price is submitted in descending order, and quantity in ascending order. Only positive numbers are allowed in a submission.

The submission of these prices and quantities would indicate that the participant would want a maximum of 50 TRs if price is between \$80.01 - \$100; a max of 75 TRs if price is between \$65.01 - \$80; or a max of 100 TRs if price is \$65 or below. It is maximum quantity as they could receive less if their lamination is tied at the Market Clearing Price and tie breaking is required

Example - Multiple Bid Lamination Submission

The screenshot displays the 'Transmission Rights Auction' interface for 'Test Auction 7'. It includes sections for 'Organization Limit Information', 'Round 1' (CLOSED), and 'Round 2' (ACTIVE). A table shows 'Round 2 (ACTIVE)' bids for 'MAN-ON' with a quantity of 200 MW. Below this is a form titled 'TR PARTICIPANT CHARLIE bids for MAN-ON' with columns for Lamination, Price (\$), Quantity (MW), Lamination Value (\$), and Delete. The form contains six rows for laminations, each with a 'Delete' button (marked with a red 'x'). A callout box with arrows points to these 'Delete' buttons.

Path	Auction Quantity (MW)	Round Quantity (MW)*	Transmission Type	Bids Submitted?
MICH-ON	200	200	IMPORT	●
MAN-ON	200	200	IMPORT	○
ON-NY	200	200	EXPORT	○

Lamination	Price (\$)	Quantity (MW)	Lamination Value (\$)	Delete
1				x
2				x
3				x
4				x
5				x
6				x

Updated platform will allow up to 20 price-quantity pairs/laminations for a bid.

Updated TR Auction Platform*

*Upgraded TR auction platform is still in development phase, and may look different than presented here when finalized

MR Changes – Auction Clearing

- MR changes are required to clarify how multiple bid laminations will be considered by the calculation engine, how TRs are awarded and how the MCP is set for each path. These include:
 - Added additional clarity into the processes that the calculation engine will use to award TRs. *Rationale – Provides greater clarity to market participants how the engine will set the MCP and award TRs considering multiple laminations*
 - Clarifying how MCP is set. *Rationale – simplifies language, removes redundant procedures.*
 - Updated objective function. *Rationale – the current objective function doesn't consider multiple laminations to maximize auction revenue*
 - Updated tie breaking procedures for awarding TRs. *Rationale – updates are required to support multiple bid functionality and to provide greater clarity on how TRs are awarded*

MR Changes – Auction Clearing

- Changes are required in the following sections:
 - Chapter 8 – Sections 4.5, 4.15, Appendix 8.1

Example – Single Lamination

Auction with a single lamination and how it would clear in today's market. In this example the auction is selling 250 TRs and there are 3 participants.

Bids		
Participant	Price (\$/MW)	Quantity (MWs/# of TRs)
A	\$50.00	100
B	\$75.00	75
C	\$25.00	90

Auction Clearing				
Participant	Price (\$/MW)	Quantity (MWs/# of TRs)	TRs Awarded	Sum of TRs Awarded
B	\$75.00	75	75	75
A	\$50.00	100	100	175
C	\$25.00	90	75	250

Results	
Participant	Sum of Participant Total
A	100
B	75
C	75
TOTAL	250
MCP	\$25.00

Example – Multiple Laminations

Auction with multiple laminations and how it would clear once project is implemented. In this example the auction is selling 250 TRs and there are 3 participants.

Bids			
Participant	Lamination	Price (\$/MW)	Quantity (MWs/# of TRs)
A	1	\$70.00	90
A	2	\$40.00	110
B	1	\$85.00	65
B	2	\$65.00	85
C	1	\$45.00	80
C	2	\$15.00	100

Auction Clearing						
Participant	Lamination	Price (\$/MW)	Quantity (MWs/# of TRs)	TRs Awarded	Cumulative TRs Awarded	Sum TRs awarded to Participant
B	1	\$85.00	65	65	65	65
A	1	\$70.00	90	90	155	90
B	2	\$65.00	85	20	175	85
C	1	\$45.00	80	75	250	75
A	2	\$40.00	110	0	250	90
C	2	\$15.00	100	0	250	75

Results	
Participant	Total Participant Awards
A	90
B	85
C	75
TOTAL	250
MCP	\$45.00

MR Changes – Clarifying Auction Design

- MR changes were also done to clarify auction design and remove redundancies
 - Removed mention of having differing periods of validity. *Rationale – TRs are only available through short term and long term auctions that have validity periods of one month and one year. Participants are not able to express any other differing periods of validity through their bids.*
 - Removed obsolete constraints or technical deficiencies. *Rationale - no longer required/used to determine TR availability in an auction.*
 - Removed mention of “sellers”, their offers, and sales within an auction. *Rationale – design doesn’t support sellers in TR auctions; participation is limited to buyers and IESO is issuer of TRs.*

MR Changes – Clarifying Auction Design

- Changes are required in the following sections:
 - Chapter 2 - Appendices
 - Chapter 3 – Section 6.3A
 - Chapter 5 – Section 12.1
 - Chapter 8 – Section 1.1, 4.1, 4.5, 4.9, 4.11, 4.13, 4.16, 4.17, 4.19, Appendices 8.1
 - Chapter 9 – 6.3, 6.4, 6.5
 - Chapter 11



Market Manual Changes

MM Changes – Document 4.4 – Transmission Rights Auction (MDP_PRO_0029)

- MM changes will generally align with MR changes, but also outline additional info not available in MRs. Changes generally include the following:
 - Updating how to access the auction. *Rationale – the auction will be available through Online IESO (no longer through its own application on IESO gateway)*
 - How to submit bids considering multiple laminations. *Rationale – align with new market rules.*
 - Clarifying auction design, such as only bidders participate in TR auctions. *Rationale – align with the market rules, and provide clarity to market participants on how they can participate in an auction.*

MM Changes – Document 6.0 – Participant Technical Reference Manual (IMP_MAN_0024)

- Changes are required in this manual to inform participants on access requirements for the TR auction application:
 - *Rationale – the auction will be available through Online IESO (no longer through its own application on IESO gateway)*

Stakeholder Feedback

- Discussion Questions
 - Do you have any questions on the proposed market rule amendments and associated market manual changes?
 - Do you require any other-information to prepare for this change and market trials?
- The feedback form can be found under the November 15, 2023, entry on the [Transmission Rights Market Enhancement and Platform Refresh](#) webpage
- Please send feedback to engagement@ieso.ca by November 30, 2023

Thank You

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