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Education on Transmission Rights Market Enhancement and Platform Refresh Project

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Purpose and Summary

- Purpose
 - Information and education on the ***Transmission Rights (TR) Market Enhancement and Platform Refresh*** project, and market rule amendments needed to implement the project
- Summary
 - Update is required to replace the aging TR auction application and opportunity to leverage this update to implement design enhancements (e.g. multiple bid laminations) that were requested by stakeholders
 - Market Rule and Manual amendments are required to implement this change
- Significant Issues, Risks and Opportunities
 - Opportunity: Project delivers requested change and creates opportunity to improve user experience
 - Risk: Delay in market rule amendment changes could postpone anticipated launch of new TR application



Background – Transmission Rights and Need for Project

Transmission Rights Market Overview

- TRs were introduced in 2002 as a risk management tool to enable traders to hedge the financial risks associated with uncertain congestion at the interties
- Congestion on the interties is produced by traders competing to execute trades that will use the limited available transfer capability of the interties that connect different jurisdictions
- TRs are awarded in a short-term or long-term auction where there are separate auctions for specific intertie paths and a specific direction of flow. An awarded TR provides the holder a MW worth of congestion rents on the intertie path for which the TR relates. TRs are applicable for 1 month if awarded in a short-term auction or 12 months if awarded in a long-term auction.

Transmission Rights Market Auction Design

- Currently operating largely based on its original design from 2002
- Ontario Energy Board's Market Surveillance Panel (MSP) has provided recommendations and feedback regarding potential inefficiencies of the TR market
- The IESO conducted a [TR Market Review](#) (completed June 2021) in response to MSP recommendations
- One of the outcomes of the TR Market Review was the identification of certain enhancements, or "high-value opportunities" for stakeholders, that will improve the efficiency and function of the TR market today and in the future

The TR Auction Platform

- To facilitate the sale of TRs, the IESO and participants utilize the TR auction platform available on the IESO gateway (most market participant interfaces and applications are integrated into and accessible from the IESO gateway)
- The TR auction platform is based on 15+ year old technology that is due for a refresh
 - Risk of increased cost to support the current application as it is run on a different platform than other technology the IESO is currently utilizing
 - The current application has limited functionality for improvements to security and design



Transmission Rights Market Enhancement and Platform Refresh Project

Project Scope and Rationale

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
- Easier for the IESO to maintain
- **Requires Market Manual and supporting document changes**

2. Enhance market by introducing multiple bid laminations

- 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
- This improvement was able to leverage the TR auction platform refresh without impacting MRP implementation
- **Requires Market Rule, Manual, and supporting document changes**

1. Upgraded Platform – New User Interface

- Moving from stand-alone application to being integrated into Online IESO
- Eliminates additional costs by leveraging existing investments such as infrastructure, security, databases, etc.; this platform will be consistent with other IESO platforms
- Users can represent multiple organizations similar to other platforms - users will have the opportunity to consolidate accounts
- Moving forward - requires further development to finalize product, updating supporting documentation (i.e. minor changes to Market Manuals, new participants guide, etc.) and optional participant training to prepare for implementation

Current TR Auction Platform

The screenshot displays the IESO TR Auction Platform interface. The top header features the IESO logo and the tagline "Power to Ontario. On Demand." Below this is a navigation bar with "Inside This Community" and links for "Home Page", "Active Rounds", "Future Rounds", and "TRA Help".

The left sidebar contains several sections:

- TRA Calendar Links:** Includes links for "TRA Schedule for 2010", "TRA Schedule for 2011", "2010 Physical Market SSPC", "2011 Physical Market SSPC", "2010 Financial Market SSPC", and "2011 Financial Market SSPC".
- TRA Contact Info:** Provides contact details for customer relations, including a phone number (905-403-6900), a toll-free number (1-888-448-7777), a fax number (905-403-6921), and an email address (customer.relations@ieso.ca).

The main content area is titled "Transmission Rights Auction Announcements" and contains text explaining the TR Bid Window and auction types. A table titled "Auction Rounds" is visible, showing a single row with the following data:

| Auction Name | Time Structure | Round |
|------------------|---------------------|-------|
| ST_20110101-test | ST_20110101_TS-test | 1 |

Below the table, there is a "Bidding Active Rounds - Portlet" section with a "Submit Bid" form. The form includes the following fields and values:

- Auction Name: ST_20110101-test
- Path: MICH-ON
- Path Description: Transmission Path from Michigan to Ontario
- Round Quantity: 1,450
- Bid Quantity: [Empty field]
- Total Auction Cost per MW: [Empty field]

The form also includes "Save" and "Cancel/Back" buttons at the bottom right.

Upgraded TR Auction Platform*

The screenshots illustrate the user interface for the Transmission Rights Auction platform. The top-left view shows the home page with a greeting and a list of auctions. The middle view provides detailed information for 'Test Auction 6', including organization limits and a table for Round 2 (ACTIVE). The bottom-right view shows the bidding interface for Round 2, with a table for 'TR PARTICIPANT CHARLIE bids for ON-MAN' and a 'SUBMIT BID' button.

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

2. Multiple Bid Laminations for TR Auctions

- Stakeholders have requested the ability to submit multiple bid laminations (price-quantity pairs) into the TR auction. Multiple price-quantity pairs are enabled for all other IESO markets (energy, OR, capacity) because of its recognized market efficiency benefits, improving competition and liquidity.
- Allows traders to express different price sensitivities when bidding.
- Multiple laminations can be implemented now by leveraging the planned platform refresh. As multiple laminations exists in other IESO market tools, it is anticipated to be a relatively straight forward implementation.
- Moving forward - requires Market Rule, Manual, and other supporting document changes

Single Bid Lamination vs. Multi Bid Lamination

Bidding Active Rounds - Portlet

Submit Bid

Auction Name ST_20110101-test
Path MICH-ON
Path Description Transmission Path from Michigan to Ontario
Round Quantity

Bid Quantity

Total Auction Cost per MW

Current platform allows a single P/Q pair/lamination for a bid e.g. Participant could submit a single lamination where they would bid (25; \$10.50); expressing they want a maximum of 25 TRs for a maximum price of \$10.50 for each TR/MW

Current TR Auction Platform

Single Bid Lamination vs. Multi Bid Lamination (Cont'd)

The screenshot displays the 'Transmission Rights Auction' interface for 'Test Auction 7'. It includes sections for 'Test Auction 7' (Auction Type: Long Term (LT), Validity Period: March 1 - 31, 2023), 'Organization Limit Information' (Organization: TR PARTICIPANT CHARLIE, Bid Limit: \$300,000, Total Bids: \$2,000, Remaining Limit: \$298,000), and 'Round 2 (ACTIVE)' details (Start: 2023-05-03 19:00 EST, End: 2023-06-29 19:00 EST, Round Fraction: 1). A table shows 'Round 2 (ACTIVE)' bids for 'MAN-ON' (Quantity: 200 MW, Transmission Type: IMPORT, Bids Submitted? 0). Below this is a 'TR PARTICIPANT CHARLIE bids for MAN-ON' section with a table for adding laminations (Lamination, Price (\$), Quantity (MW), Lamination Value \$, Delete) and 'CANCEL'/'SUBMIT BID' buttons.

Updated platform will allow for up to 20 P/Q pairs/laminations for a bid. Participants can submit different price sensitivities

Updated TR Auction Platform*

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

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 submitted.

| Lamination # | Price (\$ / MW of TR) | Quantity (# of MWs of TRs requested) |
|--------------|-----------------------|--------------------------------------|
| 1 | \$100.00 | 50 |
| 2 | \$80.00 | 75 |
| 3 | \$65.00 | 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

Expected Impact to Stakeholders

1. New TRA User Interface

- No software/hardware changes for participants
- Testing/learning by TR auction participants
- Easier/more efficient to navigate and use
- *Minor Impact* - change to the look and feel of the platform is similar to other tools the IESO uses (i.e. capacity auction)

2. Enhancement to allow TR auction participants to submit multiple bid laminations

- *Minor/Medium Impact* - users will have the choice to continue to bid with same strategy or expand their bidding strategies to display different price sensitivities

Improved platform with additional choice and added value for participants

Stakeholder Engagements

- The IESO has conducted two stakeholder sessions:
 - July 2023 - project was introduced to stakeholders detailing the scope of changes – Minimal stakeholder feedback from this meeting. The IESO provided additional clarity that new guides will be published to assist their use of the new platform, and training will also be available.
 - November 2023 - market rules and manual amendments were discussed and redline versions were provided for feedback. Any feedback will be assessed and changes made as required prior to submitting to Technical Panel to vote.

[TR Market Enhancement and Platform Refresh Engagement Page](#)

Proposed Document Changes

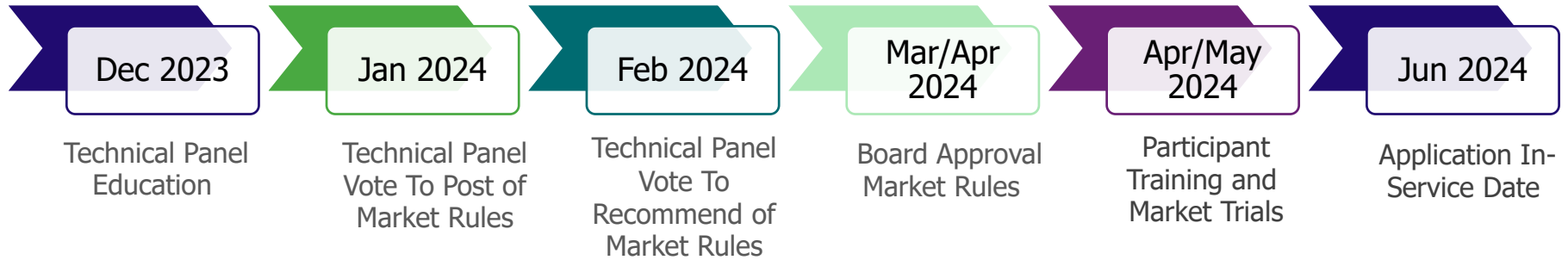
Market Rule, Market Manual, and other document amendments (including supporting documents for IESO and market participants) are required to support the project

- Market Rule changes primarily involve:
 - Clarifying auction design – removal of design descriptions that are not available to participants (i.e. TR sellers offering into auction; changing validity periods) - Chapters 3, 5, 8, 9, 11; appendix 2.2 and 8
 - Updated bidding and lamination requirements – to clarify how market participants must structure their laminations as part of a bid – Chapters 8, and 11
 - Adjustment of process to clear auction and objective function – the procedure, and mathematical objective to award TRs, and maximize benefit that must consider multiple laminations – Appendix 8

Proposed Document Changes – cont.

- Market Manual changes primarily involve:
 - Aligning with the new Market Rules - provide additional clarity to the rules that were described in the previous slide – Market Manual 4.4
 - Technical Access to the new platform - informs participants requirements and how they can now access the new platform via Online IESO – Market Manual 4.4 and 6
- *Market Participants will be able to review and comment on draft MR and MM changes prior to Technical Panel vote to post*

Anticipated Project Timeline



Next Steps

- The IESO will update MR and MM, if required, based on stakeholder feedback from November stakeholder engagement session, then will provide redlined versions to Technical Panel for vote to post.
- The IESO is planning implementation activities to ensure market participants are prepared for the changes by launch in June 2024.

Thank You

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