



OCTOBER 27, 2020

Transmission Rights Market Review Stakeholder Engagement Webinar

Webinar Participation (including audio)

- [Registration Link](#) - Meeting number 172 225 1393
- To interact, use “Chat” function to submit a written question or click on “Raise Your Hand”, located in the Participants panel at the top right of the application window to indicate to the host you would like to speak
- Audio should be muted at all times. To unmute audio, click on the microphone icon in the meeting controls row found at the bottom of the application window
- This webinar is conducted according to the [IESO Engagement Principles](#)

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Purpose

- Update stakeholders on work performed on the Transmission Rights (TR) Market Review since the webinar on July 22
- Summarize stakeholder feedback from Stage 2 focused meetings
- Present IESO's preliminary assessment on methodology to determine number of TRs to sell in future auctions
- Discuss next steps



TR Market Review Update

TR Market Review Update – Stage 1

- Since the July 22 webinar, the IESO has completed the Interim Report to highlight the critical role that TRs play in facilitating efficient intertie trading as well as potential areas of improvement.
- The report also summarizes the potential options identified by stakeholders and the IESO that could be explored in Stage 2 to improve the TR market
- The report is posted on the TR Market Review stakeholder engagement webpage.
- Stage 1 of the TR Market Review has been concluded.

TR Market Review Update – Stage 2

- The purpose of Stage 2 is to propose a set of near-term options that are consistent with the objectives and will improve the overall efficiency, value and function of the TR Market.
- Following the July 22 webinar, the IESO conducted focused meetings with interested stakeholders to explore details of Stage 2 options.

Stage 2 Options

TR Auction Tool	<ul style="list-style-type: none">• Enable multiple bid laminations
TR Auction Process	<ul style="list-style-type: none">• Review methodology the IESO applies to determine number of TRs to sell in future auctions (e.g. Financial Upper Limit, TRs offered on ties with little to no physical trader participation)• Make more and better information available to TR holders (e.g. historical TR auction bids, historical TR payment per MW by tie)• TR auction timeline (e.g. run TR auctions closer to the start of the month)
TR Products	<ul style="list-style-type: none">• Offer more granular TR products (e.g. on-peak, off-peak, seasonal and weekly TRs)• Reconfiguration of TR products (e.g. allow TRs to be reconfigured and sold in subsequent auctions, secondary market, reconfiguration auctions, etc.)

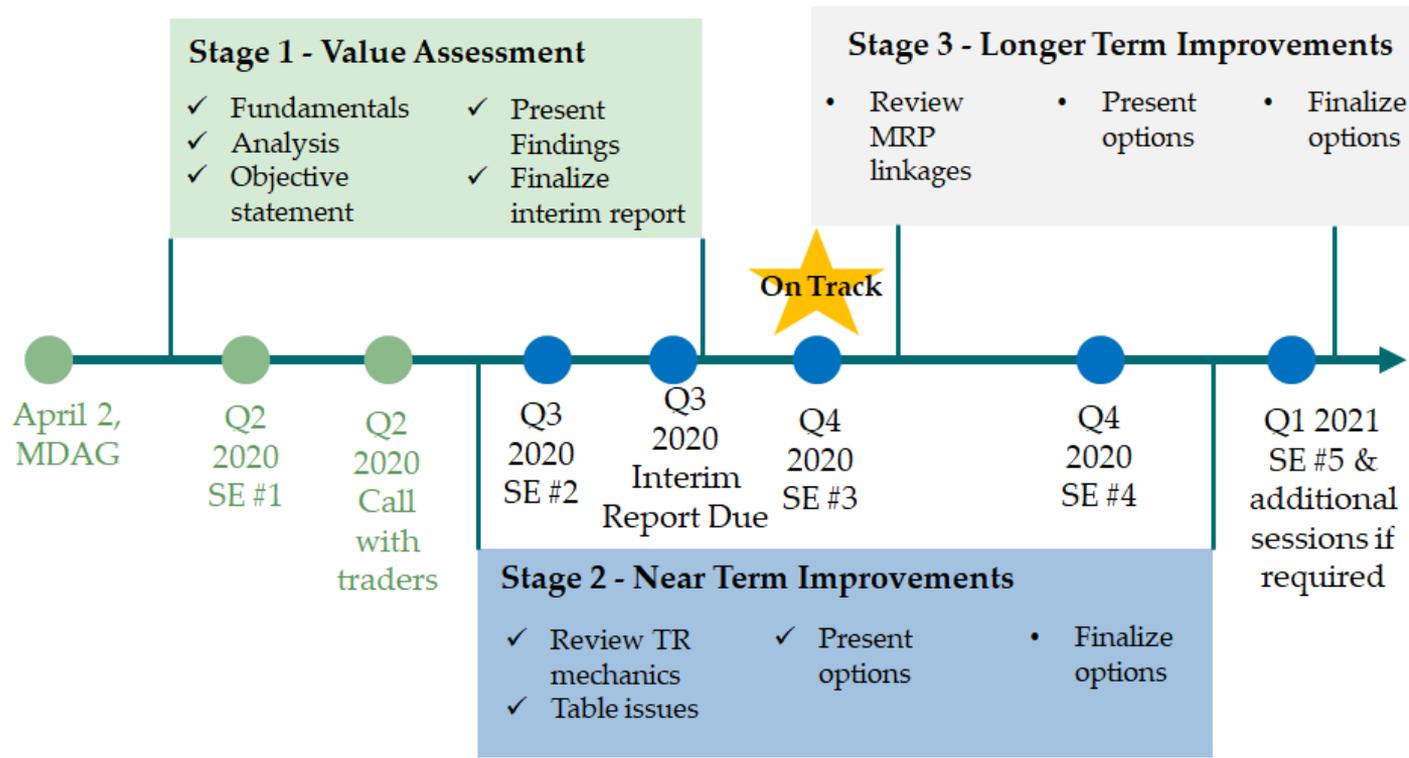
Stage 2 Focused Discussions

- A discussion guide was developed by the IESO to facilitate discussion on the details of the Stage 2 options and was provided to each stakeholder prior to the conference calls
- Detailed notes were taken during the calls and several stakeholders provided written responses to the questions in the discussion guide following the conference calls
- The IESO's summary of this verbal and written feedback is presented on the following slides

Stage 2 Focused Discussions (continued)

- The IESO has also performed a preliminary assessment on the methodology the IESO applies to determine number of TRs to sell, which was discussed on a high level during focused meetings and will be presented today for stakeholder review and feedback.

TR Market Review - Timeline



TR Market Review and Market Renewal

- The proposed changes that result from this engagement will not be explicitly included in the Market Renewal Program (MRP) detailed design, because they do not impact the MRP design changes being considered.
- However, MRP detailed design changes and their impact on the TR market will need to be considered through this engagement.
- During Stage 3 of the TR Market Review, the IESO will discuss these MRP changes with stakeholders to ensure alignment between the two initiatives.

TR Market Review and Implementation

- At the conclusion of this engagement, the IESO and stakeholders will propose a set of near and long-term changes to enhance the value and function of the TR market and to ensure alignment with the future renewed market.
- Implementation of any proposed changes is outside the scope of this engagement as all potential projects and their associated benefits cases must be evaluated by the IESO against other competing projects before being considered for implementation.
- Information on next steps and how to continue to receive updates on these proposals will be provided at the conclusion of this engagement.



Stage 2 Focused Meetings – Summary of Stakeholder Feedback

Summary of Stakeholder Feedback – Stage 2

- Six stakeholders from the trading community participated in the Stage 2 focused meetings, which were facilitated by a discussion guide consisting of questions regarding (1) details of options proposed by stakeholders (2) methodology to determine number of TRs to sell, and (3) business impact and preference on implementation timing for Stage 2 options.
- While stakeholders had consensus on some options, they expressed diverse views on the other options.

General Consensus - Enable Multiple Bid Laminations

- All stakeholders unanimously believe multiple bid laminations should be enabled as a top priority.
- Most stakeholders considered 10 laminations as sufficient, though one stakeholder recommended 11-20 laminations.

General Consensus - TR Auction Timeline

- Most stakeholders believe the current TR auction timeline should be left as is
- One stakeholder proposed to delay the timeline so that the auction is closer to the start of the TR ownership period, if the downstream processes can be improved in the future.
- The IESO's impact assessment indicates that even a slight delay would have a significant impact on the downstream settlements and finance processes and tools.

General Consensus - Long-Term (LT) TRs

- All stakeholders believe that LT TRs are still needed, with various views on the duration of LT TRs.
- One stakeholder wants flexibility to purchase certain months (not all 12 months) and 2-year TRs through LT auctions.
- One stakeholder suggested the IESO should consider 2-year TRs and reduce credit requirements to remove barriers for smaller traders to purchase LT TRs.

General Consensus – Seasonal and Weekly TRs

Seasonal TRs

- Most stakeholders consider seasonal TRs unnecessary.
- One stakeholder suggested semi-annual TR auctions for TRs valid for 6 months (summer and winter).

Weekly TRs

- Most stakeholders consider weekly TRs unnecessary.
- One stakeholder suggested that weekly TRs should be offered at monthly auctions with the option to purchase TRs for certain weeks in a month.

General Consensus – Rec. Auctions vs. Secondary Market

Majority of stakeholders consider the benefits of reconfiguration auctions outweigh the benefits of a secondary market.

- Four stakeholders prefer reconfiguration auctions, which would allow TR holders to reconfigure their TRs into smaller segments and sell them in subsequent monthly auctions. The reconfigured TRs must fit the monthly auction format.

General Consensus – Rec. Auctions vs. Secondary Market

- One stakeholder prefers that in combination with reconfiguration auctions, a secondary market should also be in place to allow TR holders to transfer TR ownership outside of the auctions on a platform provided by the IESO. TR ownership transferred in the secondary market would then be updated in the IESO record.
- One stakeholder thinks neither the reconfiguration auction nor the secondary market is necessary.

TR Ownership Transfer – Current Process In Place

- During the focused meetings, the IESO identified a general lack of awareness of the current process in place for TR holders to re-assign their TRs to another registered TR participant, subject to IESO verification.
- As authorized by Chapter 8, s.4.9 of the Market Rules, the TR ownership transfer process is outlined in Market Manual 4.4 (FORM-84 and FORM-85)

General Consensus - Anonymous TR Bids

- Four stakeholders consider it unnecessary or oppose the idea of the IESO publishing anonymous bids after an auction because they have concerns that such information will reveal trading strategies to competitors.
- Two stakeholders support the idea of publishing anonymous bids with at least 4-month delay. They stated that publishing such information is consistent with the general practice in U.S. jurisdictions, and consider it necessary and useful to gauge the interest in the market and provide further price discovery.

Diverse Views - Other Information to Be Made Available

- One stakeholder suggested publishing participants who cleared each TR auction and successfully acquired TRs.
- Three stakeholders requested more details on transmission/generator outages, internal constraints and system conditions used to determine number of TRs to offer.
- One stakeholder requested number of financial traders vs. physical traders per path per auction, and rationale/analysis in determining number of TRs to offer.

Diverse Views - On/Off-Peak TRs

- Three stakeholders support the option and agree that on/off-peak options are needed for both LT and ST TRs.
- The other three stakeholders consider on/off-peak TRs unnecessary and may cause potential issues.
- All stakeholders support the IESO's working definition of on/off-peak periods: **On-peak period: 7am-11pm; Off-peak period: 11pm-7am, all weekends and holidays.** Some emphasized that the EPT should be used in order to be aligned with financial market.

Diverse Views - On/Off-Peak TRs (continued)

- Stakeholders who support this option all agree that on/off-peak TRs and 24/7 TRs are both needed
- Stakeholders also suggested various alternatives to determine the split between on/off-peak TRs and 24/7 TRs:

Alternative #1: Dynamic split to maximize auction revenue

Alternative #2: Pre-auction bids to indicate interests

Alternative #3: Fixed split (e.g. 25% on/off-peak TRs vs. 75% 24/7 TRs)

Stakeholder Feedback - Business Impact

- During the focused meetings, the IESO also asked what the potential business impacts of implementing Stage 2 options would be in terms of stakeholder tool changes/upgrades, internal procedures, etc.
- In general, stakeholders expect minimum business impact on their end as a result of implementing Stage 2 options.
- As indicated previously, implementation of these improvements is dependent on internal IESO evaluation and approval before the IESO can commit time, resources and capital investment.

Business Impact - IESO

The IESO conducted a high-level assessment of the current TRA tool and will conduct further internal assessments on other factors/considerations before making a proposal.

	Stage 2 Options	Business Impact
Options that require IESO tool changes/upgrades	<ul style="list-style-type: none">• Multiple bid laminations• More granular TR products (e.g. on/off-peak TRs)• Reconfiguration auctions and secondary market	<ul style="list-style-type: none">• Require approval for funding and resources for implementation• Will likely be implemented at the same time through tool changes/upgrades
Options that do not require material IESO tool changes/upgrades	<ul style="list-style-type: none">• Additional information to publish• Methodology-related changes	<ul style="list-style-type: none">• Require approval for resources for implementation• Can be implemented sooner



Methodology to Determine Number of TRs to Sell

Current Methodology

Today three different mechanisms work in concert in the Pre-Auction period to determine the number of TRs sold on each intertie, these are:

- Expected Available Transfer Capability (ATC) with Consideration for Outages
- The Financial Upper Limit (FUL)
- Expected ATC with Consideration for Non-Tie line or Operational Constraints

The objective of these mechanisms is to avoid overselling TRs by utilizing the latest information on outages and operational constraints

*Note: see Market Manual 4.4 for additional details

Expected ATC with Consideration for Outages

- The ATC is the Transmission Transfer Capability (TTC) reduced by a transmission reliability margin (TRM), so as to provide an additional safety measure when determining acceptable flows
- Outages that are anticipated to affect a path for more than 2.5 days reduces the number of short-term TRs sold in the monthly auction, outages that are anticipated to affect a path for longer than 30 days reduces the number of long-term TRs sold in the quarterly auction

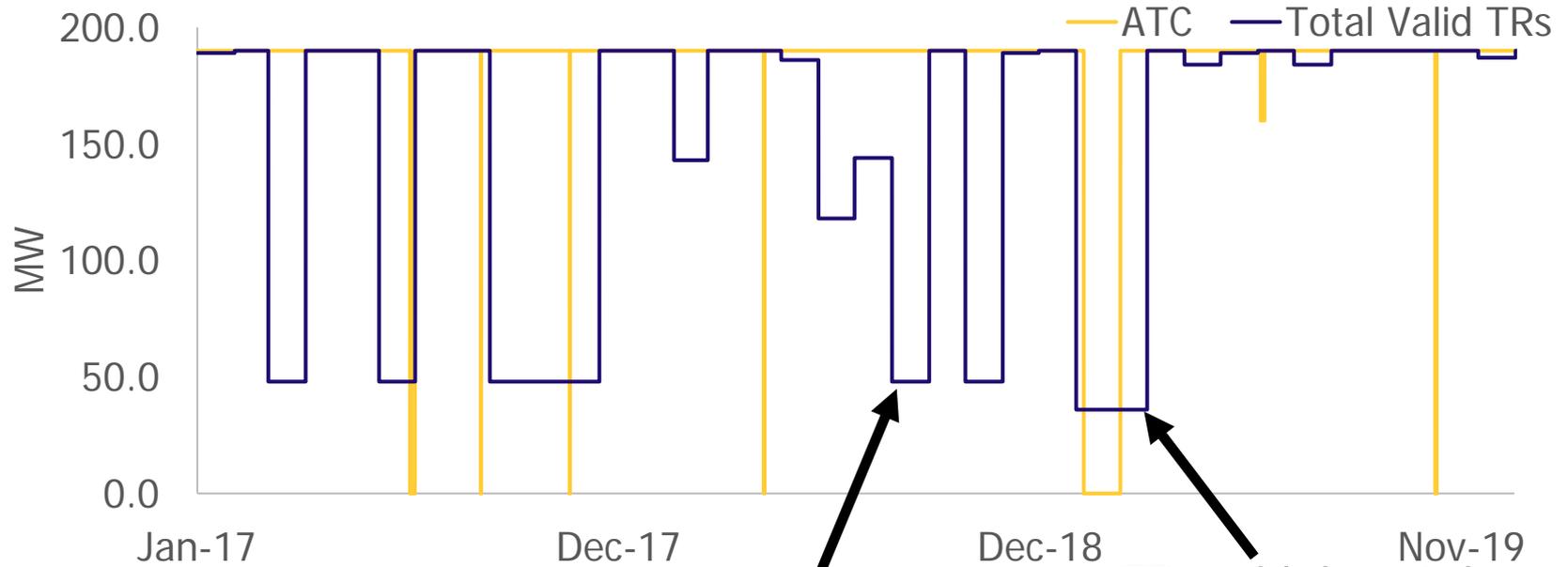
*Note: see Market Manual 4.4 and [Transmission Right Workbook](#) for additional details

Example - The Ontario to Quebec Export Path (PQDA)

- On the Ontario to Quebec intertie path (PQDA), anticipated outages impact the ATC and therefore the number of TRs sold
- These outages may not always materialize, reflecting a difference between the number of TRs sold and the actual ATC
- ON-PQDA is being used in this example because the other mechanisms that affect TR sales have not impacted the number of TRs sold on this path because congestion is very infrequent. The last time there was congestion on this intertie path was in October 2010

* PQDA refers to the market scheduling point or "tie point" naming convention, and refers to the Quebec 5DA intertie, see MM 4.2 for details

The Ontario to Quebec Export Path (PODA)



Some planned outages do not materialize

TRs sold do not drop to zero due to LT TRs

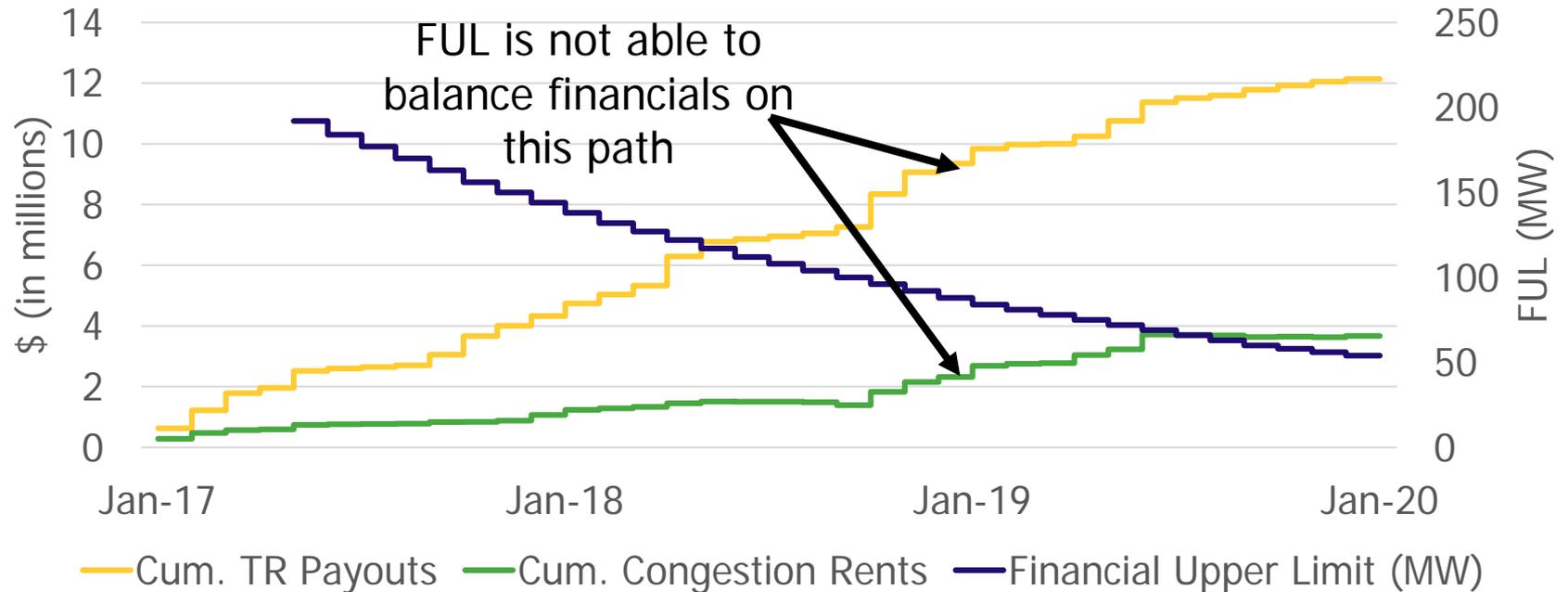
The Financial Upper Limit

- The objective of the FUL is to achieve a financial balance (Congestion Rents – TR Payouts) of zero
- Beginning in May 2017, the IESO has applied a FUL on the number of TRs sold, based on the net cumulative balance between congestion rents and TR payouts on a per path basis (dated from January 2017)
- If the cumulative balance is negative on a particular path, the IESO lowers the total number of TRs sold by 4% per month on that path. TR sales can go back up by 4% per month if the cumulative balance becomes positive

Example – The Ontario to Manitoba Export Path

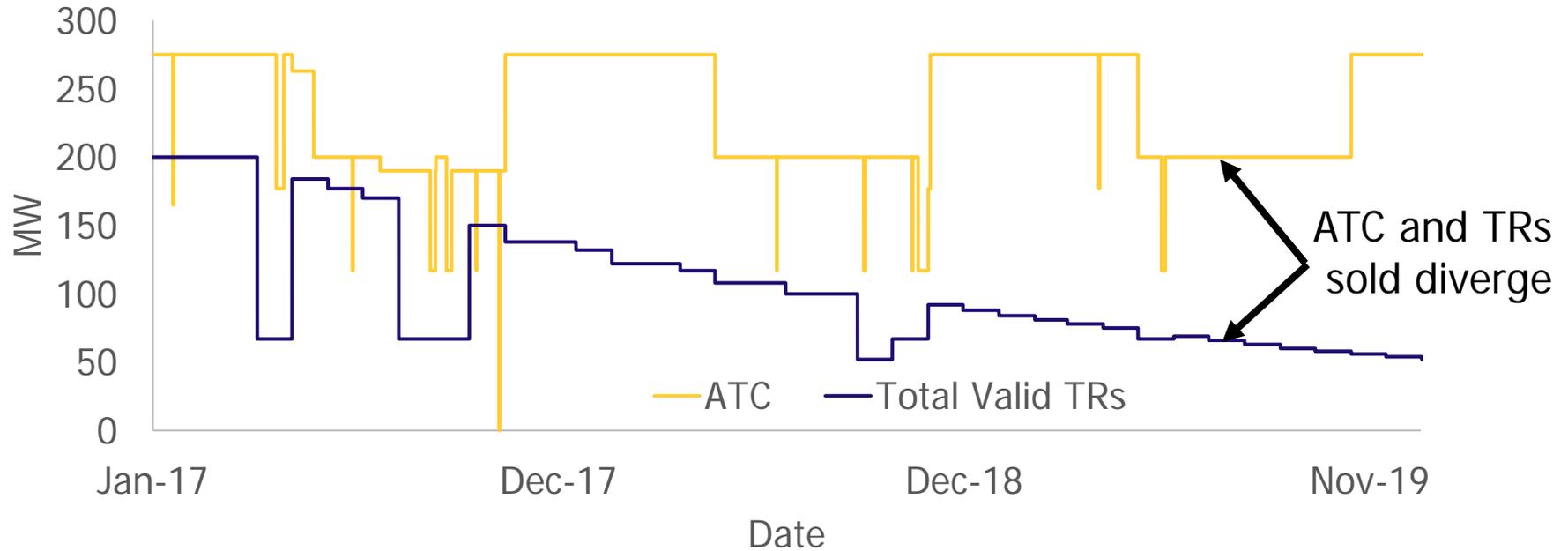
- On the Ontario to Manitoba export path, a negative balance began in January 2017. This started to impact the TRs sold in May 2017
- Since May 2017, the FUL has led the IESO to decrease the number of TRs sold every month to try to rebalance the financials on this intertie path
- Over time, this mechanism has significantly reduced the number of TRs sold on this intertie path, but has had no meaningful impact on converging cumulative TR payouts and congestion rent

Ontario to Manitoba Export Path – Financials



* FUL is impacted several months after an imbalance is observed due to settlements and auction timing

Ontario to Manitoba Export Path



* TRs sold is impacted both by the FUL and by outages

The Financial Upper Limit (FUL) – All Intertie Paths

- Currently, 12 of 17 of Ontario's intertie paths are in a negative financial balance, 3 interties have a net balance of zero (there has been no congestion rents collected or payouts on these intertie paths since January 2017), and only 2 lines have a positive balance
- Many of the interties with a negative balance have experienced a consistent reduction in TRs sold, each month, for several years in a row
- The IESO observes that the FUL may not be effective on certain interties due to the restricting 4% change and unexpected outages impacting the actual ATC

The Financial Upper Limit (FUL) – Cumulative Balance

Imports

MBSI-ONZN	MISI-ONZN	MNSI-ONZN	NYSI-ONZN	PQAT-ONZN	PQBE-ONZN
\$-403k	\$0	\$-153k	\$0	\$-1,350k	\$-1,214k
PQDA-ONZN	PQDZ-ONZN	PQPC-ONZN	PQXY-ONZN		
\$-64	\$-8k	\$-13k	\$-4		

Exports

ONZN-MBSI	ONZN-MISI	ONZN-MNSI	ONZN-NYSI	ONZN-PQAT	ONZN-PQDA
\$-8,149k	\$+13,687k	\$-3,436k	\$+52,522k	\$-569k	\$0
ONZN-PQHZ					
\$-58K					

Note: cumulative net balance from the [Transmission Rights Monthly Financial report](#) published January 15, 2020.

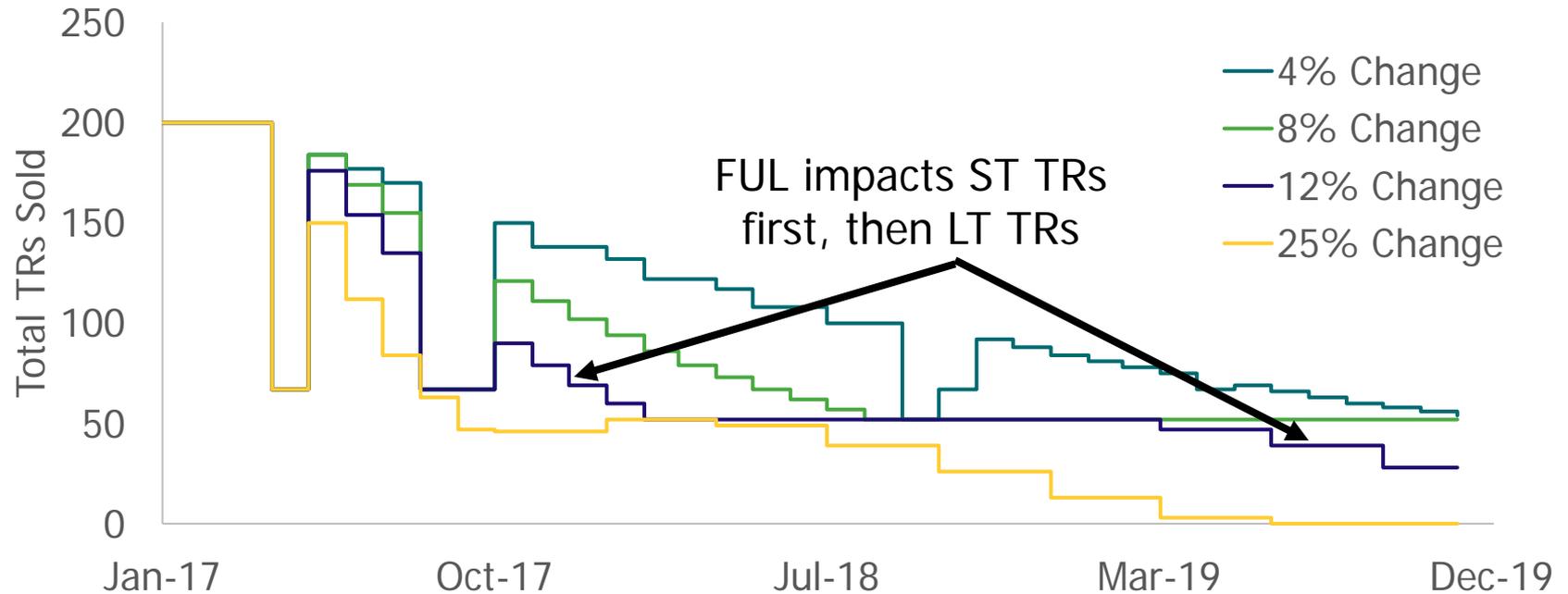
The Financial Upper Limit (FUL) – Alternatives

- During the Stage 2 focused meetings, the IESO discussed with stakeholders some potential alternatives for the FUL, including: 1) increasing the rate (currently 4%) in which the number of TRs sold on an intertie changes, and 2) introducing a cap on the number of TRs sold on interties that have been in a negative financial balance for more than 1 year
- Stakeholders broadly suggested that additional information was needed to provide meaningful feedback. The IESO is currently evaluating these options and other alternatives.

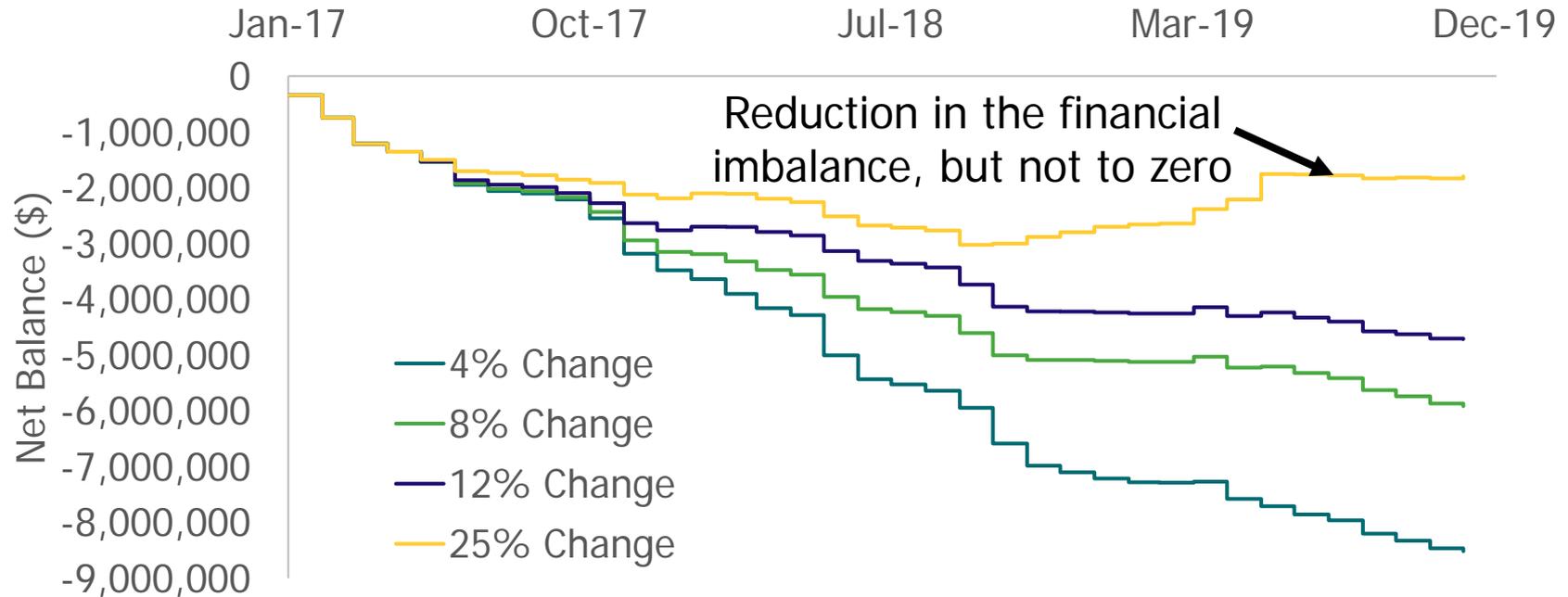
Preliminary Observations

- The IESO observes that increases in the FUL % could potentially bring the financial balance closer to zero on certain interties, although the number of TRs sold may be significantly affected
- For analysis purposes, the IESO has assumed that the trading behaviour and the amount of historical congestion rent collected would have remained the same despite changes in the number of TRs sold, however, actual impacts to trading behaviour and congestion rent collected could be material

Ontario to Manitoba Export Path – FUL Alternative %'s



Ontario to Manitoba Financial Balance With Changes to FUL

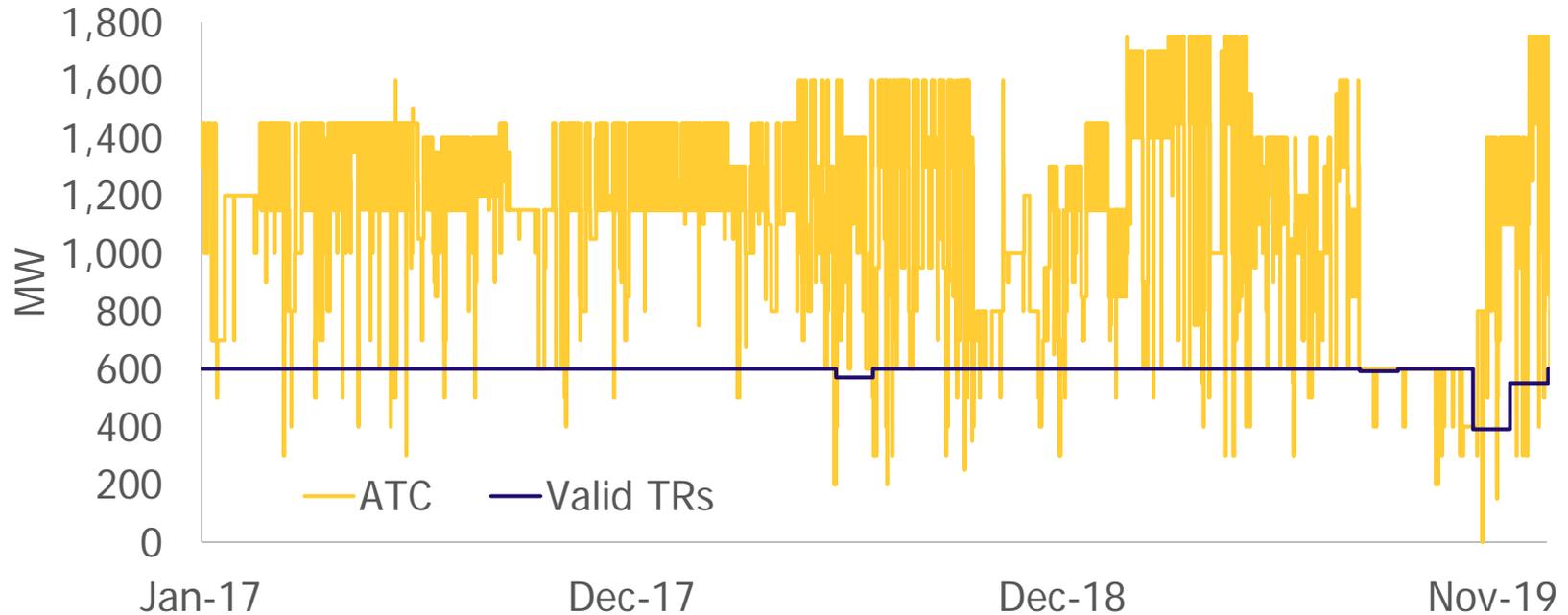


- * TRs sold is impacted both by the FUL and by outages

Operational Constraints

- The IESO currently has operational constraints on 5 of the 17 intertie paths (NY-ON, ON-NY, ON-QOUTA, QOUTA-ON, ON-MICH) that limit the amount of TRs sold on these paths, separately from the ATC or FUL
- These operational constraints are in place to mitigate the risk of overselling TRs due to frequent late-notice or forced outages, as well as other specific limitations such as internal constraints
- The operational constraints are reviewed, as needed, to determine their impact on the financial balance of these intertie paths

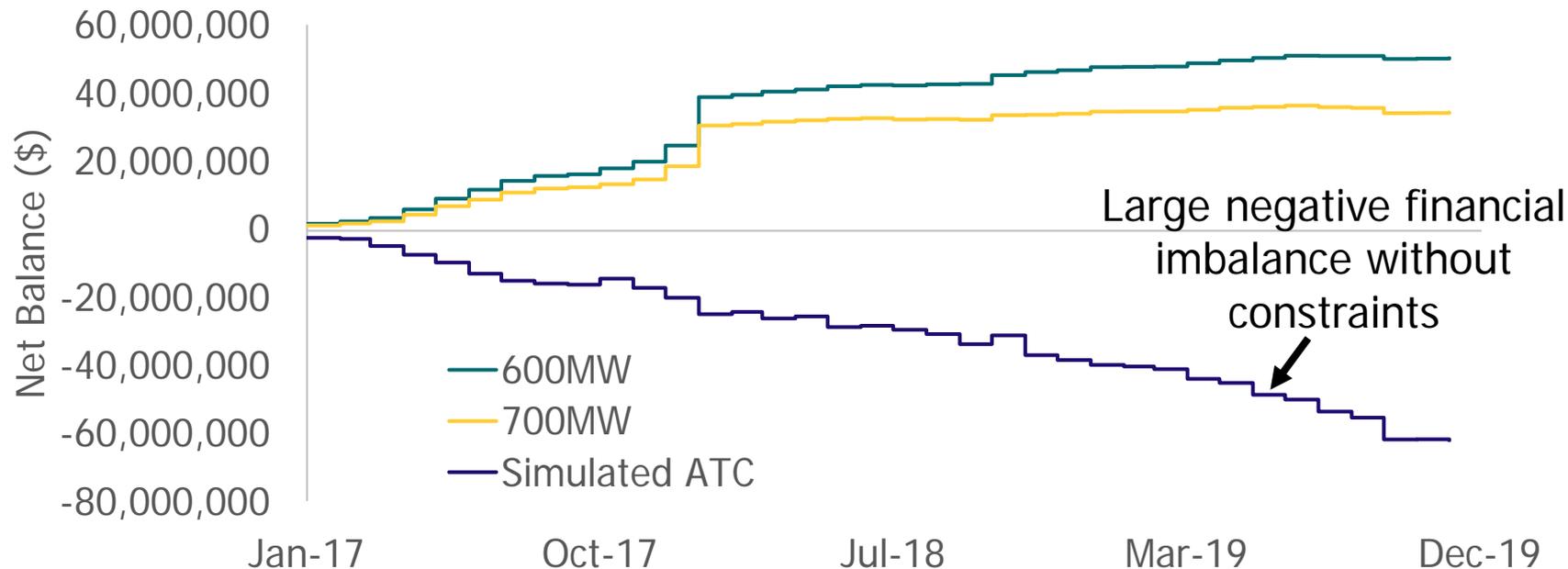
Example – Ontario to New York Intertie Path



Operational Constraints

- During the Stage 2 focused meetings, the IESO asked for stakeholder feedback on the operational constraints, including if the operational constraint on the ON-NY path should be cautiously relaxed to allow more TRs to be sold on this path
- Stakeholders suggested that additional information was needed to fully comment, however, several said that the IESO could cautiously sell more TRs if the financial balance is consistently positive
- The IESO analysis also shows that large negative imbalance may occur without a constraint

Operational Constraints



Intertie Congestion and Participation

- The IESO noted that on some interties, congestion is infrequent, and none of the traders that flow on those interties purchase TRs, despite relatively low auction prices
- On some interties, the competition in intertie trading is very low (limited to 1-3 traders). This may be a contributing factor to the low congestion over these interties
- This has led the IESO to question if TRs should be sold when there is consistently no congestion or physical trader participation in the TR auctions associated with an intertie, as TRs sold are not being used as a hedge on these intertie paths

Intertie Congestion in 2019 (% of Hours)

Imports

MBSI-ONZN	MISI-ONZN	MNSI-ONZN	NYSI-ONZN	PQAT-ONZN	PQBE-ONZN
0.5%	0%	0.3%	0%	2.2%	0%
PQDA-ONZN	PQDZ-ONZN	PQPC-ONZN	PQXY-ONZN		
0%	0.1%	0%	0%		

Exports

ONZN-MBSI	ONZN-MISI	ONZN-MNSI	ONZN-NYSI	ONZN-PQAT	ONZN-PQDA
28.3%	69.7%	43.4%	35.5%	4.5%	0%
ONZN-PQHZ					
0.2%					

Intertie Participation in 2019 (No. of Physical Traders)

Imports

MBSI-ONZN	MISI-ONZN	MNSI-ONZN	NYSI-ONZN	PQAT-ONZN	PQBE-ONZN
5	13	9	12	5	1
PQDA-ONZN	PQDZ-ONZN	PQPC-ONZN	PQXY-ONZN		
2	1	1	1		

Exports

ONZN-MBSI	ONZN-MISI	ONZN-MNSI	ONZN-NYSI	ONZN-PQAT	ONZN-PQDA
9	26	13	27	10	1
ONZN-PQHZ					
3					

- Numbers denote physical traders who used (flowed on) an intertie, regardless of whether they purchased TRs or not

Intertie Congestion and Participation

- Some stakeholders were unconcerned if the IESO were to stop the sale of TRs on lines with little congestion and participation, others recommended that the IESO continue the sale of TRs on all its interties, finding value in these TRs
- Several stakeholders recommended that the IESO undertake a further investigation into why some interties experience infrequent congestion and low participation in the TR auctions

TR Auction Revenue

- On some interties, the IESO notes that TR auction revenue collected is substantially below TR payouts (see the next slide), leading to a potential concern about how TR holders value these TRs and whether these TRs provide net benefits to Ontario consumers
- Stakeholders acknowledged this concern and suggested that this issue could be due to several factors including lack of competition, infrequent congestion, single bid laminations, and the limited types of TR products sold
- The IESO is currently assessing options to address this issue

Auction Revenue -TR Payouts (Jan. 2017-Dec. 2019)

Imports

MBSI-ONZN	MISI-ONZN	MNSI-ONZN	NYSI-ONZN	PQAT-ONZN	POBE-ONZN
\$-90k	+\$242k	\$-17k	+\$252k	\$-21,653k	\$-2,661k
PQDA-ONZN	PQDZ-ONZN	PQPC-ONZN	PQXY-ONZN		
+\$1k	\$-9k	\$-12k	\$-3k		

Exports

ONZN-MBSI	ONZN-MISI	ONZN-MNSI	ONZN-NYSI	ONZN-PQAT	ONZN-PQDA
\$-1,175k	\$-38,920k	\$-3,312k	\$-1,744k	\$-517k	+\$1k
ONZN-PQHZ					
\$-208k					



Questions for Stakeholders and Next Steps

Questions For Stakeholders

- Are there other considerations on Stage 2 options regarding TR auction process and TR products?
- Do you have any questions about the data presented in this presentation, or recommendations for further analysis on the methodology?
- Would increasing FUL by a larger percentage and decreasing TRs offered as a result have an impact on your TR bidding strategy or interest in import/export transactions?

Submitting Stakeholder Feedback

- Written feedback can be provided to engagement@ieso.ca using the feedback form on the [engagement web page](#) by October 17.
- Please indicate by email to engagement@ieso.ca whether individual conference calls are preferred to discuss these details.
- Please use the feedback form provided to ensure stakeholder feedback is compliant with the Accessibility for Ontarians with Disabilities Act (AODA). If you choose not use the IESO feedback form, please provide an AODA compliant pdf document.

Next Steps

- The IESO is conducting internal assessments on cost-benefit, implementability and other considerations of Stage 2 options.
- The IESO may reach out to interested stakeholders through one-on-one focused meetings to further discuss Stage 2 options
- Based on stakeholder feedback and internal assessments, the IESO plans to propose a draft set of near-term changes in a subsequent stakeholder engagement session

Thank You

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