

Transmission Rights Clearing Account Disbursement Methodology: Updated Impact Analysis

June 2020

Purpose

- To provide update on the potential impacts of COVID-19 on the analysis done for the Transmission Rights Clearing Account (TRCA) disbursement methodology
- This presentation is a supplemental material to inform the Technical Panel prior to the June 23, 2020 vote to recommend the TRCA Market Rule

Outline

1. Drivers of Intertie Trading
2. Impact of COVID-19
3. Recap – Previous TRCA Impact Analysis
4. COVID-19 TRCA Updated Impact Analysis
5. Summary
6. Appendix

Drivers of Intertie Trading

Background: Electricity Trade

- Electricity trade with external jurisdictions is very important to Ontario
 - Helps manage periods of surplus supply and meet demand during peaks
 - Cost-effective imports can displace more expensive domestic options
 - Exports provide revenue, savings opportunities for Ontario consumers and help manage reliability
- Interties provide critical operational benefits by responding dynamically and flexibly to changing conditions on an intra-day basis
 - Trade is particularly important in Ontario since the supply mix has evolved and changing load patterns has increased the need for more operational flexibility which the interties can provide

Background: Electricity Trade (continued)

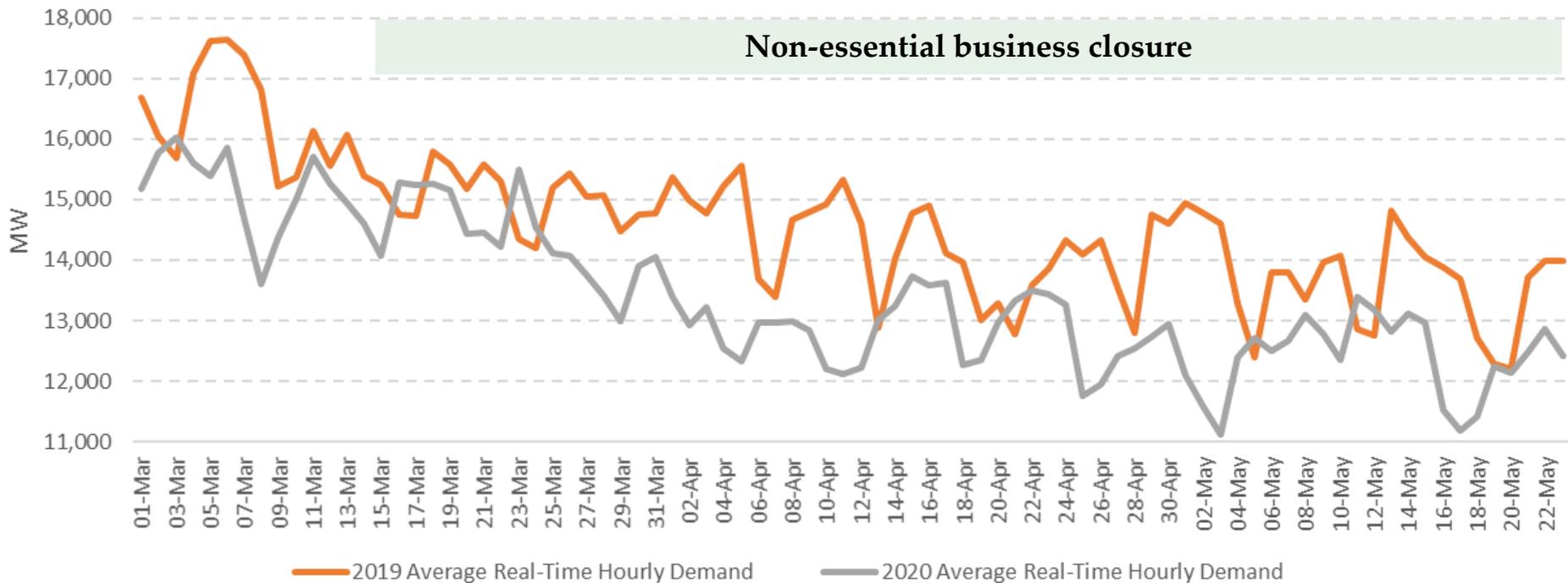
- Intertie trading is driven by electricity price differences between Ontario and its neighbouring markets
- Traders pay (or receive) the Intertie Zonal Price (IZP) that is reflective of the physical limits and competition on that intertie
 - The IZP includes the Hourly Ontario Energy Price (HOEP) and the Intertie Congestion Price (ICP)
 - Traders will compete for the limited intertie capability when there are price differences between Ontario and its neighbours that exceed transaction costs
- As a result of that competition, the IZP may be higher or lower than the Ontario price

Impact of COVID-19

COVID-19 Impact on Demand in Ontario

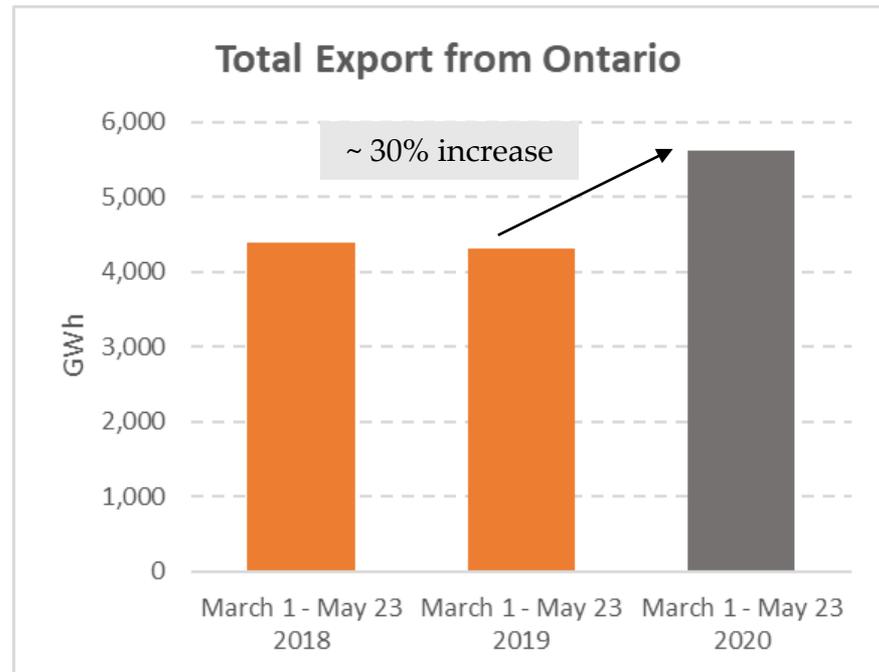
- During March 1 – May 23 2020, the IESO observed that real-time hourly demand in Ontario was on average 7.7% lower than in 2019

Daily Average Ontario Demand
March 1 - May 23 2019 vs March 1 - May 23 2020



COVID-19 Impact on Export Economics

- During March 1 – May 23 2020, total export volume from Ontario increased by ~30% relative to the same period in 2018 and 2019



- Ontario continues to benefit from its dynamic intertie connections during the COVID-19 pandemic as trading delivers economic and reliability benefits as we experience lower demand
- Exports to neighbouring markets have provide a needed market for Ontario's baseload nuclear, hydroelectric and renewable supply

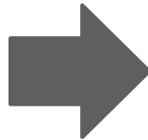
Recap – Previous TRCA Impact Analysis

Impact Analysis

- The IESO has previously presented its impact analysis of a methodology change to stakeholders and the Technical Panel in January and February 2020. The IESO's assessment was based on the two divergent stakeholder views that were expressed with respect to the impact:

Scenario 1:

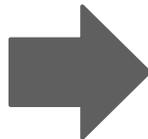
The removal of TRCA disbursements from exporters does not impact trading behaviour.



- If the TRCA surplus disbursement does not impact trading behaviour, there should be no impact to the market including no impact to exports.

Scenario 2:

The removal of TRCA disbursements will impact exporters' trading behaviour.



- If the TRCA disbursement impacts trading behaviour, export bid prices would be increased by up to the amount of the expected future disbursement.
- The IESO performed a simulation to see what would happen if all export bids were reduced by \$1/MWh (approx. historical disbursement amount).

Previous Results of TRCA Impact Analysis

- Under Scenario 2, the results of the IESO's analysis showed that if all export bids were reduced by \$1/MWh, **less than 1%** of exports that were scheduled in 2018 would not have been scheduled
- The analysis indicates that most of the time, the impact is minimal for exporters
 - During these times, average the Intertie Congestion Price (ICP) is usually heavily congested, around \$15-20/MWh*. As such, there remains more economic bids willing to flow than the tie capacity allows for so that a reduction in export bids by \$1 does not impact the volumes
 - Instances when the $ICP < \$1$ are infrequent (~2-3% of the time when congested)
- During times when the intertie is not congested (~40% of exports occurred during times of non-congestion), the IESO analysis shows a small decrease in exports scheduled if export bids are reduced by \$1

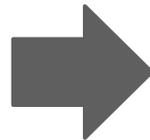
2020 TRCA Updated Impact Analysis

Updated Impact Analysis

- At the request of the TP, the IESO updated the TRCA impact analysis based on recent data for a period during the COVID-19 pandemic

Scenario 1:

The removal of TRCA disbursements from exporters does not impact trading behaviour.

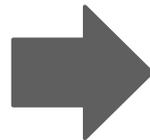


- If the TRCA surplus disbursement does not impact trading behaviour, there should be no impact to the market including no impact to exports.

No update needed

Scenario 2:

The removal of TRCA disbursements will impact exporters' trading behaviour.



- If the TRCA disbursement impacts trading behaviour, export bid prices would be increased by up to the amount of the expected future disbursement.
- The IESO performed a simulation to see what would happen if all export bids were reduced by \$1/MWh (approx. historical disbursement amount).

Updated

COVID-19 Impact on the Intertie Trade

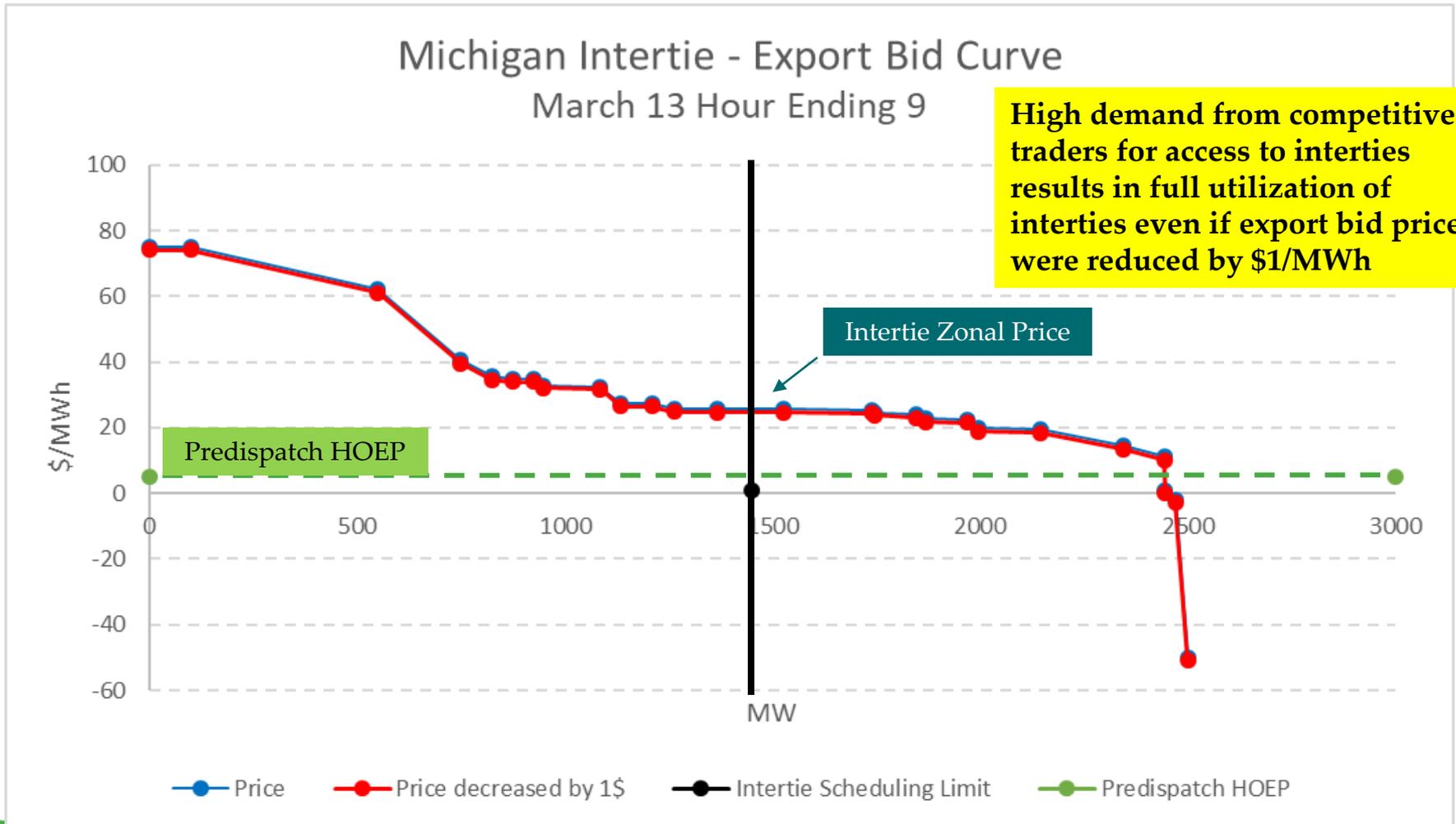
- The IESO analyzed the intertie congestion conditions during March 1 - May 23 2020 (study period), and compared the results to the same period in 2018 and 2019 data
- During the COVID-19 pandemic, total exports have increased by ~30% versus 2018 and 2019 and interties remain highly congested
 - Both Congested and uncongested export volumes have increased relative to 2019 and 2018 (see appendix)
 - On individual interties, all but one intertie (Manitoba) were at or above historical export volume
- Consistent with prior years, almost all intertie congestion rent came from the Michigan (87.3%) and New York (10.3%) interties
 - Average export intertie congestion on the Michigan intertie has decreased from \$21 in FY2018 and \$16 in FY2019 to \$10 over the study period, likely due to generally lower market prices which reduce price spreads

Updated Impact Analysis

Scenario 2 – Will Impact Trading Behaviour

- The IESO re-ran its Scenario 2 impact analysis for the March 1 to May 23, 2020 study period
- The results of the IESO's analysis show that if all export bid prices were reduced by \$1/MWh, less than 1% of exports that were scheduled in March 1 – May 23 2020 would not have been scheduled
 - \$1/MWh TRCA disbursement value was consistent with the TRCA disbursements made in May 2019 and December 2019
- Results are consistent with previous analysis based on the 2018 data

Example – \$1/MWh Price Decrease Impact



Summary

- Intertie trade provides operational and planning flexibility, enhancing the reliability and cost effectiveness of the electricity system
- Exports are playing an important role during the COVID-19 pandemic helping IESO balance Ontario's supply and demand conditions
- If the TRCA disbursement is causing traders to bid higher export prices, the impact of eliminating or significantly reducing the disbursement on exports is likely less than 1% based on recent trading conditions
- Since the results of the impact analysis for the COVID-19 period is consistent with its past findings, the IESO believes that it should continue to pursue its TRCA Market Rule amendments with a November 2020 effective date

Appendix

Export Volume by Intertie

Intertie	Mar. 1 - May 23, 2020		Mar. 1 - May 23, 2019		Mar. 1 - May 23, 2018	
	Total Scheduled Export MW	Congested MW	Total Scheduled Export MW	Congested MW	Total Scheduled Export MW	Congested MW
MBSI	117,365	45,013	183,964	54,237	231,523	93,722
MISI	2,729,520	2,026,022	1,764,362	1,115,180	2,014,281	1,606,073
MNSI	107,602	42,159	129,961	45,063	87,526	52,766
NYSI	2,055,764	449,398	1,725,647	480,325	1,769,701	736,904
PQAT	595,576	56,431	488,827	80,341	261,034	654
PQHZ	18,448	0	25,648	0	32,969	0
Total	5,624,275	2,619,023	4,318,409	1,775,145	4,397,034	2,490,120