IESO Technical Panel Meeting Minutes of Meeting

Date held: May 26, 2020		Time held: 9:00 am]	Location held: Online
Invited/Attended	Sector Representation			Attended; Regrets
Robert Bieler	Consumer		Attended	
Ron Collins	Energy Related Businesses and Services		Attended	
Rob Coulbeck	Retailers or Wholesalers		Attended	
Dave Forsyth	Consumer		Attended	
Sarah Griffiths	Other Market Participant			Attended
Robert Lake	Residential	Residential Consumer		Attended
Phil Lasek	Industrial Consumer		Attended	
Robert Reinmuller	Transmitter		Attended	
Sushil Samant	Generator	Generator		Attended
Joe Saunders	Distributor		Attended	
Jessica Savage	IESO	IESO		Attended
Vlad Urukov	Generator		Attended	
Michael Lyle	Chair			Attended
Observers / Presen	ters			
David Brown	Ontari	Ontario Energy Board		Attended
Gabriel Adam IE		IESO		Attended
Darren Byers IESO)		Attended
Adam Cumming IESC		0		Attended
Robert Doyle IESO		0		Attended
Barbara Ellard IESO		0		Attended
Bryan Hartwell IESC		50		Attended
Sam Jager II		IESO		Attended
Jason Kwok IE		IESO		Attended
Secretariat				

May 26, 2020

IESO Technical Panel

Please report any suggested comments/edits by email to engagement@ieso.ca.



Jason Grbavac	IESO	Present			
Prepared by: Mitchell Beer / Smarter Shift Inc.					

Agenda Item 1: Introduction and Administration

Jason Grbavac, IESO, welcomed participants to the day's all-virtual meeting, went over technical details of the online platform, and conducted a roll call for Technical Panel members and 10 registered observers, including David Brown representing the Ontario Energy Board.

Chair's Remarks:

The Chair said he hoped all participants were doing well through a challenging time and reported that the IESO had transitioned most staff to working from home, in a process that went quite smoothly. The organization has been focusing on the impacts of COVID-19 on the province's electricity demand forecasts, and on shifting its own operations to a virtual format, and will be guided by the advice of health professionals in taking a conservative approach to return-to-office planning.

At its virtual meeting on April 22, the IESO Board approved the minor amendment omnibus previously recommended by Technical Panel.

The Chair reminded participants that a call had been issued to fill two vacancies on the Technical Panel, for renewable generators and energy storage representatives, with nominations set to close May 28.

The agenda was adopted on a motion by Joe Saunders.

The minutes of the Technical Panel's March 3 meeting were adopted on a motion by Robert Reinmuller.

Agenda Item 2: Engagement Update

Jason Grbavac, IESO summarized the prospective Technical Panel schedule in the meeting information package, noting that the June 23 meeting was shaping up to have a full agenda. He said the schedule included the series of quarterly MRP education sessions the IESO had introduced for Panel members, with the aim of providing the right level of detail in anticipation of the Market Rule amendment packages that will be forwarded to the Panel for review in 2021. He reminded members that they're welcome to take part in the formal engagement stream for Market Renewal.

He said the June meeting would almost certainly be held in a virtual format, with the agenda, details, and connection information to follow.

Mr. Grbavac reported that the IESO's new stakeholder engagement framework kicked off with a two-day engagement session May 20-21. The IESO intends to host the engagements monthly with dates set in advance, to make it easier for stakeholders and IESO staff to schedule their time. Not every engagement forum will need to meet every month, he explained, but most if not all sessions will be scheduled within the designated time spans.

Mr. Grbavac said the May engagement sessions went well, covering a list of topics that included the energy storage design project, upcoming changes to the variable generation forecasting tool,

May 26, 2020

IESO Technical Panel

Page 2



and an update on Market Renewal. Each day began with a presentation by a member of the IESO's senior executive leadership team. Mr. Grbavac said the new format seemed to be well received, and the IESO welcomes feedback from anyone who attended. The next engagement series has been scheduled for June 24-26.

Vlad Urukov asked whether it would be possible to change the tabular format for the prospective Technical Panel schedule to indicate the status of each item, as a way of elaborating on the check marks showing when they're scheduled for discussion. Mr. Grbavac welcomed the suggestion, explaining that the original intent had been to keep the table as clean as possible.

Agenda Item 3: Transmission Rights Clearing Account			
Presenter	Barbara Ellard, Adam Cumming		
Action	Vote on whether to post MR-00443, Transmission Rights Clearing Account (TRCA) Disbursements, for broader stakeholder comment		

With this agenda item, the IESO sought a Technical Panel vote to post the proposed Market Rule amendment for broader stakeholder comment, with a view to a vote to recommend June 23, a Board vote August 25, and a November 1 effective date to allow for the next TRCA disbursement to use the new methodology.

Barbara Ellard, IESO, summarized the discussion to date on Transmission Rights Clearing Account (TRCA) disbursements, as well as stakeholder feedback on the issue. She traced the proposed amendments back to the May 2017 recommendation from the OEB's Market Surveillance Panel (MSP) and reviewed the IESO's process since, including the recommendations from Brattle Group and the stakeholder feedback that followed. She said the new methodology the IESO was recommending in light of stakeholder feedback was aligned with the MSP's recommendation that disbursements be allocated based on the proportion of transmission service charges paid, adding that the IESO felt the approach reflected a balance of stakeholder feedback and perspectives. The proposal will first split the TRCA surplus balance to exporter and load classes based on transmission service charges paid. For each class, the applicable TRCA balance will continue to be allocated to individual participants volumetrically.

Some of the IESO's discussions with stakeholders have focused on timing for the new market rule to take effect. The MSP recommended an immediate suspension of future TRCA disbursements pending a change in methodology. The IESO's original proposal to stakeholders was for the new rule to take effect for the May 2020 TRCA disbursement date. After taking the full range of stakeholder feedback into account, Ms. Ellard said the IESO was now proposing a November effective date.

Robert Bieler asked how the allocation between exporters and domestic customers was determined. Ms. Ellard said the original allocation was based on demand, but the MSP had determined that approach was inequitable and led to inefficient trading behaviour.

Mr. Bieler asked whether the allocations would change periodically, based on demand or other factors, and whether it would be possible to adjust the percentages on a dynamic basis

May 26, 2020

IESO Technical Panel

Page 3



depending on market conditions. Ms. Ellard said the new methodology will be pegged to the costs that loads and exporters pay toward the transmission system, so it will have a dynamic aspect. Disbursements will be based on a previous lookback period, so if exporters contribute more over that period, they will receive a greater share.

Mr. Saunders recalled that Brattle Group had recommended 100% allocation of the surplus funds to loads, and asked what motivated the IESO to go a different route. Ms. Ellard said Brattle had sought to address the issue from an equity and efficiency perspective, beginning with the assumption that the entire transmission system, including the interties, exists to serve Ontario customers. Energy traders and other stakeholders pointed out that exporters contribute to the cost of the system, and connected that observation back to the MSP's concerns for fairness. The IESO believes the new approach is responsive to stakeholder feedback and will still lead to more efficient export behaviour.

Mr. Saunders asked whether the transmission system receives exporters' payments in order to remain viable, and Ms. Ellard said system costs are recovered from both domestic and export customers.

Mr. Urukov thanked the IESO for its work on the issue. He recapped the 3,000 to 4,000 MW of additional electricity exports Ontario has seen this spring as a result of the pandemic, noting that generators had helped the IESO avoid any need to dig into a deeper toolbox of more drastic actions to maintain system reliability. While past analysis by the IESO indicated the change to the TRCA would have only a limited impact on the system, he asked whether that conclusion would change under the new reality ushered in by the pandemic.

Ms. Ellard agreed that Ontario derives tremendous benefit from the interconnections it can rely on to respond to different system conditions, and that the pandemic had demonstrated the key role exports can play. But she said the IESO wants to ensure that export bids are efficient, rather than assuming that exports always benefit the system. One of the drivers for the proposed Market Rule amendment was to ensure that the right incentives are in place so that exports bids are as effective as possible. With respect to the present circumstances, she said the precise impact of exports is hard to estimate, but the IESO does not believe the new conditions under the pandemic will shift the previous analysis. She said she would verify that conclusion with colleagues. Mr. Urukov said the unusual circumstances might persist, and would be worth evaluating. Ms. Ellard said the IESO would take his feedback into account.

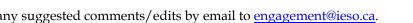
Mr. Bieler noted that a large share of the export transmission service charge falls outside the IESO's control, and those elements of the charge could have an impact on the efficiency of exports. He noted that the Association of Power Producers of Ontario (APPrO) had raised the point in its submission to the IESO. Ms. Ellard agreed, adding that the IESO's goal is to ensure that all incentives drive toward efficient export and trading behaviour. The Transmission Rights Clearing Account is within the IESO's control, she said, both the MSP and Brattle concluded the current methodology was inefficient and inequitable, and the IESO believes the proposed change to the TRCA disbursement methodology based on transmission costs paid is a more efficient and equitable allocation.

While the issue APPrO raises touches on the scope of IESO, Hydro One and OEB's responsibilities, Ms. Ellard said the IESO's proposed methodology would likely result in similar results in both forums, and gets there in an expedited manner.

May 26, 2020

IESO Technical Panel

Page 4





Mr. Bieler asked whether it would be appropriate to delay implementation of the new methodology until the IESO has a full understanding of current changes in the market, and the impact those shifts might have on export behaviour. Ms. Ellard said the IESO had already heard from some electricity traders that the new methodology might have an impact on their bidding behaviour, while others said it would not. She added that exports are usually good for Ontario, especially when demand is down, but it is still important to ensure the right incentives are in place to provide effective bids so that the response to whatever situation the system faces, from line outages to a pandemic, is as efficient as possible. Without proper incentives, there could be an increase in costs through additional commitment costs or congestion management settlement credits (CMSCs). She acknowledged the question about the possible impact of the pandemic, but said the IESO's main emphasis is on efficient and appropriate market incentives under all system conditions.

Dave Forsyth asked how refunds would be distributed to transmission rights holders. Ms. Ellard said the funds were never disbursed to transmission rights holders, and that part of the methodology was unchanged.

Mr. Grbavac invited comments from observers, and David Butters, APPrO, supported Mr. Urukov's point that the pandemic had produced a very significant decline in demand that could persist for some time. On that basis, he said it would make sense to assess the potential impact on exports. Ms. Ellard said the IESO would review the issue, but noted that its interties, particularly the Michigan intertie, was already quite frequently congested before COVID-19, so the results of the analysis the IESO has performed would likely continue to be applicable under current conditions.

Sarah Griffiths asked whether the analysis by the IESO and Brattle Group had looked at a variety of high- and low-demand scenarios. Jason Kwok, IESO, recalled that the analysis shared with Technical Panel in February was based on electricity traders increasing their export bid prices based on the expectation of future rebates. He noted that 90% of the congestion revenue the system collects comes from the Michigan and New York interties, and when those lines are congested, parties on average paid \$15 to \$20 of congestion premium over the Ontario energy price. The analysis showed that if export bid prices were reduced by \$1/MWh, there would be an immaterial impact on exports scheduled. He reiterated that the IESO would rerun the analysis to assess the impact of the pandemic, but based on observed conditions, he forecasted that results would likely be aligned consistent with past analysis.

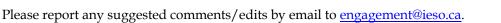
Ms. Ellard said the IESO would return to a future Panel meeting with thoughts on the impact of the pandemic on load demand.

Sushil Samant asked whether the IESO would assess the non-qualitative impacts of exports, including the potential to avoid reliability concerns arising from low demand. Ms. Ellard agreed to bring back a holistic view of the implications for exports, trading, and low demand.

Adam Cumming, IESO, reviewed the proposed amendments to Chapters 8 and 9 of the Market Rules. Mr. Saunders asked how the IESO would set the ratio between the two pools to be set up for domestic customers and exporters. Mr. Cumming said the division of disbursements would be based on transmission service charges over the previous six months. He added that revisions to the Market Manuals would be minimal, consisting mainly of changes to formulas and variables within the rules.

May 26, 2020

IESO Technical Panel





Mr. Urukov said the additional analysis should be included when the proposed Market Rule amendment is posted for further stakeholder comment. Rob Coulbeck agreed the matter needed further discussion before implementation, adding that the methodology should be more aligned with when the transmission rights were purchased and the market conditions at the time.

The Chair invited further comment on the possibility of a delayed decision.

Ms. Griffiths asked whether there would be enough time before the Panel's June 23 meeting both to collect stakeholder comments and review the additional staff analysis before voting on whether to recommend the proposed market rule amendment to the IESO Board. If so, she said the Panel would have the option of sending the proposal out for another round of stakeholder comment if the pandemic-related analysis suggested a significantly different scenario. Ms. Ellard said the additional analysis would be available for the June 23 meeting.

Jessica Savage, IESO, agreed the Panel would have the option of calling for an additional round of stakeholder comment if something substantially new came to light in the analysis.

Mr. Reinmuller said the fundamentals behind the readjustment were sound, and agreed on the need to strike the right balance among the entities contributing to service charges. But he said he understood the concern about pandemic-related changes in the system, and agreed the issue should be reviewed. He expressed support for posting the proposed Market Rule amendment for stakeholder review, on the understanding that there would still be time for the Panel to consider the new analysis before recommending a Board vote.

Mr. Bieler agreed with that proposed process, but noted that the agenda for the June 23 meeting was already full, and that the TRCA issue would take time to fully digest. He also asked whether there was a way to directly solicit the load community's input on the change in allocation shares, even though the issue was fairly complex for consumer to understand. Ms. Ellard estimated the new methodology would increase payments to domestic load from 87% to 98% of the total fund based on historical behaviour, and reiterated that the issue came down to efficiency, equity, and appropriate incentives for trading behaviour.

Mr. Bieler reiterated that it would be important to solicit the load community's feedback, and the Chair said the IESO would collect a range of perspectives. Mr. Urukov said he would support postponing the vote to allow more time for stakeholders to digest the analysis.

The Chair reiterated Ms. Griffiths' suggestion that the Panel vote to post the proposed amendment for stakeholder comment, then decide next steps at the June 23 meeting depending on the analysis received from staff. A Panel member expressed concern that there wouldn't be time to post the new analysis in time for stakeholder review and comment, but that moving ahead without the additional analysis would be inappropriate. Ms. Ellard said the IESO would complete the additional analysis as soon as possible, and reiterated that congestion along the interties would be a consistent feature across the existing and new analyses.

The Chair asked for a motion to post and called for a roll call vote. The motion passed with three opposing votes, as follows:

In favour: Bieler, Collins, Forsyth, Griffiths, Lake, Lasek, Reinmuller, Savage, Saunders Opposed: Coulbeck, Samant, Urukov

May 26, 2020

IESO Technical Panel

Page 6



Agenda Item 4: Reliability-Related Information			
Presenter	Bryan Hartwell, Darren Byers		
Action	Vote on whether to post MR-00444, Reliability-Related Information, for broader stakeholder comment		

Darren Byers, IESO, summarized a series of amendments that he characterized as voluminous in nature but still not material, with no changes in the obligations of Market Participants. The proposed amendments involved modifying the defined term Reliability-Related Information and renaming it Connection-Related Reliability Information, and removing appendices that had become a source of confusion.

Mr. Bieler noted that the appendices referred to the forms of information the IESO requires from Market Participants, and asked whether online systems to collect that information were running and functional. Bryan Hartwell, IESO, said those systems had been running for two to four years.

The Chair invited a motion to post the proposed Market Rule amendment for stakeholder comment. The measure carried on a motion by Mr. Forsyth.

Agenda Item 5: Performance Requirements

Gabriel Adam, IESO, reviewed the proposed market rule amendments on performance requirements, aimed at addressing reliability risks to the IESO-controlled grid arising from shifts in the supply mix and the need to coordinate non-traditional resources with traditional generation. He said the IESO's review of generator performance requirements had revealed opportunities to clarify the language in Appendices 4.2 and 4.3. He explained that while existing systems will be grandfathered, any new resources or significant modifications with final connection assessment dates later than the approved date for the amendments would be subject to the new requirements.

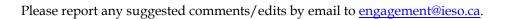
Sam Jager, IESO, reviewed the stakeholder engagement process to date. He said the IESO expected to ask the Technical Panel for a vote at its June 23 meeting on whether to post the recommendation for stakeholder feedback, with the intention of scheduling an August 11 vote on whether to recommend the proposal to the IESO Board.

Mr. Lake asked whether there had been an assessment of the harmonics produced by the inverters attached to small wind and solar energy installations. Mr. Adam said that issue fell outside the scope of the IESO's performance requirements, but expressed support for efforts to address harmonics of devices connected to local distribution companies. Mr. Lake said the federal government used to send inspectors to address interference from inverters, but that issue is now left to LDCs to address. Mr. Reinmuller referred Mr. Lake to the Power Quality page on the Hydro One website for information on IEEE and CSA standards for harmonics.

Ms. Griffiths said she'd heard from stakeholders who were concerned about coordination and alignment between the IESO, CSA, and the OEB, noting that an OEB technical sub-group was currently working on interconnection issues. She asked whether it was necessary to complete the IESO's work on the issue over the next few months, while it is also before the OEB. She also

May 26, 2020

IESO Technical Panel





asked whether an issue pertaining to non-wholesale, distribution-related projects fell more appropriately under CSA jurisdiction.

Mr. Reinmuller asked whether the new provisions on inadvertent tripping and out-of-zone requirements would apply to behind-the-meter generators, as well, to ensure that large amounts of load don't unexpectedly show up on the system. Mr. Jager said they would, since large amounts of equipment tripping further into the system would have an impact on transmission.

Mr. Reinmuller noted the provision for grandfathering and called for more clarity on the definition of a significant replacement. He stressed the importance of replacing obsolete equipment and adhering to new requirements in the interest of grid safety and security. Mr. Jager agreed to take the point into account, noting that it would be addressed in more depth in the Market Manuals.

Mr. Saunders noted that smaller generators still have an impact on distribution systems, and asked whether the amendments would address that aspect of the issue. Mr. Adam said the change in requirements should have no impact on distribution as long as the transmission system remains secure.

Agenda Item 6: Operationalize Revised Terms of Reference

Robert Doyle, IESO, reviewed and reported back on the four major points to be covered in operationalizing the Technical Panel's revised terms of reference: composition, re-establishment of staggered terms, members' expanded role in setting meeting agendas, and the process for posting draft market rule amendments for stakeholder comment. He reported that the two vacancies on the Panel had been posted, underscored the importance of staggering to ensure continuity among Panel members, noted that the IESO had introduced the practice of circulating draft Technical Panel agendas for members' review and comment, and cited the day's discussion on the Transmission Rights Clearing Account as an example of a robust process for posting draft amendments.

Jason Grbavac, IESO, said he would continue to be the conduit for Technical Panel members' interactions with the organization, and for ensuring the Panel process meets their expectations.

Agenda Item 7: Other Business

There was no other business. The Chair thanked members for a very effective and successful virtual meeting, and invited feedback on how to improve the process. He said it had been great to hear everybody's voices, and that he looked forward to talking again in June.

The meeting adjourned at 11:14 AM.

May 26, 2020

IESO Technical Panel



