

Minutes of the IESO Technical Panel Meeting

Meeting date: 22/March/2022
Meeting time: 09:00 a.m.
Meeting location: Video conference

Chair/Sponsor: Michael Lyle
Scribe: Mitchell Beer / Smarter Shift Inc.

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

Invitees	Representing	Attendance Status Attended, Regrets, Teleconference
David Brown	Ontario Energy Board (Observer)	Attended
Jason Chee-Aloy	Renewable Generators	Attended
Ron Collins	Energy Related Businesses and Services	Attended
Rob Coulbeck	Importers/Exporters	Attended
Emma Coyle	Market Participant Generators	Attended
Dave Forsyth	Market Participant Consumers	Attended
Sarah Griffiths	Demand Response	Regrets
Jennifer Jayapalan	Energy Storage	Attended
Indra Maharjan	Market Participant Consumers	Attended
Nektarios Papanicolaou	Market Participant Consumers	Attended

Invitees	Representing	Attendance Status Attended, Regrets, Teleconference
Forrest Pengra	Residential Consumers	Attended
Robert Reinmuller	Transmitters	Attended
Joe Saunders	Distributors	Attended
Vlad Urukov	Market Participant Generators	Attended
David Short	IESO	Attended
Michael Lyle	Chair	Attended
Secretariat		
Agatha Pyrka	IESO	Attended
IESO Presenters		
Vipul Agrawal		
Tim Cary		
Jo Chung		
Robert Doyle		
Cary Ferguson		
James Hunter		
Khaqan Khan		
Jessica Tang		

Agenda Item 1: Introduction and Administration

Agatha Pyrka, IESO, welcomed participants and reminded them of standard logistics for an online meeting.

Chair's Remarks:

The agenda was approved on a motion by Forrest Pengra.

The minutes of the last meeting were approved on a motion by Robert Reinmuller.

The Chair noted that the Province of Ontario has been removing COVID-19 meeting restrictions and said he looked forward to holding the Technical Panel's April 19 meeting in person at the IESO's offices in Toronto. Panel members will have the option of participating online, and observers will be required to attend virtually. With the panel returning to an in-person format, he said there would be some value in addressing a couple of items in-camera during the April meeting, providing members an opportunity to focus on the Market Renewal process, any lessons learned from the work so far, and Panel members' feedback on how the IESO can better support them in carrying out their responsibilities.

The Chair recalled previous discussions where Panel members had expressed interest in having greater access to the Markets Committee of the Board. He said the Markets Committee had expressed openness to the idea, and details of that discussion will be shared during the in-camera session.

Jason Chee-Aloy supported the proposal for an in-camera session and thanked the Chair for the positive news from the Markets Committee.

The Chair recalled the request that he communicate with the IESO's Market Assessment and Compliance Division following the discussion on intertie flows at the February meeting. The Chair said Panel members' background packages included the resulting letter to Glenn McDonald, Vice President, Market Assessment and Compliance, adding that the topic would be on the agenda for the April meeting.

Agenda Item 2: Engagement Update

Ms. Pyrka drew participants' attention to the Prospective Technical Panel Schedule and recapped the upcoming items on the calendar. She noted that an item on improving accessibility of operating reserve was back on the schedule after being postponed due to implementation concerns, and would be brought back in revised form during the upcoming March engagement days.

Vlad Urukov asked why implementation concerns with the item had only come up toward the end of the process. Ms. Pyrka said the IESO would address that issue at a future meeting, and that the discussion at the March session would be recorded.

Agenda Item 3: Market Renewal Project

Jessica Tang, IESO, recapped the reasons for market power mitigation and the engagement process on the topic that had taken place so far. Locational marginal prices should be reflective of actual market conditions, in order to send the correct short- and long-run price signals, and the risk of market power significantly changing those signals makes market power mitigation a key building block to ensuring efficient market outcomes.

Ms. Tang reviewed the process to date on the market power mitigation batch, including three comment periods, 269 comments received and addressed since August, multiple resulting changes to language in the market rules and market manuals, and a delay in the provisional vote to recommend

to allow for further discussion and scenario walk-throughs. IESO staff have worked with stakeholder groups and participated in many one-on-one conversations to ensure Panel members and others had a good understanding of the design. Ms. Tang said that intensive process had delivered an excellent set of governing documents and thanked everyone who actively participated in helping to deliver a better end result.

Ms. Tang clarified one point from the discussion at the February meeting, noting that the proposed mitigation of offer laminations would only provide for the IESO to replace offer laminations that are higher than the relevant reference level lamination. All other offer laminations from that participant would remain in effect. This point was illustrated in an example posted for the Technical Panel.

She reminded the Technical Panel that the day's provisional vote would be based on the information currently in hand, and the provisional recommendation process would allow for the decision to be revisited based on material brought forward in future batches.

In response to stakeholder comments received in advance of the meeting, James Hunter, IESO, summarized comments he had made at the previous Technical Panel meeting, stating that the proposed Independent Review Process (IRP) set out in the market power mitigation rules would not be an adjudicative process, but would consist of engaging a reviewer to provide an independent assessment of reference quantities and reference levels. He noted that in stakeholders comments received subsequent to those comments, concerns had been expressed with respect to the value of the IRP, given its intended purpose and scope. He also noted that a related concern had been expressed that there was a lack of certainty in the process, based on his comment at the February meeting that two reasonable experts could reach different conclusions without either of them misapplying a rule.

On the first point, Mr. Hunter said the proposed process would benefit a market participant that disagreed with the IESO's determination of a reference quantity or reference level by providing an opportunity for participants to seek and receive alternative reference values and reference quantities, without going into a time-consuming dispute resolution process that hinged on identifying and providing that a market rule that had been misapplied by the IESO.

On the second point, Mr. Hunter said that it is a routine feature of disputes that parties engage their own experts who present competing information. So different consultants engaged as independent reviewers might indeed reach different conclusions based on the same set of facts. In the case of IRP, procedural certainty is not dependent on all experts agreeing, but from the market rules requiring the IESO adopt the independent determination of the reviewer, subject to limited exceptions.

Emma Coyle thanked Mr. Hunter for his comments but asked what recourse a market participant would have if it believed an independent determination left it with a perceived financial loss resulting from operating in the market with lower reference levels than would have been the case had the IESO adopted the higher reference levels without use of the Independent Review Process, and whether the dispute resolution process would have a mechanism to recover those perceived losses. Mr. Hunter said the IRP would always be a prospective process, with no recovery mechanism, whereas dispute resolution is an adjudicative process in which the arbitrator has access to the ordinary scope of remedies.

Tim Cary, IESO, traced the process for consultation on reference levels and reference quantities, noting that the approach enabled the market participant to control the amount of work involved. Submissions can range from a single email to a more extensive series of documents filed via the IESO's online portal, with each market participant deciding the optimal approach for their circumstances. He added that the process would not just be about sending the IESO a collection of invoices: it was intended that participants use the building block of each supporting document to build up the reference level they wanted to request, and that they provide sufficient supporting explanation to enable the IESO to understand the connection between the documentation submitted and the request it was meant to support.

To date, Mr. Cary said the IESO had completed stakeholder consultations on the process for wind, solar, and nuclear, and had initiated it with the other classes of market participant in the system. He said the IESO would continue working with market participants to address substantive questions, through a flexible process designed to be responsive to their needs.

Ms. Coyle asked how quickly a market participant could expect reference levels to be resolved or set. Mr. Cary said the participant would be able to determine the amount of work load associated with a reference level consultation. Ms. Coyle asked if the short-run marginal cost would be the only reference level that a market participant could request. Mr. Cary said a request could also fall below the marginal cost as indicated under the draft market rules, a choice that could significantly reduce the administrative effort.

Ms. Coyle asked whether requesting reference levels below a resource's short-run marginal costs would affect a market participant's ability to recover its short-run marginal cost if they have the potential to be the marginal resource in a frequently constrained zone. Mr. Cary said the IESO would use the reference level that was registered for the resource, and that it is not possible to anticipate the specific outcome or its impact on the participant's operations. He said it would ultimately be in the hands of each market participant to determine what was useful to them in terms of which costs to submit for inclusion in a reference level.

Ms. Coyle asked whether the review of supporting documentation for a reference level consultation would be conducted by internal or external staff. Mr. Cary said the IESO currently retains Hatch to provide engineering services to support reference level consultations, but there has been no discussion on the long-term course for those services.

Mr. Chee-Aloy asked for a status update on the discussions of reference levels and reference quantities for hydro, gas, and dispatchable load. Mr. Cary said the detailed consultations were confidential but offered to supply some insights on the discussion. On dispatchable loads, he said there had been no notable disagreements or insurmountable issues. Discussion with hydropower participants had focused mainly on opportunity costs. The IESO published the initial opportunity cost design in August, 2020 in the written guide. Since then, the IESO has continued to discuss the opportunity cost design with the hydro community and that the opportunity cost design has seen material improvements due to the high level of engagement from the hydro community. He stated that the IESO continue to be open to discuss specific points on the opportunity cost design going forward.

On gas consultations, he said he'd seen no significant variances between the positions of market participants and the IESO, and there had been opportunities to discuss and move toward principled

solutions when disagreements arose. Mr. Cary noted that the whole concept of *ex ante* mitigation is new to the Ontario market and significant, but he affirmed the IESO's commitment to engage with stakeholders and work through the issues.

Ms. Tang reinforced that the IESO had started consultations on the issue early on and would not be shutting the door on any outstanding issues.

Mr. Cary agreed that reference level consultations could be a long process. Participants have the ability to modulate or calibrate the level of effort, but in the end the task of determining short-run marginal cost would be a significant piece of quantitative work. He said the IESO had worked hard to make sure all participants in the discussion understood what would be required and had sequenced its interactions with different parties to keep on improving the publicly available materials. Mr. Cary stated that the IESO has also worked with market participants to identify ways to make the consultation process more efficient and that there have been a significant number of simplifications that have been communicated already. He stated that the IESO is open to discussing more possibilities to simplify the process where there are reasonable opportunities to do so.

Ms. Tang recalled earlier discussion at Technical Panel about market manual provisions that would allow Market Participants to supply different levels of supporting documentation for reference levels depending on what was available to market participants. She said updates were still under way to reflect stakeholder feedback, but the provisions, as drafted today, already allow for significant flexibility on documentation requirements.

Jennifer Jayapalan said the IESO's documentation and supporting materials around fuel costs had not always been relevant for Market Participants in the storage community and asked whether that language would be updated. Mr. Cary said the IESO would take every opportunity to improve the documentation, with one-on-one consultations being one of the mechanisms for feedback on the draft market manuals.

Ms. Jayapalan said storage providers had spotted difficulties with concepts as well as language, noting that references to charging cost methodologies in the market manual and average monthly charging costs failed to reflect changing costs for a storage resource. Mr. Cary said the IESO would welcome further discussion on ways to improve the reference level calculation for energy storage resources to more accurately reflect short-run marginal costs, and always assesses specific comments and takes action on them as appropriate. He added that the reference level consultation process is meant to be a tool in the toolbox for Market Participants to use to refresh their reference levels as needed to reflect current conditions, updating their reference levels when they feel it's appropriate. He said the IESO was still in process of carrying out reference level consultations for energy storage resource and remained interested in Market Participants' views on the best approach to the storage-related content in the market manual.

Ms. Coyle asked whether the IESO was still planning to maintain a roster of qualified independent consultants for IRP assignments, as it indicated in earlier stakeholder engagements. Mr. Cary said that was still the intent. Ms. Coyle said that process was not reflected in the market rules and asked whether the list would be established via RFP. Mr. Cary said appropriate details regarding the process for establishing a roster of independent consultants for the IRP would be included in the market manuals.

Mr. Reinmuller acknowledged the extensive stakeholdering the IESO had undertaken for the market power mitigation batch and said the process was moving in the right direction. But he noted that the IESO was continuing to add new material to the market manuals and asked at what point it would be possible to draw a line and move on to the next batch of proposed market rule amendments.

Ms. Tang said the IESO had provided a high-level summary of the market manual content to support the vote on the proposed market rule package and would bring the draft market manuals to engagement days for further discussion, then post them for stakeholder review. She said the review of market manual content related to reference levels and reference quantities is on-going with reference level consultations and may not conclude until closer to the go-live date for Market Renewal, and the IESO intended to be flexible and transparent about revisions throughout that process. Mr. Cary added that the market manual material was intended to provide more detail and transparency on the framework but would not require changes to the proposed market rules on which Technical Panel members were about to vote.

Mr. Urukov said many of the IESO's responses to stakeholder questions promised further information at a later date and recalled an earlier commitment that any substantive rule changes embodied in market manual amendments would be visible to Technical Panel. He asked whether any of the revisions fell into that category and also queried the visibility of items referred to the parking lot.

Ms. Tang assured Mr. Urukov that the IESO is maintaining the parking lot and noted she would bring it to a future Technical Panel meeting. She said its purpose was to keep track of any concerns or questions to be addressed in future batches of market rule amendments, and that nothing had recently been added to the list since Batch 1. She said her previous comment had referred to transparency around the content of the market manuals, not any change in market design that might constitute a parking lot issue. Mr. Urukov disagreed, given specific references to content in future batches, and suggested that material qualified for the parking lot. Ms. Tang said the IESO did not expect the market rules to change as a result of the updated market manuals.

Jessica Savage recalled that the IESO had committed to providing greater visibility on market manual content required to support market rule amendments, following the 2018 report of the Advisory Committee on Governance and Decision-Making. One of the recommendations from that report was to provide certain market manual content along with the draft market rule amendment language to stakeholders for review as part of the engagement process. She said today's discussion demonstrated that the IESO is continuing to engage stakeholders on both the market rules language and market manuals where the content of the manuals will continue to evolve in this case. She said the current batch of proposed market rule amendments would provide a framework for continuing discussion on the content of the manuals and reminded members that the vote would be provisional, open to review as the Market Renewal process continues.

Mr. Cary said the most recent round of stakeholder feedback had produced two questions or comments where the IESO's response was a commitment to engage in later discussion that would require publication of the settlements batch. He said he was pleased to commit to addressing those comments at that point. Ms. Tang said that commitment would be added to the parking lot (OPG 90 and APPRO 102 from March 2022 comments).

Ms. Coyle asked whether the IESO intended the reference level process to produce a market where prices reflect something less than the marginal generator's marginal cost. She said that might be the

outcome if the administrative burden of the process made it too burdensome for that generator to gather the evidence to demonstrate their true marginal cost. Mr. Cary said the IESO's intent was not to set market prices at particular levels, but to prevent inputs that are not reflective of short-run marginal costs in cases where an entity has market power. Prices are determined based on a multiple inputs to dispatch optimization software. Market Participants have the ability to calibrate their own level of effort devoted to the reference levels which is one of the inputs that determines prices. He said the objective of the market power mitigation batch was not to produce specific prices, but to maintain price fidelity when Market Participants have market power.

Ms. Coyle said she appreciated the point but wasn't sure it addressed the administrative burden Market Participants could have to bear and how their choices of what costs to include in their reference levels could affect market prices. She expressed that she had significant concerns about the framework with respect to detailed design where Market Participants need to balance the administrative burden and setting reference levels to reflect short-run marginal costs.

Ms. Tang cited the IESO's acceptance of Market Participants pre-approved value documentation from the real-time generator cost guarantee program as supporting materials for a reference level consultation as an example of the IESO's efforts to help stakeholders find time savings. Not all participants find the process burdensome, she said, and the IESO team is working with them to find efficiencies, time savings, and alternatives in situations where documentation isn't readily available or equipment is too old for the documentation to be relevant. She said it wasn't fair to suggest the process is burdensome for every participant.

Ms. Coyle said her statement was that it would be improper to ask a Market Participant to alleviate the burden of the process by accepting a lower reference level. Ms. Tang said that the IESO was not asking market participants to do so, doing so would be the participant's choice, adding that the IESO would be prepared to offer flexibility to ensure different stakeholders had sufficient time to avoid unwanted trade-offs.

Ms. Coyle said her concern was with the framework itself, not with the way it would be implemented. She said the Technical Panel is responsible for ensuring the market rules endure and are consistent with the market design, rather than relying on the intentions of individual IESO staff. Mr. Cary replied that the current market rule set clearly permits market participants to request reference levels below their short-run marginal costs, and there was no intent to use administrative burden in a punitive manner to influence market participants to request lower reference levels. The IESO's objective was to ensure that only costs that are substantiated are permitted into a reference level.

Ms. Jayapalan asked what items were currently in the parking lot. Ms. Tang said the current list included:

- Definition of resource, as it will relate to energy storage, to be revisited following the introduction of specific defined terms and provisions related to energy storage, currently under development for a future batch;
- Definition of shared daily energy limit, to be further assessed in light of its application in the final batch (Offers Bids and Data Inputs/Grid and Market Operations Integration);
- Interaction between capacity auction energy market participation requirements and DAM participation, to be further assessed in light of its application in the final batch.

The Chair invited further comments and questions. There were none.

The Chair said IESO staff were aware of other ongoing concerns with the package of market rule amendments and invited further comments ahead of the vote to provisionally recommend.

Mr. Urukov said the function of the Technical Panel was to render an opinion on the sufficiency and completeness of a proposed rule set, and the parameters toward its intended goal. That role requires sufficient visibility to get a comprehensive sense of a rule's impact, hence the decision in 2018 to make market manual content more accessible for Panel members' review. In the current discussion, he said quite a few relevant items were still "in motion" and not yet complete, citing the IESO's response to OPG 34A which indicated that the IRP was still under development. He said that comment showcased the importance of the market manuals in providing sufficient comprehension of the proposed amendments and their impact.

Mr. Urukov added that the limited time available for Technical Panel members to process the large volumes of revisions makes it more difficult to get a level of comfort with the content.

Mr. Urukov also noted that the discussions on hydro and non-quick start generators, the resources most likely to face burdens related to reference levels, were not yet at a stage where the degree of risk they face could be assessed. Without that understanding, he said, Panel members were still left with insufficient information to assess how well the new system would work.

Mr. Chee-Aloy said he could understand why the Market Renewal process focused on market power mitigation before taking up batches on scheduling, dispatch, price information, and settlements, but the result was that the sequencing was off. He agreed with Mr. Urukov that the lack of operational detail made it difficult to assess the efficacy of the MPM framework. For example, in the northern part of the system, the combination of transmission constraints, lots of hydro resources, and water scarcity might make it perfectly reasonable for hydro resources to submit high offer prices to avoid getting dispatched. But for a northern facility located behind a constraint that was frequently tested, the reference price could be much lower than the high offers used in today's reality, resulting in a different kind of administrative burden for the generator when they were mitigated. A hydro generator that was likely to be mitigated would have different incentives to avoid offering supply that it used to offer at high prices, but that might trigger concerns that they were withholding operating reserve. To fully understand that scenario and assess the implications for market power mitigation, stakeholders would need more information on scheduling, the mechanics of the commitment process, and prices.

Mr. Chee-Aloy observed that the proposed market was largely predicated on U.S. designs but noted that those markets that use the conduct and impact methodology have less hydro generation than Ontario. He said the MPM discussion had raised concerns within the hydro community that would likely be repeated as the Market Renewal process proceeds through additional batches.

Ms. Coyle said the concerns about the Independent Review Process were serious enough to undermine the good work the IESO had done on market power mitigation.

Ms. Jayapalan said it was difficult to understand how all the pieces of MRP would play out and agreed the IESO may have presented the batches in the wrong order to provide a clear, end-to-end understanding of how market power mitigation would interact with markets and scheduling, calculation engines and settlements. She added that storage hasn't been contemplated yet and that it

was therefore challenging to look at this framework and ask whether it made sense for storage, and how storage resources will be able to offer into the market. With the final design documents published just 10 days after the interim storage design went live, Ms. Jayapalan said there had been no opportunity to contemplate how energy storage will change the market as it becomes a much more significant player.

Mr. Papanicolaou asked, within the context of the examples presented at the last meeting, whether any of the stakeholder comments received since the February Technical Panel meeting had changed the way reference levels or other concerns would be addressed through the calculation engines. Ms. Tang said there had been no changes, adding that the purpose of the examples presented at the previous meeting had been to help Technical Panel members understand the design implications of market power mitigation and how it would work. She acknowledged the difficulty of voting on the current batch of rules without seeing how the whole system will fit together in the end but reminded members that that was the reason for making votes to recommend provisional.

Mr. Reinmuller said he saw the current batch as a vision statement that Technical Panel was being asked to substantiate and support via a provisional vote to recommend, with feedback loops later in the process to clarify or clean up information as it became clear. He agreed with other Panel members that the implications of the vote were not 100% clear, but said he understood the direction the process was taking.

Following a short break, the Chair conveyed the staff position that there was value in seeking a provisional vote to post, and in surfacing Panel members' views and rationales to inform the in-camera discussion coming up in April. He invited members to supplement their remarks via email to Agatha Pyrka.

On a motion by Mr. Reinmuller, the Technical Panel voted to provisionally recommend the market power mitigation batch for approval by the IESO Board.

In favour: Mr. Collins, Coulbeck, Forsyth, Papanicolaou, Pengra, Reinmuller, Saunders, Short

Against: None

Abstained: Mr. Chee-Aloy, Ms. Coyle, Griffiths, Jayapalan, Mr. Urukov

Absent: Mr. Maharjan¹

The Chair said the in-camera session in April would provide an opportunity to consider next steps in light of the number of Panel members who abstained on the vote.

The Chair invited members to state rationales for their votes.

Mr. Papanicolaou said the outcomes of the examples provided the previous month had been satisfactorily explained, and despite some remaining concerns, he had voted to provisionally recommend knowing there would be further opportunities to resolve any issues that emerged in the future at a later time.

Mr. Pengra said he had voted to recommend on the understanding that the feedback loops later in the Market Renewal process would be fully realized, and any additional questions that come up will

¹ Mr. Maharjan voted to provisionally recommend the market rule amendments to the IESO Board.

be addressed. He said he appreciated the IESO's response to his question on the impacts for residential consumers.

Ms. Coyle said she had abstained on the vote because she thought the IESO had not provided the Technical Panel with enough information to make a decision. With significant concerns still outstanding, she said she had concerns that the intent of the detailed design where prices reflect resources offered at marginal cost was not reflected in the drafting.

Mr. Chee-Aloy thanked the IESO staff for their work on the MPM batch and their response to the Technical Panel's request for illustrative examples, and the provision of a tracked changes version of market rule amendments. He observed that market power mitigation was a new element for the Ontario market, bringing major potential impacts for operations and generation along with uncertainties for some parts of the grid. He said he had abstained for three reasons:

His concern that generators needed more information on how units would be scheduled, priced, and settled, and how mitigation would be applied, given the reality of an *ex-post* element via physical withholding. Mr. Chee-Aloy said the example of water scarcity for some hydro generators illustrated the need for further detail on operational issues, from the day-ahead time frame through to real-time dispatch, to get a better sense of whether the MPM rules would be effective and fair;

There are challenges involved in establishing reference levels and reference quantities, including additional market rule changes if needed as the reference level consultation process itself becomes more clear;

Aspects of the IRP that appear to be unfair, with a lack of clarity on Market Participants' recourse, the application of the rules and triggering of the dispute resolution process, and the fact that the IESO could still reject the findings of an independent consultant under certain conditions.

Ms. Jayapalan said she had abstained since fundamentally, the intention of MRP is to build a better economic dispatch engine, with the MPM framework supporting prices that reflect true market conditions. She said she supported that direction but could not at this time conclude that the rules as written reflected the intent, nor that they created conditions where energy storage could participate effectively.

Mr. Urukov thanked the IESO for its responses to Panel members' questions but said he had abstained on the vote due to his fundamental concerns about the sufficiency of the information provided, and the lack of a full picture of MPM and interactions within MRP. He cited reference levels and how they are set as an important input in the assessment and the frequency of triggers and stress tests required to ensure the system works as it is supposed to, and on the risk of putting Market Participants against themselves on some cost-related issues if there were lots of requests to use the IRP at the same time, so that the IESO had to determine which market participants could use the IRP at a time. He said resolution of some of the items still listed in the parking lot would provide a more complete picture of how the new system would work.

Robert Reinmuller reiterated his understanding of the final procedural steps and building blocks that will make up the final Market Renewal process. He said he had heard the IESO articulate a continuing effort to consider feedback and adjustments to the process and expressed confidence that Market Renewal would reach the right conclusions, notwithstanding some aspects that were not yet clear.

Mr. Coulbeck supported Mr. Reinmuller's position and noted that the vote to recommend is provisional. He appreciated outstanding issues from the generation community, such as important details related to hydro-electric generators, but said it was important to move the MPM batch forward and proceed to the next stage.

Mr. Forsyth supported the two previous statements and said since the vote to recommend is provisional, he had supported the motion in the interest of moving forward.

Mr. Collins said he had voted to provisionally recommend and complimented the IESO for its work on the framework, but echoed concerns that some definitions and processes will have to be fleshed out with more certainty.

Mr. Saunders said he had supported the motion because it was a provisional vote and he wanted to keep the process moving forward. He said he would be attentive to the way the IESO handled the issues and concerns that were still were still outstanding.

Mr. Short reiterated earlier comments that the vote had been provisional, and that the proposed market rules were directionally correct. He said the role of the Technical Panel was to ensure the rule language met the intent of the design, and that the proposed amendments met that bar. He recalled that the IESO had worked effectively with stakeholders to develop market power mitigation rules that would work, had responded in a fair and comprehensive manner to hundreds of incoming comments, and had committed to further stakeholdering. With staff's assurance that the rules provided sufficient grounding for the market manuals to lay out the details, he said he looked forward to further consultations as well as the Technical Panel session in April.

The Chair shared Sarah Griffiths' rationale for her abstention, in which she explained that the process to date had left many questions from Market Participants unanswered. The Chair invited Panel members to submit written rationale by the end of the week to Ms. Pyrka.

In light of the outcome of the vote, Mr. Chee-Aloy asked what steps IESO management was planning to bring the proposed amendments forward to the IESO Board. The Chair said the IESO would not proceed to a vote of the Markets Committee or the Board prior to the in-camera discussion in April.

Agenda Item 4: Updates to Synchronphasor Monitoring Requirements

Robert Doyle, IESO, stressed the importance of enhancing situational awareness to maintain reliability and resilience across the system. He reviewed the stakeholder process on synchronphasor monitoring requirements dating back to Q2 2020, including discussions with larger market participants that will see the greatest impacts from the proposed market rule amendments, and said their feedback had been incorporated in the revised versions. With general support for the direction of the project, he said Technical Panel members would be asked to vote on whether to post the draft amendments for further stakeholder review and comment.

Mr. Reinmuller suggested the IESO articulate the timing and implementation plan for the new requirements at the beginning of stakeholdering, to allow market participants sufficient time for implementation. Given the large volume of data to be collected, he suggested encouraging stakeholders to look very carefully at the language of "required measurements", to ensure the requirements are understood by all.

Mr. Urukov noted the longstanding effort on synchrophasor monitoring and thanked the IESO for its effort and willingness to listen.

Khaqan Khan, IESO, thanked Panel members for their comments. He noted that in response to previous stakeholder feedback, the proposed market rules include a commitment from the IESO to work with market participants to develop mutually agreed implementation plans. Mr. Khan also pointed out that the specific measurement requirements are noted in the proposed market manual that was shared with market participants during stakeholdering.

There were no further questions or comments from Technical Panel members or observers.

On a motion by Mr. Urukov, the Technical Panel voted to post the proposed market rule amendments for stakeholder comments for two weeks.

Agenda Item 5: Enhancements to the 2022 Capacity Auction

Vipul Agarwal, IESO, introduced the education item on enhancements to the 2022 capacity auction. He traced the evolution of the auction process, pointing to the tight supply and reliability issues expected in the years ahead and the IESO's desire to maintain a sufficient level of competition among resource types. He presented proposed enhancements in three areas: capacity qualification, performance assessment modifications, and expanded participation from generator-backed capacity imports.

Mr. Urukov asked what would constitute fair treatment of different resource types. Mr. Agarwal said one measure would be the extent to which the IESO could count on the peak capacity of a qualified resource (UCAP) while accounting for the characteristics of different types of resources. He cited two unique characteristics of the hourly demand response (HDR) participation framework: the price trigger for the requirement to maintain energy market bids, and the limited availability for historical data.

Ms. Jayapalan noted the continuing stakeholdering the IESO had undertaken on the application, scope and magnitude of the availability standby charge and asked what changes were under consideration. Mr. Agarwal said initial stakeholder feedback indicated that the higher availability standby charge the IESO had originally proposed might be too onerous and produce unintended consequences for HDRs, prompting staff to consider measures to review the magnitude of the charges or limit the scope to peak periods while ensuring the overall design objectives are still met. He said those details would require further internal discussion before the IESO could put forward a proposal. There was certainty on the need for a standby availability charge as an incentive for HDR to self-qualify, and Mr. Agarwal said details on magnitude and scope would be subject to stakeholder discussion in advance of a proposed vote to post.

Mr. Urukov asked whether capacity imports from NYISO would also be subject to capacity qualification. Mr. Agarwal said they would, via a methodology to ensure that the resource historic availability from the other jurisdiction was reflected in the UCAP.

There were no further questions on the presentation.

Other Business

There was no other business.

The meeting adjourned at 12:03 PM. The next meeting will be held on April 19.

Action Item Summary

Date	Action	Status	Comments
February 15, 2022	Technical Panel members asked for a MACD review of if the MR-00468 proposed market rule amendments met the intent of the design.	Open	A letter from the Technical Panel Chair is posted to the Technical Panel webpage.
February 15, 2022	In relation to MR-00472 – Replacement of the IESO Settlement System, the IESO will provide rationale as to why a 23-month review period, rather than two years was specified.	Open	
March 23, 2021	In relation to MR-0448-R00 market rule amendments, the IESO will periodically review the availability of error and omissions insurance for negligence.	Open	Update provided during November 2021 TP meeting.