

# Minutes of the IESO Technical Panel Meeting

Meeting date: 18/January/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](mailto:engagement@ieso.ca).

<b>Invitees</b>	<b>Representing</b>	<b>Attendance Status</b> <b>Attended, Regrets, Teleconference</b>
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	Attended
Jennifer Jayapalan	Energy Storage	Attended
Indra Maharjan	Market Participant Consumers	Attended
Nektarios Papanicolaou	Market Participant Consumers	Attended
Forrest Pengra	Residential Consumers	Attended

<b>Invitees</b>	<b>Representing</b>	<b>Attendance Status Attended, Regrets, Teleconference</b>
Robert Reinmuller	Transmitters	Attended
Joe Saunders	Distributors	Attended
Vlad Urukov	Market Participant Generators	Attended
David Short	IESO	Attended
Michael Lyle	Chair	Attended

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### **Secretariat**

Agatha Pyrka	IESO
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### **IESO Presenters**

Tim Cary

Jo Chung

Cary Ferguson

James Hunter

Jessica Tang

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## **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 Chair wished everyone a happy new year and proceeded directly to business.

The meeting agenda was adopted on a motion by Joe Saunders.

The minutes of the last meeting were adopted on a motion by Jason Chee-Aloy.

## Agenda Item 2: Engagement Update

Ms. Pyrka observed that the Prospective Technical Panel Schedule was getting busier. She highlighted items that had been moved around to help balance the work load, adding that the changes would have no impact on the effective date of proposed Market Rule changes.

She reported that responses to stakeholder comments on intertie flow limits had been posted, with a vote to post scheduled for February and a vote to recommend anticipated in March.

Updates to synchrophasor monitoring requirements were the subject of an education session at the December Technical Panel meeting, with a vote to post anticipated in March ahead of a vote to recommend in April.

An education session on a replacement for the IESO settlement system is scheduled for February, ahead of a vote to post in March, a vote to recommend in April, and an intended go-live date in Q4.

An education session on enhancements to the 2022 capacity auction is scheduled for March, leading to a vote to post in April, and Ms. Pyrka said the topic would be included in the resource adequacy engagement during February Engagement Days.

The improving awareness of system operating conditions engagement will advance to the Technical Panel in February for an education session, and a vote to post in April. The effective date of the Market Rule changes is expected in late June.

Vlad Urukov asked whether the IESO could provide a more precise go-live date for the replacement settlement system, noting that the previous target was the end of 2022. Ms. Pyrka agreed to report back.<sup>1</sup>

On Market Renewal, Ms. Pyrka noted that the day's agenda focused on the market power mitigation batch, with a vote to post anticipated at the end of the meeting.

On the engagement side for Market Renewal, the market participant readiness plan, incorporating input from the Technical Advisory Group, was posted December 16. It will be the subject of an engagement session January 26, with market participant training anticipated for Q2. And proposed Market Rule amendments on calculation engines will be introduced at the February Engagement Days.

Ms. Pyrka said the January update to the engagement document was due to be posted any day. She said she would include a link in her next email to Technical Panel members.

Following the discussion at the December Panel meeting, the IESO is moving ahead with a procurement for minute-taking services. Ms. Pyrka said the new process would allow audio recording for backup purposes, with the recordings destroyed as soon as minutes are finalized. There will be no video recording, and Ms. Pyrka acknowledged members' preference for storing the files on a server located in Canada.

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<sup>1</sup> The targetted effective date for the replacement settlement system is November 1, 2022.

## Agenda Item 3: Market Renewal Project

Jessica Tang, IESO, introduced the agenda item and Tim Cary, IESO, presented details of the stakeholder feedback the IESO had received to date, consisting of six submissions and a total of 130 comments. He thanked stakeholders for their extensive and constructive comments, all of which were posted October 15 on the IESO's engagement page. Mr. Cary said no fundamental changes in approach were required as a result of the feedback, which consisted of:

- 95 clarifications via response, with no changes to the documents;
- 18 modifications to a Market Rule or Market Manual;
- Nine editorial changes, with no significant impact on the documents;
- Four additions of content;
- Four updates to defined terms.

In line with Technical Panel members' past requests, Mr. Cary's slide presentation included examples and statistical breakdowns for each category of comment.

Mr. Chee-Aloy said he had difficulties toggling back and forth between the tracked changes and the feedback document and asked whether it would be possible to track successive revisions on the same master file. Ms. Tang said the IESO had provided the "reader's digest" guide to the document. Mr. Chee-Aloy said the guide was useful, but that consolidated tracked changes would still be easier to review. Ms. Tang agreed to bring the comment back to the staff team.

Jo Chung, IESO, asked whether Mr. Chee-Aloy was referring to the yellow tracking on top of previous tracked changes that stakeholders had received earlier in the engagement process. Mr. Chee-Aloy said it was, adding that the same approach would be very helpful with future revisions. Emma Coyle agreed, adding that it would be important to follow tracked changes with the comment matrix.

Mr. Cary summarized the specific Market Rule revisions resulting from stakeholder feedback. He reiterated that the changes were incremental in nature, and that the "reader's digest" guide would help illustrate the revisions since the MPM batch was first posted in August. He said Technical Panel members would be asked to vote later in the day on whether to post the batch for further stakeholder comment, ahead of a February 15 vote to provisionally recommend the amendments to the IESO Board.

Mr. Urukov thanked the IESO for the dedicated work staff had put into stakeholder engagement, stressing that "this process really has incremental value, by design". He indicated that he had a large number of comments on the latest iteration.

Mr. Cary asked Mr. Urukov whether he would prefer to raise his points in the course of the meeting or submit them in writing for later response. Mr. Urukov said he would prefer to raise them during the meeting if the provisional vote to recommend was scheduled for February, observing more generally that this batch of proposed Market Rule amendments had provided members with insight on what they'll be contending with in upcoming batches. He expressed concern that a two-week window following the meeting would allow only eight business days before the February 15 Technical Panel meeting for IESO staff to review, post, provide feedback, and allow Panel members to digest the result, in time to have comfort with the proposed February 15 vote.

Mr. Urukov said he hesitated to put too much stock in the provisional nature of the vote to recommend and underscored the need to work out as many details as possible at this stage. He recommended that the IESO add a non-voting meeting between the vote to post and the vote to provisionally recommend, to allow for further reflection and discussion.

The Chair invited additional comment from Technical Panel members.

Rob Coulbeck said he supported Mr. Urukov's concern, recalling that he'd wondered how stakeholder comments during initial stakeholdering would affect the rest of the process. He said he would appreciate hearing Mr. Urukov's detailed questions in committee rather than deferring them to one-on-one conversations with Panel members, and agreed on the need for more meeting time between votes.

Sarah Griffiths said she appreciated Mr. Urukov pointing out the eight-day period that would be available for her to review comments and consult with her sector. She acknowledged that stakeholders, including those in her own constituency, need Market Renewal to be completed on time, but they also need it done right. She said she shared the concern about whether an eight-day review period would be sufficient. Ms. Coyle agreed, adding that Panel members would need time to review stakeholder comments and IESO responses in order to discharge their duties.

Jennifer Jayapalan said she supported Mr. Urukov's points, and that from an energy storage and dispatchable load perspective, that there are a lot of materials that her constituency would need to review and understand. She agreed on the need to get the Market Renewal process right.

Mr. Chee-Aloy commended the IESO staff team's "heavy lifting" on a very difficult topic and supported other Panel members' comments on timing and process. He suggested an additional working session on the mechanics of the process to allow Panel members to toggle back and forth between the proposed Market Rule and Market Manual amendments and gain a better understanding of how the new rules would operationalize market power mitigation.

Mr. Cary said that level of detail might be difficult to achieve before the draft calculation engines are available and suggested the current conversation could proceed without raising too many unanswered questions. Mr. Chee-Aloy said Panel members hadn't had a chance to compare the language of the rules and their intent, despite all the stakeholdering the IESO had already undertaken. He said much of the material was new, particularly for renewable generators with no past experience with impact tests, making it difficult for them to understand their risk and potential recourse.

Dave Forsyth said Mr. Urukov's proposed approach would give Panel members time to bring changes, clarifications, and comments back to their sectors for review prior to a vote to recommend.

Mr. Urukov supported Mr. Chee-Aloy's call for an additional working session.

Ms. Tang clarified that the IESO was comfortable in their ability to turn around responses within the eight-day window given the feedback to date. She said the IESO's intention with the provisional recommendation to the Board was to work with Technical Panel members and stakeholders based on the knowledge available to date, knowing that future batches of proposed amendments might lead to further revisions.

Mr. Urukov suggested waiting until the calculation engines batch is available, rather than trying to address market power mitigation without an understanding of how ex-ante mitigation will work.

Mr. Cary explained the calculation engines would be presented as an appendix, with no obligations on market participants. He recommended deferring the issues Panel members had raised until the engines are available.

Mr. Urukov reiterated his concern about the time available for stakeholder comment, IESO review, and subsequent review and discussion following a vote to post. He said the turnaround that has been suitable for regular Technical Panel material would not work for the market power mitigation batch, with multiple lines of provisional language to contend with. Mr. Urukov asked whether the IESO was proposing to close the door on further discussion, despite support among Panel members for a less compressed schedule.

Ms. Tang said the IESO had set the schedule to allow time for conversations and comments, and there was no attempt to shut down discussion.

Ms. Coyle asked what value Panel members and the market would get from reviewing the draft Market Power Mitigation amendments in their current form if detailed examples will depend on the calculation engine rules. Mr. Cary said it should be possible to provide examples, depending on their purpose. An example that relied on the mechanics of the calculation engines would be beyond the scope available in the day's discussion, but it would be reasonable to discuss examples that were entirely self-contained in the current documents.

On that basis, Ms. Coyle asked whether it would make more sense to discuss the details once the calculation engine rules are available for Technical Panel review. Ms. Tang asked whether there were any specific rules or scenarios in that category that Panel members would want to hear about. She said IESO staff would be prepared to provide immediate examples on issues like reference levels, reference quantities, or other materials in the current batch of draft amendments, but not on issues like ex-ante mitigation that would depend on the calculation engines.

Ms. Coyle said it would be useful to schedule a meeting to discuss examples brought forward by Panel members.

Mr. Chee-Aloy said Panel members could work with the process either way but waiting for a subsequent discussion would mean back loading discussions that could come up sooner alongside specific questions about the application of the calculation engines. He suggested focusing the examples discussion on administrative aspects of market power mitigation, including revisions related to independent review and details of how the process will work in practice, as well as differences in the timelines specified for market participants and the IESO. Another important operational discussion is physical withholding and the details of the dispute resolution process.

Ms. Tang said the request was fair, and Mr. Cary said Mr. Chee-Aloy had described the discussion he'd hoped to have at the meeting.

Ms. Jayapalan asked what forum and process would be provided for review of examples, adding that key items like energy storage resources had yet to be defined. She asked for a high-level example of reference quantities for a hypothetical energy storage resource and the impacts it could face in the event of withholding. She said those examples would be particularly important for sectors that are new to the IESO and its processes.

Ms. Tang invited Panel members to request examples or scenarios over the next few days, in time to inform discussions at a February working session. The vote to provisionally recommend would then be deferred to a later date.

The Chair asked whether Panel members were comfortable with that suggestion. Hearing no responses, he confirmed that Panel members will provide examples to IESO staff within a week, and that IESO staff will endeavour to address them at the February meeting.

Mr. Cary acknowledged the level of effort Panel members were proposing to take on and encouraged them to make their examples as specific as possible, to enable IESO staff to come back with sufficiently detailed responses.

The Chair encouraged Panel members to work together on their examples as they see fit.

Ms. Tang invited Mr. Urukov to proceed with his questions. Mr. Urukov said he would avoid minor comments he had already submitted but made a general observation about confusion in the document. For example, he said he had spotted mentions of reference levels that actually indicated reference level values and had made editorial suggestions to clarify the difference between the formula and its numerical output.

Referring to Section 22.2.3 of the proposed amendments, Mr. Urukov asked how the IESO would decide a market participant had supplied insufficient supporting documentation, what remedy the participant would have to address those deficiencies and on what timeline, and whether the IESO could prevent a participant from engaging in the market based on insufficient information. Mr. Cary said the provision was intended as a failsafe for a situation where a market participant fails to engage, the process comes to a standstill, and the IESO has no other recourse. If the provision were applied, he said the IESO would set the market participant's reference level at zero in the absence of documentation. The participant would then have access to standard recourse in the market rules, including the independent review process—just as they would if they provided supporting documentation with which the IESO disagreed.

Mr. Urukov asked whether the reference to “may register” signalled a more complicated sequence of events, where the IESO set a zero reference value that the market participant could then challenge. If so, since the independent review process does not assess sufficiency of documentation, he said it was unclear what form the market participant's challenge could take. He also asked whether the phrasing allowed the IESO the option of declining to set a reference level.

Cary Ferguson, IESO, said the goal was to get a resource into the market for reliability purposes, and reiterated that 22.2.3 was intended as a failsafe, not as an additional pressure on market participants. He acknowledged an unintended procedural gap between that failsafe and how the IESO's preliminary determination would trigger an independent review and agreed to bring the point back for staff discussion.

Mr. Cary said the provision could come into play in circumstances where reasonable people could disagree on the suitability of a market participant's documentation.

Mr. Urukov noted that Section 22.3.1 referred to resource, with no elaboration, but Subsections 1-5 addressed specific fuel types. He asked how the provision would apply to resources that have different parameters by virtue of their operation. Mr. Chung noted that the main section indicated “if applicable” and agreed to clarify that the intent was applicability by resource type, not by month or season.

In Section 22.4.2, Mr. Urukov asked on what basis a resource would be ineligible to submit offers as specified. Mr. Cary said the provision was meant for resources that do not have the operational capabilities to register and submit those parameters to the IESO. He said the intent for two reference levels for resources that cannot submit start-up or speed-no-load offers was reflected in Market Manuals 7.1.1.3 and 7.1.3.1, referring to different types of thermal resources. Mr. Urukov clarified and Mr. Cary confirmed that that meant the Market Rule amendment should be read in the context of the pertinent Market Manual provisions.

Mr. Chee-Aloy asked whether the rule would apply to single-cycle facilities. Mr. Cary said self-schedulers fall outside the IESO’s framework, and don’t require reference levels in the first place. But the provision would apply to thermal facilities that can only submit energy offers, including single-cycle facilities.

Mr. Urukov said the language in Section 22.4.3 was confusing, since the reference level is a formula, not a value. Mr. Cary acknowledged the point and agreed to sharpen the language in the section.

In Section 22.5.2, Mr. Urukov asked at what point the IESO would advise a market participant that its reference level was under review or notify it of any findings. Mr. Cary said the IESO consults with a market participant anytime it reviews a particular reference level, requires information for verification purposes, or has questions about supporting materials, as outlined in the Market Manuals. The process then establishes options and recourse for both the market participant and the IESO. He said the IESO did not specifically contemplate how it would determine a future date for a reference level update, as specified in 22.5.2, but the goal would be to set a timeline that was fair to all parties. He added that the incentives behind a reference level review could depend on whether it was initiated by the market participant or the IESO—the process might be more urgent for the participant if circumstances had made a resource more expensive to operate, or for the IESO given a perceived need for timely information to support efficient market operation.

Mr. Urukov said the section currently implied a unilateral process and suggested amending it to clarify that it called for consultation with the market participant. Mr. Cary said the process was documented in the Market Manual and asked whether Mr. Urukov was suggesting a cross-reference. Mr. Urukov said it was important to specify that the process included engagement with the market participant. Mr. Cary asked whether Mr. Urukov was proposing to move that language from the Market Manuals to the Market Rules, adding that the IESO would want to continue its “winning streak” of not duplicating content unnecessarily. Mr. Urukov suggested adding the phrase “in consultation with the market participant as outlined in the Market Manuals”, and Mr. Cary agreed to review the language.

After a 10-minute recess, Mr. Cary called Mr. Urukov’s attention to Section 22.7.2. He said staff intended to carve the last sentence out as a separate Market Rule provision, to codify the IESO’s obligation to consult in the Market Rules. Mr. Urukov said he had planned to make that request.



Turning to Sections 22.5.4, 22.5.5, and 22.5.6, Mr. Urukov said the latter two laid out the steps for market participant requests regarding reference levels, but 22.4 was less clear in committing IESO to a specific procedure. Mr. Cary said those steps were covered in Market Manual 14.2. He explained that 22.5.4 was intended as a broad-scale process enabling market participants to reopen their reference levels at any time, whereas 22.5.5 and 22.5.6 were deemed to require more specific language to address real-time market operation issues. Mr. Urukov suggested the IESO provide greater clarity in 22.5.4, and Mr. Cary acknowledged the comment.

Mr. Urukov asked whether Subsection 22.7.1.3 should point to Subsection 22.5.4. Following discussion between Mr. Urukov and Mr. Ferguson, Mr. Cary said the IESO would respond to the point in writing.

Mr. Urukov said Subsection 22.5.10.3 appeared punitive, establishing a one-strike rule after which a market participant would be unable to trigger requests for 30 days. Mr. Cary disagreed with the characterization, explaining that the rule was not intended as a sanction. Its intent was to recognize that if a market participant failed to meet the IESO's information requirements, the IESO would be unable to allow that information to flow through to the wider system.

Mr. Urukov asked what would happen if the error was not deliberate. Mr. Cary said there would be no assessment of intent—the concern would be the inaccuracy of the information, whether it had to do with an incorrect number in a report, or insufficient management controls to ensure that documentation was attached to a submission. In that event, he said the only impact of the rule would be to require the market participant to submit requests during business hours to allow for active review.

Mr. Urukov asked whether the provision referred to 30 business days or calendar days. Mr. Cary said a drafting convention in the Market Rules is that they refer to calendar days unless otherwise noted.

Mr. Urukov queried language in Sections 22.5.9 and 22.5.11 permitting the IESO to assess whether a settlement charge is required pursuant to Chapter 9. Mr. Cary said both sections referred to a specific charge calling for a revision to a make-whole payment<sup>2</sup> in the event that a market participant requested a change in reference level, only to have the IESO determine after the fact that the change was not justified.

In Section 22.5.11, Mr. Urukov pointed to the requirement that a market participant supply additional supporting documentation within two business days. He asked whether the provision could be aligned with the IESO's usual four-day response window. Mr. Cary said the process covered in 22.5.11 was one in which the market participant would be in the driver's seat—they would know they were requesting a higher reference level and understand the form and content of the required documentation, so there should be no last-minute scramble to assemble the information. The IESO, on the other hand, would need a relatively tight turnaround to ensure sufficient time to process the request within that settlement duration.

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<sup>2</sup> Clarification: reference level settlement charge applies more broadly than just to make-whole payments. The details on the reference level settlement charge can be found in section 3.13.2 of the [Market Settlement Detailed Design document](#). It is anticipated that the reference level settlement charge will be the topic of a forthcoming design change and notes that market rule amendments on how the charge will be assessed will be presented for the Technical Panel's consideration as part of the forthcoming MRP Settlements batch.

Ms. Coyle asked how the IESO would determine under Section 22.5.9 that a market participant had insufficient internal controls in place. Mr. Cary apologized for the reference and explained that his comment was intended only to illustrate the circumstance. He said the Market Rules would contain no requirement to document or audit an entity's internal controls. Ms. Coyle noted that errors may be introduced at multiple different points in the system, including the IESO itself.

Mr. Urukov asked whether the reference to maximum active power capability in Subsection 22.6.7.2 was another failsafe, and how it would be derived. Mr. Cary recalled that OPG had raised the same point in its stakeholder feedback and IESO agreed to respond in writing.

Mr. Urukov asked how Section 22.8.2 on independent review would operate in the event that the IESO issued a request for proposals for consultants and received no response. He said it was concerning to contemplate a circumstance in which the IESO postponed a necessary decision due to a lack of available expertise. Mr. Cary said the intent was to acknowledge that there is no practical way to ensure that qualified independent consultants would be available at any given time, and to mitigate this risk by providing an avenue for an issue to be revisited in that event. A participant will still be able to initiate a review of their reference levels at any time, so there will be no circumstance in which they're barred from opening a conversation with the IESO.

Mr. Urukov asked whether that more flexible, collaborative intent was captured in the Market Manuals, and whether it included scope to reopen an RFP if it was clear that the consultants would be available within a couple of weeks. Mr. Cary said the market participant could either request a review after 60 days or proceed with their current reference levels and try to restart the independent review process a month later.

Mr. Cary asked Mr. Urukov what alternate strategy he would suggest. Mr. Urukov said there were too many unknowns to assess whether the process proposed in 22.8.2 would be problematic but suggested an open RFP process that would allow consultants to respond in a week or 10 days, rather than putting an issue on hold for two months. Mr. Cary acknowledged the suggestion.

Mr. Chee-Aloy said the discussion had raised a good example of administrative issues to be addressed. He expressed concern about the finality of saying the IESO would register reference levels and reference quantities if there was no consultant available to conduct an independent review and noted that a 30-day delay could lead to significant costs for a 500- or 1,000-megawatt facility. If those costs ran high enough, he said a market participant might be tempted to trigger the dispute resolution process under Chapter 3 or seek recourse through the courts.

Mr. Cary asked what other provisions the IESO could put in place to produce a better outcome. Mr. Chee-Aloy said it might be possible to draw on experience in U.S. markets, where some market participants are in constant disputes and dialogue with their ISOs. Mr. Cary distinguished between dispute resolution and an independent review designed to resolve technical questions on which reasonable people might disagree. Mr. Chee-Aloy replied that an asset owner might still view such a disagreement as a dispute, depending on the material risk involved.

Mr. Cary said the contingency in which no consultants are available had been addressed at the detailed design phase, and the draft Market Rules and Market Manuals had been based on those discussions. Mr. Chee-Aloy said there had been considerable disagreement during detailed design, and there were still divergent opinions about recourse on market power mitigation.

Ms. Coyle asked how the IESO would determine that a consultant was independent and evaluate potential conflicts, given the number of consultants that market participants retain on a regular basis. Mr. Cary said the IESO would go through a two-step process of pre-qualifying a list of consultants, then assessing potential conflicts on a case-by-case basis.

Mr. Urukov asked how the IESO would show cost discipline for the independent review, given the provision in Section 22.8.3 giving a market participant five business days to accept the cost of the process. Mr. Cary said that balance would be determined for each individual procurement, adding that it might be a matter of determining how much detail the IESO could provide at the RFP stage—knowing that more information would allow consultants to prepare more accurate quotes, but that market participants would also have to be comfortable with the process.

Mr. Urukov asked whether the IESO would make exceptions to the five-day review period for participants that needed time for a more complex evaluation of cost versus reward. Mr. Cary agreed to consider the point but noted that market participants would already have a lot of information on timing and deadlines when they initiated the independent review process IRP process. When the question came up during detailed design, he added, market participants expressed a preference for a timely process.

Mr. Urukov reiterated that a participant facing a significant cost and a complex undertaking might need time to decide whether the process was worth their while. Mr. Cary said a participant would already have a lot of the information it needed to make that determination but agreed again to consider a possible carveout.

Mr. Urukov asked whether the market participant would have any ability to engage with and endorse the framing of the issues to be reviewed under Section 22.8.4. Mr. Cary agreed to consider the point.

Mr. Urukov asked whether it was reasonable to assume that the cost of a secondary review, triggered in the event that the IESO was not satisfied with the results of a first review, would not be borne by the market participant. He also asked whether an insufficient second review would lead to a third one.

Mr. Cary said Section 22.8.6 listed the limited circumstances under which the IESO could reject a review, in whole or in part. He said the IESO would cover the cost of a secondary review and could continue the process until it received an adequate response—or the market participant would have the option of shutting down the process.

In the event that a first review produced satisfactory answers to three out of four questions, for example, Mr. Urukov asked whether those findings would be implemented while the remaining item was still under review. Mr. Cary said they would be.

Mr. Urukov asked whether a market participant would receive an automatic credit after asking the IESO to discontinue a review process under Section 22.8.8, or whether that might happen before the market participant was actually billed. Mr. Cary said it would be reasonable to expect the market participant to bear any costs incurred up to the point of cancellation. Mr. Urukov agreed that would be reasonable but asked for confirmation that the IESO would include that provision in its negotiations with consultants. Mr. Cary said the point would be factored into the relevant procurement documents.

In reply to a question from Mr. Urukov, Mr. Cary said Section 22.8.9 referred to the treatment of target data.

Ms. Coyle asked whether the zero-dollar reference level was based on any other market. Mr. Cary said the intent was to cover a procedural gap and avoid an adverse outcome, not to be punitive or create any obligation to submit a reference level. He said the provision was not based on the practice in any other jurisdiction.

Ms. Coyle said an example would make it easier to understand the purpose of the provision. Mr. Cary said the intent was to enable a resource to participate in the market in the event that the market participant was non-responsive to information requests, adding that the independent review process would be available if they wished to dispute a zero reference level and restore a price that was consistent with their short-run marginal costs. Ms. Coyle said she would accept that explanation pending review of the calculation engines.

Mr. Urukov asked for more specific detail on how far in advance the determination of potentially constrained areas would be made under Subsection 22.10.1.1. In recent discussions on interties, he said, a lack of specificity had triggered a lot of ongoing work that could be prevented in the future. Mr. Cary said the Market Manual material on potentially constrained areas had been supplemented in response to questions from market participants, adding that he would welcome further discussion on the issue.

Mr. Urukov asked whether a future change in the designation of a potentially constrained area would trigger a reassessment of a narrowly constrained designation. Mr. Cary replied that if an area no longer presented a potential issue, possibly because a system configuration concern had cleared sooner than expected, congestion would be reduced and even a narrowly constrained designation would not lead to any kind of testing. He added that the example Mr. Urukov had presented would almost solve itself, since testing within the engines would end as soon as the triggering conditions were no longer in effect.

Mr. Urukov said the matter should still be thought through carefully. Mr. Cary said the IESO only tests when constraints exist, so there is no risk of overreach.

Mr. Urukov asked for clarification on Section 22.10.3.3, and asked what assessment or framework was used to assess these numbers. Mr. Cary said that the IESO looked at experience in other markets, and added that the calibration when comparing dynamic constrained areas versus narrow constrained areas should be directionally set in the Market Rules. For a short-term, more transitory issue, the threshold for designation would be higher than for a narrow designation over a longer time span. Mr. Urukov commented that to change this section, that market rule amendments would be required versus market manual changes, which have insufficient transparency and discussion.

Mr. Urukov asked for clarification of Section 22.11.1.2, including the lack of detail or reference to a Market Manual provision. Mr. Cary said the language was meant to refer to interties of significant enough size that they could bring a large volume of supply to the market. A more precise definition would expand the simpler concept to cover interties that can provide sufficient relief to represent an effective competitive discipline. He referred Panel members to Section 4 of Market Manual 14.1, dealing with global power on intertie zones, that contains a reference to the volume of trade that would be deemed important. He agreed to review the Market Rule language to ensure that it captures the IESO's intent.

Mr. Chee-Aloy asked for further explanation of the subsection, and Mr. Cary reiterated that it referred to potential supply that was sufficient to discipline behaviour. Mr. Chee-Aloy said the concept required more thought.

Mr. Urukov noted the use of “may”, as opposed to “shall”, in Section 22.12.2. Mr. Cary said the language was consistent with past practice for designation of uncontested export interties, allowing the IESO flexibility for transitory situations where a resource falls just below a numerical threshold but can reasonably be expected to return to its regular pattern of behaviour. Mr. Urukov suggested revising the section to clarify that point, and Mr. Cary noted the suggestion.

Mr. Urukov asked whether the reference to two calendar days in Section 22.12.3 was geared to a change being implemented more rapidly if it was deemed to be of higher significance. Mr. Cary said the intent was the opposite—to ensure that market participants have at least two days to take in new information and respond.

Ms. Coyle asked how the IESO would handle scheduling during the two-day notice period, and how a market participant’s behaviour would be assessed. Mr. Cary said the notice would not take effect for at least two days, allowing for after-the-fact review of intertie transactions. Ms. Coyle said she would provide additional comments on whether the section created unnecessary confusion about a possible safe harbour during the two-day period.

The Chair asked Mr. Urukov to conclude his questions with one or two last items, with the understanding that the dialogue would continue at the February meeting. The Chair proposed that the Technical Panel then move to a vote to post.

Ms. Jayapalan asked for an example to illustrate Sections 22.14 and 22.15, beginning with how the IESO would define a dispatch hour. Mr. Cary said the day-ahead dispatch engines are scheduled hourly and create prices for each dispatch hour, so the two sections intentionally referred to any dispatch hour. Ms. Jayapalan said the issue was particularly important for energy storage because of duration issues. Mr. Cary said 22.15.5 was meant to address null values in measuring the megawatts a participant offered for a dispatch hour and agreed to review the language to try to understand where it missed the mark.

Ms. Jayapalan said that issue would have to be addressed for energy storage issues. The Chair referred the discussion to parking lot, and Mr. Urukov said a number of issues had been similarly postponed, including the lack of specificity in the current discussion pending review of the calculations in the calculation engines

Mr. Urukov identified the overall framework for physical withholding, including related charges, as a specific issue that would be hard to get at without examples. Ms. Tang said some aspects of the topic could be addressed right away and asked whether Mr. Urukov wanted to circle back after he could see the computations for megawatts that had been physically withheld. Mr. Urukov said his concern was with the way the IESO would apply the market control entity, a matter that could only be addressed conclusively with the specific equations in hand.

For the sake of being specific about the parking lot item, Ms. Tang asked whether Mr. Urukov’s concern was with testing for physical withholding or the settlement batch equations. Mr. Cary expressed cautious optimism that it might be possible to address the larger, universal question. He asked Mr. Urukov to provide a specific scenario and indicate the points of interest he would want the

IESO to address, pending the more detailed discussion in connection with the calculation engines batch.

Mr. Urukov asked for confirmation that Appendices 7.1.a and 7.2.a were not yet available for review. Ms. Tang said the calculation appendices, including 7.3.a, were scheduled for presentation in February.

Mr. Urukov commented that important issues like global market power can also be nebulous and difficult to assess without specific information on price impacts. Mr. Cary said the market power mitigation package provided the foundations of the discussion, suggesting that the connection between the Market Rules and the calculation engines was an obligation to do things in a certain way. Mr. Urukov said he was less optimistic, noting that a lack of clarity on simulation of locational prices, for example, would lead to specific questions on multi-hour implications. Those discussions, in turn, will be relevant to the way the physical withholding framework works.

Mr. Cary said he'd understood the concern was limited to ex-ante mitigation. Mr. Urukov clarified that both issues were subcategories of the larger topic. Mr. Tang proposed to add the discussion to the February agenda. Mr. Urukov said the parking lot might be better filled once the Panel had worked through a series of examples.

The Chair invited further comments on the parking lot issue and, hearing none, asked for comments on a vote to post the market power mitigation batch for further stakeholder feedback. There were none.

The Technical Panel voted to post the market power mitigation batch for further stakeholder feedback on a motion by Indra Maharjan.

The Chair reminded Panel members that the IESO staff would look to receive examples for analysis by the end of business Tuesday, January 25, with some iteration afterwards to ensure the most useful discussion at the February meeting. He said the Secretariat might call for a longer meeting in February based on the scope of the examples. In light of the extra meeting, he said the IESO would also revert to the normal process for posting Market Rule amendments, with a February 3 deadline for stakeholder feedback.

The Chair invited further questions or comments, and there were none.

## Other Business

Mr. Chee-Aloy asked if there had been further developments on potential discussions with the Markets Committee. The Chair confirmed that the matter would be brought forward to the committee at its March meeting.

The Chair thanked Technical Panel members for a good first meeting that indicated the hard but important work ahead over the next year.

The meeting adjourned at 12:17 PM. The next meeting will be held on February 15.

### **Action Item Summary**

<b>Date</b>	<b>Action</b>	<b>Status</b>	<b>Comments</b>
October 5, 2021	In relation to MR-00468 – Intertie Scheduling Limit, specify if the proposed amendments refer back to the appendix rather than the equation governing intertie limits.	Open	Update to be provided after the stakeholder engagement process.
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.