

IESO Technical Panel Meeting

Minutes of Meeting

| | | |
|----------------------------------|--|---|
| Date held: April 17, 2018 | Time held: 9:00 am | Location held: IESO Office, Toronto |
| Invited/Attended | Sector Representation | Attended; Regrets |
| Robert Bieler | Consumer | Attended |
| David Brown | Ontario Energy Board | Regrets |
| Ron Collins | Energy Related Businesses and Services | Attended |
| David Dent | Other Market Participant | Attended |
| Sarah Griffiths | Other Market Participant | Attended |
| Robert Lake | Residential Consumer | Attended |
| Phil Lasek | Industrial Consumer | Regrets |
| Sushil Samant | Generator | Attended |
| Joe Saunders | Distributor | Attended |
| Jessica Savage | IESO | Attended |
| Bill Wilbur | Generator | Attended |
| Julien Wu | Wholesaler | Attended |
| Bing Young | Transmitter | Attended |
| Michael Lyle | Chair | Attended |
| Observers / Presenters | | |
| Alexandra Campbell | IESO | Attended |
| Jo Chung | IESO | Attended |
| Josh Duru | IESO | Attended |
| Jason Kwok | IESO | Attended |
| Idalin McKenzie | IESO | Attended |
| Hok Ng | IESO | Attended |
| Agatha Pyrka | IESO | Attended |
| Christopher Reali | IESO | Attended |

May 22, 2018

Page 1

IESO Technical Panel

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

| | | |
|---|------------------------------|---|
| Date held: April 17, 2018 | Time held: 9:00 am | Location held: IESO Office, Toronto |
| Invited/Attended | Sector Representation | Attended; Regrets |
| Rebecca Short | IESO | Attended |
| Secretariat | | |
| Reena Goyal | IESO | Attended |
| Jason Grbavac | IESO | Attended |
| Prepared by: Mitchell Beer / Smarter Shift Inc. | | |

Agenda Item 1: Introduction and Administration

Chair's Remarks:

The Chair introduced himself and advised members of two changes in the Technical Panel's membership. Jessica Savage will now serve as the IESO representative, and Reena Goyal will serve as the legal secretariat.

There were no revisions to the agenda.

Mr. Dent asked for two changes to the minutes of the last meeting. On page 1, under the Panel's new terms of reference, he said he should be identified as 'Other', not as a natural gas representative. On page 6, paragraph 2, he said he had asked whether the rules could be impacted by barriers pertaining to non-emitting resources. Mr. Collins noted that on page 6, "Mr. Ellard" should be replaced with "Ms. Ellard."

The minutes were approved as amended.

Agenda Item 2: Stakeholder Engagement Update

Jason Grbavac, IESO said the monthly engagement report included in the Technical Panel information package was intended to answer members' high-level questions, but invited questions on any of the IESO's stakeholder engagements during this standing agenda item. At this and future meetings, verbal updates will focus on the three to five priority initiatives on the IESO's engagement agenda.

Mr. Grbavac said the Stakeholder Advisory Committee was scheduled to meet April 27. Major agenda items will include third-party access to the province's Meter Data Management/Repository, a presentation on IESO's plans for continuous improvement to its engagement process through the launch of an engagement strategy, and a discussion on market renewal. He noted that some Technical Panel members participate in the SAC, adding that he

looked forward to further discussions after the upcoming SAC and Market Renewal Working Group meetings.

The IESO's engagements on the province's Long-Term Energy Plan are under way, Mr. Grbavac reported. A process on renewable distributed generation integration funding began with a well-attended webinar on virtual net metering. A webinar on power to gas during the week of April 9 set out a draft framework for expressions of interest from stakeholders. An Indigenous engagement process is under way. Additional engagements related to the LTEP will be launched in the near future.

The IESO will host its annual Electricity Summit on June 11 at the Sheraton Centre in downtown Toronto, and Mr. Grbavac encouraged Technical Panel members to attend. The summit will focus on unlocking the value of innovation to strengthen Ontario's electricity sector, with sessions on consumer drivers, innovative behaviours, distributed energy resources, and blockchain technology. Ms. Griffiths said past summits have been useful, and acknowledged the participation of IESO stakeholder staff, but said it would be valuable if a wider mix of IESO personnel attended to allow for networking with stakeholders. The Chair said he would convey the comment to summit organizers.

Agenda Item 3: Market Renewal Program Update

Mr. Grbavac said the Market Renewal Working Group (MRWG) was scheduled to meet the following day. He invited Panel members to share any specific requests or areas of interest from a market renewal education or training perspective by contacting him directly, or emailing engagement@ieso.ca. Noting that some Technical Panel members participate in the MRWG, he said the IESO would welcome those members' perspectives on the process at future meetings.

The MRWG engagements on the energy and capacity streams are well under way, Mr. Grbavac reported, and the IESO intends to complete high-level design in both areas by either the end of 2018 or early 2019. The Technical Panel will be in a position to review proposed amendments to the market rules following detailed design in 2019.

The Non-Emitting Resources Subcommittee recently convened a technical conference. It addressed wholesale market opportunities for distributed energy resources, expanding the role of variable generation, and capturing the full value of capital-intensive non-emitting resources and unbundled markets. Several Technical Panel members attended. The subcommittee will produce a summary of the event.

| | |
|---|--|
| Agenda Item 4: Regulated Settlement – Deletion of Rural and Remote Settlement and Debt Retirement Charge | |
| Presenter | Rebecca Short, Idalin McKenzie |
| Action | Review revisions to amendment proposal MR-00434 and vote on whether to repost the amendment for stakeholder comment. |

Rebecca Short, IESO recalled that the Technical Panel had reviewed Amendment Submission MR-00434 and recommended it for consideration by the IESO Board. Subsequently, however, the IESO identified the opportunity to clarify the text to recognize that settlement amounts could arise from applicable law other than the *Electricity Act, 1998* or the *Ontario Energy Board Act, 1998*. Ms. Short presented the revision for Technical Panel consideration, with a recommendation that members vote to post the amended draft for stakeholder comment for two weeks.

Mr. Samant asked for clarification on the need for the additional amendment. Ms. Short said the IESO has authority for all the settlements it undertakes, but that the existing language might appear limiting. Therefore, the proposed amendment adds the phrase ‘applicable law including without limitation’ to clarify the previous language. The Chair said the intent was to make the amendment as broad as possible to accommodate future changes in legislation. Ms. Griffiths asked if the proposed language makes it that much broader. The Chair gave an example that if a new government made changes to the *Fair Hydro Plan Act*, that those changes would be covered under the proposed amendment. Mr. Saunders asked if such changes to Acts could come in the future. The Chair indicated they can and Ms. Goyal added that the Acts themselves give the IESO authority; the purpose within this amendment is to make clear the authority is not limited to the *Electricity Act, 1998* or the *Ontario Energy Board Act, 1998*.

The Panel voted unanimously in favour of reposting the proposed amendment for stakeholder comment for two weeks, with Mr. Lasek voting by proxy.

| Agenda Item 5: Station Service Obligation | |
|--|--|
| Presenter | Josh Duru, Christopher Reali |
| Action | Review stakeholder comments on amendment proposal MR-00435 and vote on whether to recommend it for consideration by the IESO Board at its June 13, 2018 meeting. |

Josh Duru, IESO reviewed the proposed amendment, reminding Panel members that the effect of the new language was to place the station service obligation on the market participant responsible for registering the facility, with the intent of assigning it to the facility owner. Two stakeholders responded to the draft amendment during the two-week review period, with Rodan Energy Solutions expressing support and Alectra Utilities making two comments, neither of which resulted in changes to the draft amendment. Both responses were circulated to Technical Panel members ahead of the meeting, and the IESO’s reply to both were provided in the cover memo from staff.

Mr. Lake noted that the cover memo cited a response from Alectra that referred to kilowatts, when rule 2.1A.3 addresses energy, which would be stated in kilowatt-hours. Christopher Reali, IESO explained that the station service factor is administered in kilowatts over time for every

interval and using a utilization factor, which results in energy. He said the utilization factor was addressed in Market Manual 3.7.

Mr. Samant asked about Alectra's concern that the amendment not refer to "consuming" station service. Mr. Reali said a misunderstanding on that point was clarified by phone. Alectra had interpreted the text as referring to a person, when station service is actually consumed by a facility, then allocated to a person for settlement. With that clarification, Alectra accepted the draft amendment as written.

The Panel voted unanimously in favour of recommending the proposed amendment for consideration by the IESO Board at its June 13, 2018 meeting, with Mr. Lasek voting by proxy.

Agenda Item 6: Demand Response Auction Information Item

Alexandra Campbell, IESO provided an overview presentation on proposed demand response (DR) enhancements to increase the value of hourly demand response (HDR) resources by increasing the flexibility and real-time availability of the resource.

Mr. Wu asked whether DR will compete in the future incremental capacity auction (ICA). Ms. Campbell responded that the ICA will be an auction for all types of resources to compete in.

Mr. Lake noted that the system will have about 700MW of demand response by the end of the year and asked how that total compared with Ontario Hydro's past demand response arrangements for interruptible load. He said he recalled the available resource being much larger in past years. Jason Kwok, IESO said he didn't have historical data, but noted that the 700MW under auction includes DR which was historically procured under contracts from a wide variety of industries, including direct market participants and customers embedded with aggregators.

Ms. Campbell said she'd understood that the participants in Ontario Hydro's DR program had all been directly connected customers. Now, DR aggregators can sign up distribution-connected customers to participate in the market, and changes in the way DR is metered and measured have also opened up opportunities for residential customers to participate last year.

Ms. Griffiths said 10% demand response capacity is a market standard for North American grids. She added that Ontario's DR auction cleared 712 MW in the most recent winter 2019/20 commitment period because it's based on a downward sloping demand curve that procures more or less capacity based on price. Industrial Conservation Initiative (ICI) participants bring the total up above 1500 MW. Even so, the province has more demand response potential, and future capacity auctions would be a way to competitively procure that capacity.

The Chair asked whether any barriers exist for aggregator participation. Ms. Griffiths said some barriers still exist, including the metered data audits. As long as the capacity product is defined in a way that allows all types of resources to compete, the door is open. She said a residential

aggregator might raise issues like data accessibility, but expressed her own view that the process is on the right track.

Mr. Samant stated that many resources are not connected directly to the transmission grid and questioned the process aggregators would use to submit a bid which would result in a standby notice. Ms. Campbell said resources that connect through an aggregator receive standby notices through the entity that bids on their behalf. Ms. Griffiths said her company would bid on behalf of its portfolio, and then use its own business process to notify its customers. So with 150 MW under contract, for example, the aggregator might offer 100 MW and manage its portfolio to deliver 100 MW. In response to further questions from Mr. Samant related to what assurances exist to show consumption was reduced by a certain amount, she explained that an aggregator may have real-time visibility on some of its customers' demand, while others communicate directly with the IESO. A financial assurance model including fines and penalties ensure that aggregators supply the DR resources they promise, and customers' performance is verified through detailed audits. Mr. Kwok said the IESO has authority to test resources up to twice per commitment period, and has detailed back-end compliance processes to oversee all the province's resources.

Mr. Samant asked whether the IESO would accept as much DR as the system can offer. Mr. Kwok said the amount of capacity procured by the DR Auction is bounded by the demand curve that is set annually. Mr. Samant asked whether a concern for reliability would limit the amount of demand response the system could accept. Mr. Kwok said the amount of DR doesn't impact reliability because each DR resource is required to be able to meet resource performance standards in order to participate in the market.

Mr. Saunders asked whether geography is a consideration in assessing demand response resources. Mr. Kwok said there are no minimum requirements in any zones, but some zones have limited ability to accommodate DR based on transmission. Mr. Grbavac said maximum DR values for each zone are published in a pre-auction report.

Mr. Wu asked how the IESO accounts for regional constraints for aggregators, noting that generators have congestion management settlement credits. Mr. Kwok said dispatch is based on shadow prices, and hourly DR resources do not currently receive utilization payments.

In discussions to date with stakeholders, DR resources have said they understand why the IESO would want them to be available more often, Ms. Campbell said. Aggregators have indicated that they would prefer to receive standby notices that result in actual activations, since a notice without activation would be disruptive from their point of view.

Mr. Wilbur referred to the historical data Ms. Campbell had presented and asked how frequently DR resources would have been activated at the \$100 and \$200 price triggers. For the three largest zones representing 70% of the virtual capacity, Mr. Kwok said there would have been about two activations over the lookback period. Mr. Wilbur said there had been some intervals when the system reached \$1,999 or \$2,000 per megawatt-hour, and asked what would

have been required to activate a DR resource under those conditions. Ms. Campbell and Mr. Kwok said that HDR resources must be scheduled for DR for four consecutive by 7 AM of the dispatch day to receive a standby notice. After receiving a standby notice, the HDR resource would be activated if it is scheduled for DR in the pre-dispatch minus 3 hour timeframe for four consecutive hours. Mr. Kwok said reducing the minimum dispatch period to one hour would increase the flexibility of the resource. In response to a follow-up question from Mr. Wilbur, Ms. Campbell said even one hour of dispatch would be rare at a \$1,999 price threshold.

Ms. Griffiths said the prospect of multiple standby notices with no activation make many of her customers nervous. Some contributors need more than 2½ hours of notice to begin shutting down their operations, and while Ms. Griffiths said her company understands and supports increasing the value of demand response, a major change like a price trigger demonstrates the need to get the details of the capacity market right with the first iteration. Aggregators try to build a lot of flexibility into the multi-year contracts they sign with their customers, she added, but the transition will mean a different risk profile and a lot of coordination with customers.

Mr. Dent asked whether an increase in performance requirements would shift the demand curve for demand response, resulting in higher compensation to resources. Mr. Kwok said the IESO reviews the demand curve elements before releasing each year's pre-auction report. He added that the proposed changes focus on the availability and utilization of HDR resources in times of system need.

Ms. Savage asked how many participants were registered in the last demand response auction. Mr. Kwok said there were 35 registered auction participants. Ms. Savage said the total MW qualified to participate were significantly higher than the 700 MW that cleared which speaks to the competitiveness of the auction.

Ms. Campbell said stakeholder feedback on the proposed rule changes had generally been supportive, so the IESO will propose to proceed with steps to shorten the minimum commitment period to one hour and introduce a price trigger, likely at \$200 for 2018 and \$100 for 2019. A draft rule amendment for May 2019 will be brought forward for consideration at the Technical Panel's May 22 meeting.

Mr. Wilbur recalled that the Panel had considered potential rule changes for the 2017 DR auction and asked whether this year's proposals were significantly different. Mr. Kwok said the previous analysis was more limited, and the previous proposed amendments had no provision for a price trigger, but the emphasis on greater availability and flexibility was unchanged.

Mr. Samant asked whether the IESO would consider voltage cuts before activating demand response resources. Mr. Kwok said the Emergency Operating State Control Action list contained in Market Manual 7.1, Appendix B prioritizes about 40 steps for balancing the system, and activating demand response resources is a lower step than voltage reductions or shedding load. Mr. Samant asked whether the system could still end up with voltage cuts. Ms. Campbell said anything is possible, but that the IESO will take the least impactful actions first.

Mr. Grbavac said two engagement meetings on demand response are scheduled in advance of the Panel’s May 22 meeting.

Agenda Item 7: Other Business

Mr. Wu asked whether the IESO had been involved in discussions on the restructuring of the Ontario Energy Board. The Chair said the OEB Modernization panel, led by Richard Dicerni, had been meeting with a range of stakeholders including the IESO, but the scope of the review was still in development. Ms. Goyal said the IESO met with representatives of the OEB Modernization Panel during an initial consultation phase devoted to framing stakeholder discussions and soliciting feedback on ways of improving the efficiency of the rate application process.

Mr. Wu asked whether governance issues addressed through the Market Renewal Working Group would be conveyed to the OEB Modernization panel. The Chair said there have been questions raised about the OEB’s role in reviewing market rules, and that these questions are expected to be discussed with the OEB Modernization panel.

The Chair said the Panel’s May meeting would discuss a proposal for educating Panel members in advance of the Market Renewal market rule amendments, specifically related to the timing of the education as the various high level designs are published.

Ms. Savage, Director, Corporate and Indigenous Relations at the IESO took an opportunity to introduce herself and her background in more detail for TP members. She indicated that she was previously in IESO Operations, overseeing integration functions. She started her career at the IESO almost fifteen years ago providing support for the Technical Panel and served as the Technical Panel secretariat. She indicated she was pleased to rejoin the Technical Panel after many years away in other areas of the business.

The meeting adjourned at 10:14 AM.

| Action Item Summary | | | |
|----------------------------|---|---------------|-----------------|
| Date | Action | Status | Comments |
| January 23, 2018 | The IESO will investigate the Technical Panel’s request for more in-camera sessions. | Open | |
| December 1, 2015 | The IESO will provide an update to the Panel regarding the potential timelines and impacts of changing the reference to the OPA within Chapter 1 of the General Conduct Rule. | Open | |