

Demand Response Working Group – Meeting Notes

September 4, 2019

Minutes of Meeting

| Dates held: September 4, 2019 | Time held: 8:30am to 11:45am | Location: Sheraton Centre Toronto Hotel, 123 Queen St W Toronto |
|--------------------------------------|-------------------------------------|--|
| Company | Name | Attendance Status (A) Attended; (WebEx) Attended via WebEx |
| Alectra Utilities | Mortage, Hamza | A |
| AMPCO | Anderson, Colin | A |
| Cascades Canada ULC | Ross, Jean Philippe | WebEx |
| Centrica Business Solutions | Cavan, Peter | WebEx |
| City of Toronto | Cheng, Jessie | WebEx |
| City of Toronto | Gu, Michael | WebEx |
| Cpower Energy Management | Hourihan, Mike | WebEx |
| Customized Energy Solutions | Withrow, David | WebEx |
| Ecobee Inc. | Ercolani, Julia | A |
| Ecobee Inc. | Houle, Jonathan | A |
| Enel X | Chibani, Yanis | A |
| Enel X | Griffiths, Sarah | A |
| En-Powered | Roth, James | WebEx |
| Essex Energy Corporation | Casey, Patrick | WebEx |
| Great Circle Solar Management | Antic, Tina | WebEx |
| Great Circle Solar Management | Wharton, Karen | A |
| Ivaco Rolling Mills | Abdelnour, Francois | A |
| Lakeland Holding Ltd. | Montpetit, Jennifer | WebEx |
| Ministry Energy | Kersman, Paul | WebEx |
| Ministry of Energy | Akhter, Freed | WebEx |
| MSP | Yauch, Brady | A |
| Nexus Energy | Coulbeck, Rob | A |
| Northland Power Inc. | Samant, Sushil | A |
| Northland Power Inc. | Veldhuizen, Jon | WebEx |
| Northland Power Inc. | Zajmalowski, Mike | WebEx |

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|---|-------------------|-------|
| NRG Curtailment Solutions, Inc. | Briggs, Kara | WebEx |
| Ontario Power Generation | Kim, Jin | A |
| Power Advisory | Lusney, Travis | A |
| Power Advisory | Simmons, Sarah | A |
| Rayonier Advanced Materials | Laflamme, Serge | WebEx |
| Resolute Forest Products | Degelman, Cara | A |
| Resolute Forest Products | Ruberto, Tony | WebEx |
| Rodan Energy Solutions | Goddard, Rick | WebEx |
| Rodan Energy Solutions | Stewart, Blaire | WebEx |
| Southcott Ventures | Lampe, Aaron | A |
| Toronto Hydro Electric Services Limited | Marzoughi, Rei | A |
| Voltus, Inc | Grav, Jorgen | WebEx |
| Amp Energy | Cibuku, Olta | WebEx |
| IESO | Cumming, Adam | A |
| IESO | Jabbar, Adnan | A |
| IESO | King, Ryan | A |
| IESO | Nusbaum, Stephen | A |
| IESO | Singh, Diljeet | A |
| IESO | Trickey, Candice | A |
| IESO | Young, Jennifer | A |
| IESO | Nollert, Beverly | A |
| IESO | Agrawal, Vipul | A |
| IESO | Ashraf, Kausar | A |
| IESO | Lafoyiannis, Anna | A |
| IESO | Palmer, Nathan | A |
| IESO | Tang, Jessica | A |
| IESO | Ujla, Karan | A |
| IESO | Wagner, Tam | A |
| IESO | Young, Jennifer | A |
| IESO | Zaworski, Richard | A |
| IESO | Zhang, Simon | A |

Please report any corrections, additions or deletions by e-mail to engagement@ieso.ca
All meeting materials are available on the IESO web site at: <http://www.ieso.ca/en/Sector-Participants/Engagement-Initiatives/Working-Groups/Demand-Response-Working-Group>

Introduction – Jennifer Young (IESO)

The IESO welcomed participants and described the format of the meeting.

Agenda Item 1: DRWG Updates

Speaker: Candice Trickey (IESO)

Candice reviewed the agenda and discussed progress against the revised work plan.

The IESO noted that a separate stakeholder engagement has been initiated to discuss energy payments for economic activation of demand response resources. The IESO decided that a separate stakeholder engagement was needed to gather broader stakeholder feedback on this issue given that the issue is complex and would be a substantive change to Ontario's energy market.

Agenda Item 2: Presentation – Cost Recovery for Out-of-Market Activation Payments

Speaker: Ryan King (IESO) and Anna Lafoyiannis (IESO)

Ryan reviewed the stakeholder feedback received on the out-of-market activation payments proposal presented at the June 2019 DRWG as well as the final proposal. Anna reviewed the market rule amendments and market manual concepts to support implementation of the proposal.

A participant asked under what conditions the bid from an hourly demand response resource would be considered a reflection of its actual costs. The IESO explained that, under the current design, there is no requirement for these resources to consume based on their bid level and thus there is no indication as to whether the bid reflects the resource's actual costs.

A participant noted that from a customer/aggregator perspective, there is no difference in cost for test activations and emergency activations. The IESO indicated that while there may be no difference in cost, there is a difference in value to the market under each of these scenarios; i.e., an emergency activation has a different value to the market than a test activation.

A participant noted that the fixed payment of \$250/MWh would not cover the cost of taking out a plant to deliver on the curtailment and noted that a compromise would be to allow hourly demand response resources to schedule their own tests. The IESO noted that there is some advance notice provided for tests and that allowing participants to schedule their own tests would defeat the purpose of the test.

Editor's Note: The IESO notifies participants one day in advance of tests. If a participant's full capacity obligation is not available for the test, the participant can adjust its bids so as to reflect the current capability of the resources.

Agenda Item 3: Presentation – Estimates of Demand Response Potential in Ontario
Speaker: Kausar Ashraf (IESO)

Kausar described that the IESO is interested in understanding how demand response resources can contribute to meeting future capacity needs, and will endeavour to build this understanding by seeking input on the demand response potential in Ontario over the next 10 years.

A participant asked what level of energy efficiency was factored into the demand forecast. The IESO noted that the demand forecast included historical savings from the Conservation First Framework (CFF), savings from the wind-down of the CFF and the savings up until the end of 2020 from the interim framework.

A participant asked how demand response was assumed to be contributing to the capacity gap shown in the presentation. The IESO explained that the outlook presented includes the same level of demand response - as that acquired in the last demand response auction – persisting over the planning horizon.

Agenda Item 4: Presentation – HDR Resource Testing Proposal
Speaker: Vipul Agrawal (IESO) and Diljeet Singh (IESO)

Vipul presented high level concepts related to the capacity qualification process and performance obligation and assessment mechanism, which are planned to be introduced as part of the Capacity Auction stakeholder engagement, starting with the December 2020 auction, and provided a preliminary look at how these processes may apply to demand response resources.

Diljeet presented the IESO's proposal for testing hourly demand response resources, and reviewed and responded to stakeholder feedback received following the June 2019 DRWG meeting.

A participant asked how far back, in terms of historical performance, the IESO will go to inform unforced capacity (UCAP). The IESO explained that a period of 5 years is typically used for generators; however, the right amount of historical data, and how that data may be used, for demand response is yet to be established and that the timeframe may be different depending on the technology.

A participant noted that the demand response resource will be disadvantaged if historical performance is used to inform UCAP given the recent discussions on test results and issues and concerns with measuring demand response properly. The IESO noted that this is something that we need to be aware of as part of further discussions on the capacity qualification process. The IESO also noted that, in most cases, test results have shown that resources that are failing are doing so by a small amount and that we are getting the majority of the capacity that is called upon. This is an

important distinction to make to ensure that the demand response resource is not unfairly characterized in general.

A participant asked when the capacity check test would be carried out and whether the ICAP would be tested before the auction or obligation period. Further, a participant asked how this timing would work for weather sensitive hourly demand response resources. The IESO noted that the capacity check test would not be conducted before the auction, and that one of the options being explored is the feasibility of conducting a capacity check test before the obligation period - recognizing that some types of demand response may not be available ahead of the obligation period for testing.

A participant noted that if you have a weather-sensitive load, the bid quantity in the shoulder season would be lower than the resource's full capacity obligation and asked how this would work under the new testing regime and eligibility for reduced testing. The IESO noted that no changes have been proposed to the settlement process and the participant would still be settled based on their bid quantity. However, in order to be eligible for reduced testing, the resource must demonstrate that they can deliver the full capacity obligation for maximum activation duration (4 hours). If the resource does not deliver the full capacity obligation, the IESO would continue to test the resource for 4 hours.

A participant noted that there should also be a percentage change eligibility threshold for capacity obligation changes to maintain reduced testing. The IESO noted that this would be considered.

Editor's Note: The IESO has determined that the eligibility threshold for capacity obligation changes to maintain reduced testing will remain at 5 MW or greater for the current proposal. The 5 MW threshold is consistent with that for reporting non-performance events and helps contain the risk associated with operating new capacity that has not been tested. The IESO will re-visit this criterion as the capacity qualification and performance obligation discussions evolve.

A participant asked whether a test is needed if the resource has an in-market activation. The IESO indicated that a successful in-market activation during the obligation period would suffice for testing, so long as the bid quantity reflected the full capacity obligation.

Agenda Item 5: Presentation – M&V / Data Submission Proposal
Speaker: Adnan Jabbar (IESO)

Adnan presented the IESO's proposal regarding measurement data submissions, contributor management and DR audit proposals and responded to feedback received following the June 2019 DRWG meeting.

A participant asked about data submission requirements for non-activation months; specifically, how far in the past could these requests be made and what timeline would be provided to fulfil the request. The IESO noted that a request for data for non-activation months would not be for settlement

purposes and the timeline would not necessarily reflect those for settlement submissions; the IESO welcomes stakeholder input on the timelines.

A participant noted that, with respect to the VEE proposal, a contributor that is unable to supply data when activated for reasons outside of its control would provide 0 MWh for intervals outside of the activation window, and the 90-day peak value for intervals within, and asked the IESO to confirm this proposal because the contributor would provide a negative contribution to the resource. The participant expressed concern about a negative contribution and expressed that it should instead be zero. The IESO confirmed the participant's understanding of the VEE proposal and noted that the proposal is meant to provide aggregators with a means of managing the risk associated with collecting data from contributors. The IESO has used a principled approach to develop this proposal that is consistent with the treatment of physical contributors.

A participant asked whether the LDC interval data would be required for each contributor at the time of audit and how this data would be used. The IESO explained that the LDC interval data would be requested for a select number of contributors as a spot check.

A participant asked about the timelines to move forward with some of the proposals that have been finalized. The IESO noted that timelines will be discussed at the next DRWG meeting.

Agenda Item 6: Wrap-Up

Speaker: Candice Trickey (IESO)

The IESO recapped the main topics of the meeting and reminded stakeholders about important deadlines for feedback.

| Responsible Party | Action Item |
|--------------------------|---|
| IESO | The IESO to provide timelines for implementation of M&V / Data Submission proposals at the next DRWG meeting. |