

Demand Response Working Group

Meeting Minutes – March 29, 2016

Minutes of Meeting

Company Name	Invited/Attended	Attendance Status (A)ttended; (R)egrets; (S)ubstitute (TC) Teleconference
Bruce Sharp Energy	Sharp, Bruce	A
Burlington Hydro	Guatto, Dan	R
City of Toronto	Cheng, Jessie	A
City of Toronto	Koff, Chaim	A
City of Toronto	Poto, Angelo	A
Conestoga Cold Storage	Dobson, Jonathan	TC
Conestoga Cold Storage	Scott, Trevor	TC
Customized Energy Solutions	Chintapalli, Raj	TC
Direct Energy	Spankuch, Andrew	TC
DTE Energy Trading	German, Robert	TC
Elster Solutions (now part of Honeywell)	Roberston, Jack	A
Energy Hub	Kier, Laura	TC
EnergyHub	Diamond, Erika	R
EnerNOC, Inc.	Griffiths, Sarah	A
EnerNOC, Inc.	Barnes, Matt	A
FCA US LLC	Stinner, Doug	TC
General Motors of Canada	Ali, Adel	TC
Great Circle Solar	Gorman, Mitch	TC
Great Circle Solar Management	Wharton, Karen	A
Great Circle Solar Management	Warnock, Melanie	R
Hamilton Utilities Corporation	Crown, Mike	A
IBM Canada Account	Abraha, Amha	R
Ivaco Rolling Mills	Abdelnour, Francois	TC
Kuntz Electroplating Inc. (KEI)	Colvin, Dave	A
Kuntz Electroplating Inc. (KEI)	Aubin, Dave	A
Ministry of Energy	Qureshi, Musab	R
Nest Labs	Amaral, Utilia	A
Nest Labs	Calin, Iuliana	A
NRG Matters Corp.	DiRuscio, Carmine	A
NRStor Inc.	Osborne, Geoff	R
OPower	Lopez, Alex	TC
Region of Peel	Mishra, Sanjay	A
Renewable Energy Systems Cda	Roberston, Hannah	TC
Resolute Forest Products	Degelman, Cara	TC

Company Name	Invited/Attended	Attendance Status (A)ttended; (R)egrets; (S)ubstitute (TC) Teleconference
Resolute Forest Products	Ruberto, Tony	TC
Rodan Energy Solutions	Goddard, Rick	A
Rodan Energy Solutions	Holowatsky, Yuri	A
Rodan Energy Solutions	Quassem, Farhad	A
Rodan Energy Solutions	Grove, Willie	A
Rodan Energy Solutions	Ingram, Rachel	R
Sussex Strategy Group	Simmons, Sarah	TC
Tembec	Laflamme, Serge	TC
Toronto Hydro-Electric Services Limited	MacDonald, Justin	A
WeatherBug Home	Crawford, Jaden	A
Whitby Hydro Energy Services	Conte, Frank	R
IESO	Drake, Gordon	A
IESO	Grbavac, Jason	A
IESO	King, Ryan	A
IESO	Kwok, Jason	A
IESO	Chapman, Tom	A
IESO	Lafoyiannis, Anna	A

Please report any corrections, additions or deletions by e-mail to engagement@ieso.ca.

All meeting material is available on the IESO web site at:

<http://www.ieso.ca/Pages/Participate/Stakeholder-Engagement/Working-Groups/Demand-Response-Working-Group.aspx>

Item 1 Welcome and Introduction

Gordon Drake of the IESO welcomed working group members, reviewed demand response accomplishments over the last year and provided direction for demand response and the working group in the upcoming year. This group is intended to be a collaborative forum to provide interested stakeholders with an active forum to advise the IESO of areas of improvement regarding demand response with particular attention on the evolution of the DR and areas of interest to participants (i.e. incentives, auction optimization, experiences, etc.)

As this is the first meeting of the working group, the IESO is seeking feedback on a number of topics. The feedback provided at this meeting will become the discussion topics for future DRWG meetings.

Item 2 DRWG Overview and Review of Stakeholder Feedback

Ryan King of the IESO provided an overview of the Demand Response Working Group and reviewed the Terms of Reference. Ryan also responded to feedback on the Terms of Reference received from DRWG members submitted prior to the meeting. This feedback is posted on the IESO's DRWG webpage under the February 5 meeting date.

Attendee Questions, Comments and Discussion, with the IESO's response in italics:

An attendee asked whether the IESO would advocate for the addition of DR representative to the Technical Panel given the expectation that future Market Rule Amendment submissions would directly impact DR stakeholders?

The IESO welcomed the question and noted that it is beyond the scope of the DRWG to comment on Technical Panel composition. The IESO did note that the Technical Panel is meant to vote on the technical merits of proposed Market Rules and ensure that the proposals are a reflection of the discussions which took place during stakeholder consultation. Therefore, the most appropriate place to develop and discuss the content of those Market Rule Amendments would be at the DRWG and not at the Technical Panel.

Item 3 Open DR Discussion

Anna Lafoyiannis of the IESO facilitated a discussion with working group members on their experience in the first DR Auction experience as well as opportunities for future improvements. Anna requested that all feedback provided at the meeting also be submitted in written form to engagement@ieso.ca so that it can be fully captured.

Attendee Questions, Comments and Discussion, with the IESO's response in italics:

A working group member commented that they appreciated the transparency and clarity of stakeholder consultation and support provided by the IESO in advance of the first auction as well as the flexibility afforded to participants by moving the opening of the offer window for the first auction to align with typical business hours.

The IESO thanked the member for their feedback.

A member noted that the results of the auction were such that the winning participants were largely the incumbents from previous DR programs. Other working group members saw the reason for this was that the auction was a new process that appears complex to new participants. It was also expressed that some potential participants were unsure of the pricing outcomes, given that this was the first auction, and they expected that the price would be lower than previous DR programs.

As this is a transitional program, it was expected that it would take more than a single auction to attract new participants in the process. The pricing outcomes from the first auction can now be used as a signal

to those who may not have participated in the first auction to have a better idea of the expected revenues for those who successfully clear the auction.

A working group member encouraged the IESO to strive for even greater transparency in the sharing of information about the auction with interested parties. It was suggested that the IESO make available a single document, in plain English, which describes the basic steps required to participate in the auction and the obligations for those market participants who receive a capacity obligation.

In the next few days, the IESO will be publishing a plain language document as described that will be available online on the IESO's training website (<http://www.ieso.ca/Pages/Participate/Training.aspx>).

IESO Note: The document will be published on the IESO's training website on Friday, April 8th.

Working group members commented that the registration process and systems were proving to be a challenge for those who were successful in the first auction. A member commented that the process to register contributors to an aggregated resource required significant effort in order to meet the registration timelines. The stakeholder understands that this may only have been the case for the initial auction, but noted that the software interface was clearly designed for direct participants in mind. Members encouraged the IESO to examine the practices of other jurisdictions such as a bulk upload of contributor information, as is done in PJM, to see how this process might be improved.

The IESO thanked the members for their feedback and committed to explore opportunities to improve the registration system in response to the feedback.

Item 4 Proposed Updates to the DR Auction Clearing Mechanism

Jason Kwok of the IESO presented some initial information for discussion on the IESO's proposed updates to the DR Auction Clearing Mechanism including an update to the zonal pricing mechanism and an update to the optimization engine.

Attendee Questions, Comments and Discussion, with the IESO's response in italics:

A working group member asked why the IESO is proposing to update the zonal pricing mechanism and whether this was a response to actual auction outcomes or simply an improvement on the design to align with its original intent?

The IESO responded that there was price separation in some zones in the first auction but this proposal is not a direct response to those outcomes. This proposal is an improvement on the current design that is better aligned with its intent for zonal price signals. This proposal will send a better price signal about supply and demand conditions within a zone if there are otherwise economic offers in a zone which can't be selected due to the zonal DR limit. This signal is important to DR Auction Participants in that zone as well as to other market participants about the oversupply of economic DR in certain zones.

A member asked about the example on slide 11 and whether the price would have been set at \$250/MW-day in that zone if the final offer had been “partial” instead of “full.”

Yes, if the higher offer could be partially selected, then some of that offer would have been selected, up to the zonal limit, and would have set the price in that zone.

Participants asked whether the IESO expected to change the number of zones for the next auction.

The current auction zones are defined by the existing ten electrical zones on the transmission system. The transmission limits and zonal boundaries will continue to be reviewed by the IESO and if changes are made they will be reflected in the pre-auction report.

With respect to the “overhang” proposal, a member asked how far beyond the demand curve the optimization engine would consider an offer and still select it.

The current optimization process maximizes the surplus area under the demand curve. The “overhang” proposal allows for relaxing the demand curve constraint if, by doing so, the surplus area under the demand curve is larger and the surplus gain of accepting that offer is greater than its surplus reduction. The IESO noted this proposal was consistent with practices used in ISO-NE and PJM’s capacity market optimization engine.

A member asked whether the proposal to allow overhang was only applied to zones that were under their zonal limit.

The “overhang” proposal only applies to the province-wide demand curve. Since the zonal limits are a reliability limit which represents our ability to accommodate only a certain quantity of demand response in a zone, we will not procure DR capacity in that zone beyond the zonal limit.

Item 5 Expanding DR Participation in the DR Auction

Jason Kwok of the IESO requested feedback and comments from DRWG members on:

- What additional technologies and sectors are capable of meeting existing DR resource capabilities?
- Are there unnecessary barriers preventing participation?

Jason also reviewed with working group members on how to participate in the DR Auction and how to satisfy an obligation in the energy market resulting from a successful auction offer.

Attendee Questions, Comments and Discussion, with the IESO’s response in italics:

A working group member commented they see three main barriers to entry: (1) the contributor registration system; (2) the need for 5-minute interval data; and (3) the historical baseline. The member expressed the difficulty of registering many contributor loads, particularly where it might require upwards of 50,000 individual households to be registered. A project of that size would be overly burdensome to register under the IESO’s current process. The working group member also commented the requirement for 5 minute interval-metering could be a barrier to

participation. The member noted that a 30 minute or 60 minute interval metering granularity is typical for residential meters. The stakeholder also commented on the baseline calculation methodology noting that it reflects the historical DR providers, specifically commercial or industrial loads, which have standard load profiles during business days that do not vary based upon the outside temperature/weather. A residential load profile, however, is strongly correlated to temperature. The stakeholder suggested that the IESO allow market participants to submit proposals for custom baselines, as is allowed in other jurisdictions, which would be more reflective of a residential customer's load profile.

A member echoed the earlier comments on barriers to residential DR participation and recommended that the IESO explore other M&V options for aggregators such as statistical sampling, where a number of loads within a zone metered on a 5-minute interval can be used as a sample to represent DR for that zone, which is metered at a 30 or 60 minutes interval. *The IESO thanked the members for their feedback. The residential sector has been identified as key area of focus in expanding participation in the auction. Feedback such as this is helpful in understanding which barriers exist and which unnecessary barriers can be removed to facilitate greater participation from residential DR.*

A member commented that the 1 MW minimum aggregated load requirement prohibits participation and reducing that requirement would allow for more groups to participate. *The 1 MW facility size is consistent with the minimum sizes of other resource types in the IESO-administered markets but the increasing adoption of smaller, more distributed resources provides us with an opportunity to revisit this requirement.*

Another issue raised by members was the IESO's dispatch process which requires that participants log on daily to check if they have been placed on standby or activated; the process makes introduces another step in the process that the DRMP must take to manage their different assets. It was suggested the IESO provide an automated solution that actively notifies participants when they receive a standby and activation notice, rather than publishing a report hourly that the participant needs to check.

Publishing energy schedule information in private reports on a common reporting site that DRMPs need to check is consistent with the IESO's treatment of other market participants, such as intertie traders. The IESO replied that participants may be able to purchase, or develop in-house, notification software and that such software is already used by other market participants.

A member suggested the IESO could provide a list of potential IT service providers for market participants. Other jurisdictions, such as PJM provide a voluntary, opt-in list of technology providers.

The IESO does not publish the list of technology providers to avoid the appearance of showing preference to one provider over another.

Item 6 Demand Curve Elements

Gordon Drake of the IESO presented considerations in determining the parameters for the demand curve for the 2016 DR Auction.

Attendee Questions, Comments and Discussion, with the IESO's response in italics:

A member noted that 'long-term policy goals' was listed in the presentation as one of the considerations in establishing demand curve parameters such as the Target Capacity. The stakeholder noted that the IESO should take a long-term view in establishing demand curve parameters year-over-year, and that meeting the 2013 Long Term Energy Plan policy goal should be considered, as DR sector growth requires an investment of time and resources on the part of DR participants. The member's view was that the sector is constantly evolving and to achieve the LTEP goal, a more linear growth trajectory may be required, rather than addressing needs year over year.

The IESO agrees that discussing the approach that should be used to establish the Target Capacity for the next and subsequent auctions is important for both the IESO and stakeholders in order to plan their business accordingly. The IESO is proposing to continue to discuss the Target Capacity for the next and future auctions through future DRWG meetings. Members will have the opportunity to present their views on the factors that should influence a sustainable growth in Target Capacity and have a discussion on an appropriate trajectory.

A member asked if the IESO could publish the pre-auction report, including the Target Capacity earlier in the summer, rather than in September as is currently done. If there is a need for further MWs from the previous year, getting the new target capacity in September may make it difficult for aggregators to get MWs ready in specific zones.

The IESO recognizes the need for timely information. This applies equally to any proposed design changes from one auction to the next as well as the specific elements of the demand curve. The IESO will consider whether the pre-auction report can be published further in advance of the auction to allow Demand Response Auction Participants sufficient time to recruit and maintain contributors should the Target Capacity be increased.

A member asked if the IESO would be making changes to the demand curve elements from the 2015 values for the 2016 DR Auction.

The IESO responded that they have committed to reviewing the demand curve at least every three years but wants to limit the number of changes from one year to the next in order to ensure that the price signals from one auction continue to be relevant for prospective auction participants in the next auction.

A member asked if the IESO would be accepting Market Rule change proposals from members. *The IESO requested that written feedback be provided and the proposal could be the topic of discussion in a future DRWG meeting.*

The IESO thanked all members for their participation in the working group meeting. Tom Chapman reminded members that the feedback received at today's meeting will help inform the discussion topics for future DRWG meetings and that we look forward to collaborating with members in an ongoing discussion on their priorities for developing the role of demand response in the IESO-administered markets.

Ryan King of the IESO addressed the next steps. Working group members were reminded to send their comments, feedback/questions and proposals to engagement@ieso.ca. Please provide feedback by April 20, 2016.