

Demand Response Working Group (DRWG) Meeting Notes

Date held: May 30, 2016	Time held: 9:30 am – 12:00 pm	Location held: Crowne Plaza, Toronto Airport
Company Name	Attendee	Attendance Status (A)ttended; (R) Registered; (S)ubstitute; (TC) Teleconference; (P) Presenter
Registered to attend in person were:		
Boma	Gnanam, Bala	R
City of Toronto	Cheng, Jessie	A
City of Toronto	Koff, Chaim	A
City of Toronto	Poto, Angelo	A
City of Toronto	MacDonald, Justin	A
Direct Energy	Sheridan, Kevin	R
Elster Solutions (now part of Honeywell)	Roberston, Jack	A
Energy Hub	Kier, Laura	A
EnerNOC, Inc.	Griffiths, Sarah	A
Great Circle Solar Management Corporation	Gorman, Mitch	A
Great Circle Solar Management Corporation	Herring, Clarke	R
Great Circle Solar Management Corporation	MacFayden, Mathew	A
Great Circle Solar Management Corporation	Barkley, Robert	R
Hamilton Utilities Corporation	Crown, Mike	R
Ministry of Energy	Qureshi, Musab	A
Nest Labs	Amaral, Utilia	A
Nest Labs	Calin, Iuliana	A
NRStor Inc.	Osborne, Geoff	R
Opower	Lopez, Alex	A
PowerStream Inc.	Carr, Daniel	A
Resolute Forest Products	Degelman, Cara	A
Rodan Energy Solutions	Goddard, Rick	A
Rodan Energy Solutions	Quassem, Farhad	A
Rodan Energy Solutions	Grod, Adrian	A
Rodan Energy Solutions	Nunes, Gary	A
WeatherBug Home (Good Company Associates on behalf of)	King, Robert	A

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Registered to attend in person were:		
Whitby Hydro Energy Services	Conte, Frank	A
IESO	Abdul-Razzak, Sura	A
IESO	Chapman, Tom	A
IESO	Drake, Gordon	A
IESO	Grbavac, Jason	A
IESO	Kamstra, Pat	A
IESO	King, Ryan	A
IESO	Kwok, Jason	A
Registered to participate via teleconferencing		
Energy Curtailment Specialists	Moore, Michael	TC
Energy Curtailment Specialists	Merlina, Betty	TC
Energy Curtailment Specialists	Hausle, Kyle	TC
EnerNOC, Inc.	Barnes, Matt	TC
General Motors of Canada Company	Ali, Adel	TC
IBM Canada Account	Abraha, Amha	TC
Ivaco Rolling Mills	Abdelnour, Francois	TC
NRG Matters Corp	DiRuscio, Carmine	TC
PowerStream Inc.	Yin, Geri	TC
Tembec	Laflamme, Serge	TC
Meeting Chair: Gordon Drake, Supervisor, Market Development, IESO Facilitator: Ryan King, Market Relations, IESO Scribe: Pat Kamstra, Markets, IESO		
Please report any corrections, additions or deletions 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

Jason Kwok of the IESO presented a review of the proposed updates to the DR Auction clearing mechanism, originally proposed by the IESO at the March 29, 2016 meeting of the DRWG. As there were no proposed changes received from stakeholders, these changes will be implemented for the December 2016 auction.

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

An attendee asked the IESO to confirm if the proposed change to the optimization engine (which would clear a "full" offer that crosses the demand curve provided that accepting that offer improves the objective function, slide 18) would be limited by the zonal DR capacity limit. *The IESO indicated that this was correct.*

An attendee asked the IESO to elaborate on the meaning of surplus gain and surplus reduction for the IESO's proposed change to the optimization engine (slide 18).

The IESO responded that surplus gain is the incremental increase in the area under the demand curve less supply cost, indicated by the supply offer curve, which would be the benefit if the offer was accepted. The surplus reduction is the area to the right of the demand curve, which is the incremental reduction in benefit from accepting that offer. The DR Auction clearing mechanism would net these two components when considering that offer during the optimization.

Item 2

Jason Kwok of the IESO presented a new proposal to enable the transfer of DR Capacity Obligations between qualified Demand Response Auction Participants, for the consideration of the DRWG. IESO staff noted that this proposal was driven by stakeholder feedback during the DR Auction Stakeholder Engagement and previous DRWG meetings.

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

An attendee asked the IESO to clarify the quantity limitation for the transfer of capacity. *The IESO responded that a transferee (participant receiving the DR Capacity Obligation transfer) may receive up to the MW quantity of DR Capacity that they qualified under the capacity qualification process but did not clear in the DR Auction. The DR Capacity transfers may only be for the same zone and type (virtual/physical).*

An attendee asked if the IESO would be presenting rules to allow transfers.

The IESO responded that there would likely be some IESO Market Rule changes to facilitate the capacity transfer proposal. This will allow the IESO to assign the proper settlement treatment for each Demand Response Market Participant operating in the energy market. However, the IESO will not have a role in establishing agreements between the two parties to support the transfer or provide any IESO-supported platforms to do so.

Item 3

DRWG participants (including Iuliana Calin from Nest Labs, Rick Goddard from Rodan, and Alex Lopez from Opower) presented information on the capabilities of a variety of residential demand response (RDR) technologies and the perceived barriers to participation of RDR in the DR Auction.

Nest Labs Presentation

Nest provided a presentation on their thermostat technology and its applications in residential demand response in other jurisdictions.

Member Questions and Comments:

Q: Who controls the thermostat for the Rush Hour program; Nest or the local distribution company (LDC)?

A: Nest indicated that they dispatch the thermostats.

Q: How many events were dispatched by Nest last year?

A: Nest indicated that 15 events were called last year. The Rush Hour program allows for up to 15 events per season (winter and summer), to ensure customer comfort.

Q: Where does the customer data reside and who “owns” the customer data?

A: Nest responded that they are a U.S. company and the data resides in the U.S. The data is owned by the customer and protected by privacy laws, but is made available to program evaluators.

Q: Are demand response events with shorter durations more effective?

A: Nest stated that a shorter event is better partly for customer retention reasons and partly for comfort. A one hour event is too short to deliver a meaningful reduction, and more than 4 hours is too long (resulting in customers adjusting their thermostat and opting out of the event and potentially the program). Event duration of 2-3 hours was optimal for customer comfort, and a weekday afternoon event impacts the customer less.

Comment:

- Historical baselines with in-day adjustments may not be reflective of consumption on hot days. In a study from California, baselines with in-day adjustments may still be inaccurate because they often do not adequately address weather changes. Alternative baselines are recommended; for example, Firm Service Level which sets the baseline at a level that a resource would not exceed, or Comparison/Control Group baseline using a sample load that is not participating to set the baseline.

Rodan Presentation

Rodan discussed Peaksaver program resources, for which Rodan is the provincial dispatch operator, and the barriers for the participation of Peaksaver resources in the DR Auction.

Editor's Note: The Peaksaver program was designed to be a non-intrusive RDR program aimed at reducing electricity consumption of contributor enrolled appliances on the hottest days of the year (May

to September). During events, installed load control devices (LCDs) receive radio signals to cycle power of key appliances, primarily central air conditioners. The program has been moved into maintenance mode effective January 1, 2016 (no new installations).

Member Questions and Comments:

Q: Which months are included in the 3-4 months of peaksaver resource availability noted by Rodan?

A: Rodan indicated June, July, August and maybe September were the key months as a result of the program triggers, which are based on the issuance of an IESO Emergency Energy Alert (EEA), or a combination of very hot weather and high Ontario demand.

Q: Please provide information about meter data access in Ontario.

A: Rodan noted that consumers can access their own residential metering information and there is a central data repository in Ontario but this has not yet been utilized for DR program evaluation. There are initiatives underway; however, Rodan is not sure how far along these initiatives are.

Q: Why does the IESO require 5-minute data?

A: *The IESO responded that 5-minute data aligns with the obligations on other resources in the Ontario market. Deviations from dispatch require other resources to need to be dispatched to satisfy any imbalance, so there is a drive to 5-minute demand response to address real-time requirements and level the obligations of all market participants. Smart meters are a mix of 15- and 60-minute meter data.*

Comments:

- Residential customers often terminate participation in programs; a process to allow aggregators to address “churn” by replacing customers that leave the program out should be discussed.
- Access to metering & verification (M&V) data must be addressed because it can be a barrier to entry.
- Non-performance penalties can be a concern (for weather sensitive resources in Texas, there are no penalties if DR resources meet at least 90% of their capacity obligation).
- “Friction” in the management of customer acquisition should be discussed (for example, customer enrollment without an account number will improve the fluidity of the process for mass market participation).
- 15-minute demand response data averaged over 3 intervals should be considered as a means to use existing smart meters to provide “5-minute” measurements.
- Smart meters are able to provide 5-minute data; however, the capability to change the recording frequency is data is “locked” as a meter characteristic by Measurement Canada.
- Other jurisdictions accept 60-minute data (PJM, MISO), and the IESO should consider this.

- Although California may have issues with older meters, they accept 15-minute interval data.
- The Peaksaver program limits activations to 10 times per year; however, there is no limit for the number of activations for Hourly Demand Response resources.

Opower Presentation

Opower presented information about behavioural demand response and provided comments about removing barriers to residential DR in the DR Auction.

Member Questions and Comments:

Q: The IESO was asked what work could be completed before the December 2016 DR auction to allow participation of residential load. Areas of interest/concern are meter data management, contributor management, market rules and market manuals.

A: *The IESO responded that it is gathering information at this time and trying to determine if the barriers are just procedural or if there are more significant issues with respect to baselines, meter data, etc. Typically, the IESO leaves the “mechanics” to the market manual (whereas market rules contain higher level participant obligations). The IESO needs to map out a timeline but first requires fulsome discussion at DRWG. Following this, we will communicate a work plan for 2016.*

Q: How do participants receive energy market schedule information?

A: *The IESO responded that it currently publishes private market reports for participants; however, it is possible for participants to build solutions that will automatically retrieve their data.*

Comments:

- ERCOT settlement includes payment to participants for their average performance during DR activations; they are not settled based on capacity of DR provided.
- Certainty about activation hours is important; in California, participants are able to choose the hours for which they bid. There could be capacity fluctuations during the period of noon to 9 pm.
- 1 MW minimum size is a concern. A lower minimum, as utilized in other jurisdictions (PJM, MISO, ISO-NE) would be useful for residential DR.
- A sub-committee within the DRWG for residential DR may be useful.

Wrap-Up and Next Steps

Ryan King of the IESO thanked all participants and requested that stakeholders submit any questions and feedback by June 16 to engagement@ieso.ca.