

Demand Response Working Group (DRWG)

Meeting Notes – November 16, 2017

Minutes of Meeting

Date: November 16, 2017	Time: 10:00 am - 3:30 pm	Location: Four Points Sheraton
Company Name	Representative	Attendance Status (A)ttended; (TC) Teleconference
AMP Solar Group	Luukkonen, Paul	A
City of Toronto	Cheng, Jessie	A
City of Toronto	Koff, Chaim	A
City of Toronto	Poto, Angelo	A
Honeywell	Roberston, Jack	A
Tantalus	Cochrane, Mike	A
Energy Hub	Kier, Laura	A
EnerNOC, Inc.	Griffiths, Sarah	A
Great Circle Solar Management Corp	Wharton, Karen	A
Hydro One	Katsuras, George	A
Ministry of Energy	Qureshi, Musab	A
Ministry of Energy	Tomlinson, Patrick	A
Nest Labs	Amaral, Utilia	A
OhmConnect	Duesterberg, Matt	A
OhmConnect	Kooiman, Brian	A
OhmConnect	Edmonds, Katie	A
Powerful Solutions	Inman, Peter	A
Resolute Forest Products	Degelman, Cara	A
Rodan Energy Solutions	Goddard, Rick	A
Rodan Energy Solutions	Quassem, Farhad	A
Rodan Energy Solutions	Grove, William	A
Rodan Energy Solutions	Grod, Adrian	A
Rayonier Advanced Materials	Laflamme, Serge	A
Navigant	Grunfeld, Benjamin	A
Navigant	Roszell, Andrea	A
Registered to Participate via Teleconferencing		
Cpower	Campbell, Bruce	TC
Cpower Energy Management	Houhhan, Mike	TC
Customized Energy Solutions	Clemenhagen, Barbara	TC
Customized Energy Solutions	Withrow, David	TC
Direct Energy	Cavan, Peter	TC
Enbala	Thompson, Jonathan	TC
EnerNOC, Inc.	Chibani, Yanis	TC
Good Company Associates	King, Robert	TC

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Company Name	Representative	Attendance Status (A)ttended; (TC) Teleconference
Hamilton Utilities Corporation	Crown, Mike	TC
NRG Curtailment Solutions, Inc.	Vukovic, Jennifer	TC
NRG Curtailment Solutions, Inc.	Popova, Julia	TC
NRStor Inc.	Osborne, Geoff	TC
Toronto Hydro-Electric Services Ltd	Marzoughi, Rei	TC
IESO	Hartland, Mark	A
IESO	Kwok, Jason	A
IESO	Trickey, Candice	A
IESO	Chapman, Tom	A
IESO	Desai, Shilpan	A
IESO	Grbavac, Jason	A
IESO	Nusbaum, Stephen	A
IESO	Paredes, Jonathan	A
IESO	Tschirhart, Adam	A

All meeting material is available on the IESO web site at: <http://www.ieso.ca/en/sector-participants/engagement-initiatives/working-groups/demand-response-working-group>

Item 1 - Improved Utilization of HDR Resources

Jason Kwok provided an update on the 2017 Work Plan item “Improved Utilization of HDR”, informing stakeholders of the IESO’s proposal to add HDR resources to the IESO’s emergency control action list (EOSCA). The proposed change would be effective as of May 1st 2018, allowing the IESO to issue a standby notice and activate HDR resources out-of-market, in order to maintain reliability of the IESO-controlled grid.

The IESO plans to continue working with the DRWG to evolve HDR resources throughout 2018, and any future changes will be aligned with the requirements of the Incremental Capacity Auction (ICA). This will include increasing the scheduling flexibility of HDR, as well as exploring other possible options.

The IESO has requested feedback by December 1, 2017.

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

A member asked when is the Capacity Based Demand Response program set to expire. *Some CBDR capacity will expire on April 30th, 2018 and all remaining CBDR capacity will expire on October 31, 2018.*

A stakeholder asked what additional information will be provided to HDR resources to signal that they are on standby as a result of an out-of-market control action.

For an out-of-market control action requiring an HDR resource to be put on standby, the IESO will utilize the private market reports (i.e. the Standby Report) to notify participants that they are on standby. This is consistent with the notification method used when an HDR resource is scheduled in-market to be on standby.

A stakeholder asked if control actions are selected from the EOSCA list in a sequential order. Their experience from another jurisdiction is that the control actions available are selected from the EOSCA list at random.

While the EOSCA list provides an anticipated order of control actions, the IESO may initiate control actions at any point in the hierarchy. This is dependent on the specific circumstances and conditions of the IESO or an external control area. In addition, the IESO may alter the order in which the control actions are implemented to respond to reliability concerns.

A stakeholder asked if participants can expect to receive an explanation around why an Emergency Energy Alert (EEA) notice has been issued.

The IESO will publish Advisory Notices to notify market participants of anticipated system conditions that may require the implementation of control actions from the EOSCA list. In addition, the IESO will publish an Advisory Notice to indicate that an EEA has been issued. Collectively, this information will provide an explanation to market participants as to why an EEA notice has been issued.

A stakeholder asked if EEA's are typically issued in the day-ahead or real time, timeframe.

EEAs are typically issued in real-time, but there may be circumstances where an EEA-1 is issued in the day-ahead timeframe.

A member asked if an activation notice could be issued without a standby.

Under the IESO's proposal, an HDR resource activated as an out-of-market control action will receive a standby notice prior to receiving an activation notice. However, for in-market activations, an HDR resource could receive an activation notice without being placed on standby if that resource did not remove its energy bids by 9:00 EST of the dispatch day.

A stakeholder asked if there is a limitation to the total number of EEA's that can be issued in a commitment period.

There is no limit to number of EEAs that can be issued. An EEA indicates that the IESO is implementing Emergency Operating State Control Actions in anticipation of an emergency operating state.

A member asked if the IESO has put a DR resource on standby through out-of-market actions, and the resource has no bids in the energy market when an EEA is issued, will there be an additional penalty to the resource.

The IESO cannot put an HDR resource on standby if the resource has not submitted a bid into the energy market. Under the DR Auction's assessment for non-performance charges, the resource would receive an Availability charge in this situation.

A stakeholder asked if an additional notice will be sent to participants to let them know when the system is operating in an emergency state.

The IESO provides notice through its public website. <http://www.ieso.ca/en/sector-participants/rss-feeds/emergency-advisory-notices>

A member asked in addition to economics and reliability, are there other scenarios where an HDR resource can be dispatched?

The only other instance would be in the case of testing, which may occur up to two times per resource, per commitment period.

A stakeholder asked if including HDR in the EOSCA list would result in changes to market rules or manuals. Additionally, it was asked whether this endeavour would need to go through the Technical Panel process.

The proposal to add HDR resources to the EOSCA list does not require Market Rule changes and would therefore not be required to go through the Technical Panel process. Certain market manuals would require an update, such as MM7.1. The IESO will provide a complete list of impacted Market Manuals at the next DRWG meeting.

A member asked if the proposed Market Manual changes can be shared with the DRWG.

The IESO advised that as part of the Market Manual change process, all modifications to Market Manuals are published for public comment before those changes are finalized. The IESO can also notify the DRWG when those Market Manuals are published for review.

Member Questions and Comments with regards to scheduling flexibility, with the IESO's response in italics:

A stakeholder expressed some concern to the reduction or elimination of the standby notice, as this will mean that some of their resources will not or cannot participate. That being said, quicker responding resources have a higher value and we should look at the possibility to tier different resource types.

The IESO responded that it started the Expanding Participation in Operating Reserve initiative to look at enabling participation in the operating reserve (OR) market from resource types not currently participating. Participation in OR and thus, access to an additional revenue stream, could incent faster responding resources, including DR resources, to the market. More information on this initiative is available here: <http://www.ieso.ca/-/media/files/ieso/document-library/public-info-session/2017/epor-20171110-presentation.pdf?la=en>

A stakeholder commented that we should explore technologies which would enable DR resources to respond on a shorter basis.

A stakeholder asked that in a scenario where an issued standby notice is removed, would the bids remain in the system up until the activation window.

A standby notice, once issued to a resource, cannot be removed. Energy bids are managed by the participant so it is up to the participant to remove its energy bids.

A participant asked the IESO why an example of a 45 minute Activation notice was provided, and whether there is a possibility to reduce the notice period on a more gradual level.

The IESO schedules HDR resources based on its hourly pre-dispatch runs, which determines energy schedules for the upcoming hours approximately 15 minutes after the top of the hour, which is why a 45 minute notice was given as an example. A more gradual approach could be to move to a dispatch lead time of approximately 1 hour and 45 minutes.

Two separate stakeholders commented that it was their understanding that NYISO issued a standby notice day-ahead for the capacity based DR program called Special Case Resources (SCR).

The IESO has reviewed NYISO's SCR obligations and agrees with the stakeholder that NYISO's SCR resources must receive a day-ahead notification before they can be utilized in real-time.

The IESO clarifies that slide 11 of the Improved Utilization presentation should be corrected to say that NYISO does have a standby notice requirement but PJM does not.

Item 2 - Testing of HDR Resources

Adam Tschirhart presented the existing HDR resource testing procedure used by the IESO. The tests are conducted up to two times per commitment period and have typically involved up to three resources per DR Market Participant on any given day. Non-performance charges can be issued based on results of the testing, and participants who fail will likely be re-tested throughout the commitment period and flagged to the IESO's compliance department.

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

A stakeholder asked if the IESO would consider issuing a follow up e-mail, in addition to the phone call, confirming the resources that will be tested.

The IESO responded that it will consider this feedback.

A stakeholder mentioned that the previous testing days in September were considerably cooler than any other day in the season this year, causing challenges for weather sensitive loads.

Generally speaking, the amount of DR they have available to the IESO is higher in days with peak demand i.e. much hotter days.

The IESO stressed that a resource's hourly energy bid must reflect its hourly capability. If a resource has reduced capability then it should be reflected in their energy bid quantity.

Item 3 - Ontario Green Button Initiative

Patrick Tomlinson from the Ministry of Energy provided the Working Group with an update on the government's Green Button initiative. Mr. Tomlinson provided some background information on Green Button explaining that it is a data standard that enables households and businesses to access their utility data, and also allows consumers to authorize the automatic, secure transfer of their data from the utility to third-party solution providers. Further to this, the 2017 LTEP reaffirmed the government of Ontario's commitment to expand Green Button province-wide and to propose legislation that would, if passed, allow Ontario to require electricity and natural gas utilities to implement Green button Download My Data and Connect My Data.

Working Group participants were also made aware of the following key dates:

- October 31st 2017 – A Request for Bids (RFB) was issued to procure a technical consultant for support in developing Green Button implementation support documents. The deadline to submit a proposal is 11:00 AM on December 1.
- November 14th 2017 – As part of Bill 177, Stronger, Fairer Ontario Act (Budget Measures), the government introduced proposed legislative amendments to the *Green Energy Act, 2009*, and the *Ontario Energy Board Act, 1998*, to enable the province-wide implementation of Green Button. (Bill 177 received Royal Assent on December 14, 2017)
- December, 2017 – The government will issue a regulatory posting on the provincial Environmental Registry that will provide more details on the proposal to implement Green Button.

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

A stakeholder had a question regarding the amendments to the Green Energy Act. The language used in the Ministry's presentation was "it may" happen, but who decides whether it will happen?

The Ministry advised ultimately it is the government (Legislative Assembly) who decides when and what to pass. The regulatory proposal is scheduled to be posted next week when this will be made clearer.

A stakeholder commented that access to interval data can be difficult to get a hold of. With the introduction of Green Button, their hope is that commercial and industrial customers are treated equally in their access to data.

The Ministry commented that the proposal to implement Green Button will target all (commercial, industrial and residential) customers.

A stakeholder asked if the Cost Benefit Analysis supported a specific implementation type (the analysis identified four options: single-integrated hosted, multi-integrated hosted, non-

integrated hosted, and in-house). Additionally, they asked if the government would move ahead with the non-integrated hosted option if this option has a lower benefit to the utility. The Ministry answered that the government wants to enable Green Button in a way that maximizes the benefits for all stakeholders, including utilities. The Cost Benefit Analysis found that the single and multi- integrated hosted options were equally cost-effective.

A stakeholder asked if there will be a technical working group for electricity, gas and water utilities to support their implementation of Green Button.

The Ministry advised that there will be technical working groups for all three sectors and further details of the purpose of these working groups will be shared in the regulatory posting.

A stakeholder asked if the Green Button initiative provides analysis in addition to data.

The Ministry advised Green Button provides access to data only and does not perform analysis. One important benefit of implementing Green Button, however, is that it enables third party solution providers to provide analysis of energy consumption data.

A stakeholder asked if the government has considered the ease of access of downloading data to energy management tools like ENERGY STAR's Portfolio Manager.

The Ministry answered yes. In other parts of North America there are examples of solution providers empowering consumers by using the Green Button meter data and the Ministry is optimistic that third party solution providers will provide valuable services to Ontario consumers once Green Button is implemented province-wide. Specifically on the point of the interoperability between Green Button and Portfolio Manager, the Ministry confirmed that currently users can download data from Portfolio Manager to Green Button, but not upload data in the Green Button format into Portfolio Manager.

A stakeholder asked if there is there an implementation timeline for the Green Button.

The Ministry advised dates will be provided in the regulatory proposal.

A stakeholder asked if the directive would force the utilities to implement the Green Button.

Additionally, they asked whether the IESO or the utilities would be the hub for electricity data.

The Ministry advised that further details on the implementation proposal will be provided in the upcoming regulatory posting.

The IESO responded that this will likely be a direct relationship between the utility and the customer.

Item 4 - Incremental Capacity Auction Update

Stephen Nusbaum from the IESO provided the Working Group with an update on the Market Renewal Program Incremental Capacity Auction (ICA) Project. The importance of having DRWG members participate in the ICA stakeholder initiative was stressed. This will help to ensure DR specific considerations and concerns are taken into account during the design phase of the ICA. A high-level design of the ICA will be published in late 2018.

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

A stakeholder inquired as to the options for various durations that a resource may be able to offer into the ICA.

At the upcoming December 4th ICA meeting, length of forward period, commitment periods and multi-year commitment periods will be discussion topics. Information for this meeting can be found here: <http://www.ieso.ca/-/media/files/ieso/document-library/engagelica/ica-20171204-options.pdf?la=en>.

A stakeholder asked if the DR auction will stop when the ICA starts.

Yes. The IESO has not finalized the details of the transition from the final DR Auction commitment period to the first ICA commitment period but the IESO plans on integrating DR capacity into the first ICA commitment period.

A stakeholder asked if the DR auction will continue during the first forward period.

Yes. Depending on the length of the ICA's forward period, the IESO can continue to run DR Auctions for delivery during the ICA's forward period.

A stakeholder commented that the DRWG may be best positioned to discuss and/or consider some of the design issues around DR, and that they can provide value to the ICA if they are able to act as a forum to work on this aspect of the ICA. The stakeholder proposed that the ICA and DRWG should be streamlined, and that this can be achieved by allowing the DRWG to create proposals to send to the ICA.

The IESO responded that the ICA stakeholder engagement should be the primary forum for DR stakeholders' to provide feedback on the design of the ICA because it allows for discussion between all stakeholders. The DRWG can be a forum for DR stakeholders to discuss how to meet requirements determined through the ICA stakeholder engagement. There may also be opportunities for members in the DRWG to discuss specific detailed design options and then provide feedback and input into the ICA.

A stakeholder commented that they see value in DRWG participants taking part in the ICA. They stated that more participants should attend ICA meetings.

More information on the ICA stakeholder engagement can be found on the ICA webpage:

<http://www.ieso.ca/en/sector-participants/market-renewal/market-renewal-incremental-capacity-auction>

Item 5 - Utilization Payments

Mark Hartland from the IESO provided an update on the progress of the utilization payments paper which is currently undergoing a final review and is expected to be published in December 2017. Following Mark's introduction, Benjamin Grunfeld from Navigant discussed some of the key elements of the paper, specifically with regards to the economic efficiency argument, wider-market impacts, and a brief jurisdictional overview.

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

With regards to slide 7 of the presentation, a stakeholder commented that there is already harm to other suppliers based on policy decisions on emitting resources for example.

With regards to slide 9 of the presentation, a stakeholder asked if consistency with other resource types should also be added to the "fairness" argument to reflect consistency across the market.

A stakeholder asked if more favour should be given to low carbon resources such as DR in light of government policies such as carbon pricing.

The IESO responded that DR has not been providing significant greenhouse gas reduction because it has not been utilized very often.

The IESO asked working group members when a DR resource is curtailed, is consumption shifted or curtailed?

A member who is an aggregator responded that both can occur. For its contributors, some production is shifted and for others it is curtailed. An industrial consumer agreed that for DR activations consumption can be shifted or curtailed.

A stakeholder commented that DR already provides a benefit to the economy in terms of lower energy costs. Manufacturing costs are lower and more competitive.

A stakeholder questioned how weighting to the various arguments for and against would be determined?

For and against arguments identified by the discussion paper are designed to facilitate further discussion at the working group to discuss the merits in an Ontario context. Ultimately, the decision on DR utilization payments will be made by the IESO but the DRWG will advise on the potential benefits and drawbacks through discussion.

A stakeholder asked if there has been discussion around the administrative costs for aggregators on a case by case basis.

Stakeholders are encouraged to make presentations at upcoming DRWG meetings to share their views. To secure a timeslot in an upcoming DRWG agenda, please contact engagement@ieso.ca

A stakeholder commented that the outline does not highlight the societal benefits such as deferral of generation investments, reduced transmission losses, facilitation of DERs etc.

Navigant responded that it would be very difficult to quantify those "benefits".

A stakeholder asked if there are examples where DR is participating more often as a result of utilization payments, and if it can provide system flexibility.

Navigant commented that activation levels in the US have not increased significantly, and the majority of the revenues for DR continues to be from availability payments. In other markets

this has not as yet occurred, which leaves the question why. Is this because the LMPs are not at a high enough level?

A stakeholder asked how many jurisdictions utilize an auction for DR participation. Navigant responded that all the jurisdictions considered in the paper utilize an auction for DR participation.

DRWG Work Plan 2018

Jason Kwok from the IESO provided an overview of the work plan items initiated and completed in 2017. For the 2018 work plan, the IESO proposes to continue discussion on 2017 work plan items in progress including improved utilization of HDR resources, discussion on utilization payments and DR testing. The IESO further proposes that work plan items that were not discussed in 2017 will be reviewed by the DRWG alongside new items brought forward by the working group to be discussed and prioritized for 2018. The IESO also proposed to replace one of the goals for DR from “Develop an auction platform as an alternative to traditional procurements” to “Alignment with Market Renewal”.

Feedback was requested by December 8th. Stakeholders were also encouraged to make presentations at the upcoming DRWG meeting to share their perspectives. To be included in the upcoming DRWG meeting agenda, contact engagement@ieso.ca.

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

A stakeholder asked what peaksaver's contribution to the 2017 DR Auction target capacity was. *The IESO responded that after consultation with peaksaver stakeholders, the target capacity for the 2017 DR Auction was increased by 5 MW.*

A stakeholder asked how the IESO will transfer all the work done at the DRWG to the ICA. They commented that it does not feel as if there is enough DR discussion at the ICA. *The IESO encourages DR stakeholders to participate in the ICA stakeholder engagement. Internally, the IESO does consider DR in its ICA design. There will be resource specific discussion when the ICA stakeholder engagement moves into the detailed design phase next year.*

A stakeholder expressed concern that all the work done at the DRWG might be lost as it transitions to the ICA. They suggested the possibility that for 1 auction period the DRWG should work in parallel with the first period of the ICA.

Next Steps

The next in-person meeting is scheduled for January 30, 2018.