

Demand Response Working Group (DRWG)

Meeting Notes – September 12, 2017

| Date: September 12, 2017 | Time: 10am-2pm | Location: Crowne Plaza (Pearson Airport) |
|---|-----------------------|--|
| Company Name | Representative | In-Person (A) or Teleconference (TC) |
| City of Toronto | Cheng, Jessie | A |
| Nest Labs | Amaral, Utilia | A |
| Power Consumer | White, Adam | A |
| Power Consumer | Jagt, Mandy | A |
| Powerful Solutions | Inman, Peter | A |
| Alectra | Carr, Daniel | A |
| Resolute Forest Products | Degelman, Cara | A |
| Rodan Energy Solutions | Goddard, Rick | A |
| Rodan Energy Solutions | Quassem, Farhad | A |
| Rodan Energy Solutions | Grove, Willie | A |
| Rodan Energy Solutions | Grod, Adrian | A |
| Tembec | Laflamme, Serge | A |
| <i>Registered to participate via Teleconferencing</i> | | |
| City of Toronto | Koff, Chaim | TC |
| Cpower | Campbell, Bruce | TC |
| Customized Energy Solutions | Withrow, David | TC |
| Direct Energy | Cavan, Peter | TC |
| Ecobee | Ogbue, Nkechi | TC |
| Energate Inc. | Cochrane, Mike | TC |
| Energent | Thoms, Douglas | TC |
| Energy Hub | Kier, Laura | TC |
| EnerNOC, Inc. | Griffiths, Sarah | TC |
| EnerNOC, Inc. | Chibani, Yanis | TC |
| EnerNOC, Inc. | Kuzil, Kristen | TC |
| Great Circle Solar Management | Wharton, Karen | TC |
| Great Circle Solar Management | Warnock, Melanie | TC |
| Hamilton Utilities Corporation | Crown, Mike | TC |
| Hydro One | Candea, Charlotte | TC |
| Ministry of Energy | Qureshi, Musab | TC |
| NRG Curtailment Solutions, Inc. | Vukovic, Jennifer | TC |
| NRG Curtailment Solutions, Inc. | Popova, Julia | TC |
| NRStor Inc. | Osborne, Geoff | TC |
| OhmConnect | Kooiman, Brian | TC |
| Power Consumer | Su, Trevor | TC |
| Sympower | Harel, Liav | TC |

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| Company Name | Representative | In-Person (A) or Teleconference (TC) |
| Toronto Hydro-Electric Services | Marzoughi, Rei | TC |
| IESO | Chugh, Monique | A |
| IESO | Hartland, Mark | A |
| IESO | Kwok, Jason | A |
| IESO | Chapman, Tom | A |
| IESO | Fitzgerald, Dale | A |
| IESO | Grbavac, Jason | A |
| IESO | Leduc, Roland | 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 - Improving the utilization of HDR

Jason Kwok provided an update on the 2017 work plan item “Improved utilization of DR”. The IESO will not be proceeding with the proposed “Option 6” utilization changes to the HDR resources for the 2017 auction because it would likely not increase the utilization of HDR resources. The IESO believes that further discussion is needed to find an enduring solution that will demonstrate increased value to the system.

The 2017 auction will continue to utilize the 4-hour block dispatch of HDR resources, however the IESO remains committed to increasing the utilization of HDR resources with enduring improvements targeted for the 2018 auction.

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

A member commented that the IESO should continue its messaging to all stakeholders in the sector that we remain committed to putting in place the right set of changes that will increase the value of HDR.

A member asked for clarification on the standby notice price trigger in option 4, and why a threshold of \$100 was selected in this example.

Under option 4, a standby notice would be sent to all HDR resources before 07:00AM day-at-hand when the predispatch run identifies any 1-hour in the availability window that is at or above a fixed price threshold. The bid price threshold for HDR resources is set at \$100, which is the price that HDR energy bids must be above to be considered available. Therefore the \$100 price was selected in the example to illustrate how often predispatch prices are above this limit within the standby notice timeframe.

With regards to slide 8 of the presentation, a member commented that we should be mindful of critics to the program when making utilization changes to demonstrate the value of demand

response. This may have an impact on point 2 on slide 8 as we still need to increase dispatch whether this is dispatched economically or not.

A member commented that there should be equal treatment between load and supply in transitioning into the ICA, and asked for an expected timeline of transitioning DR into the ICA. *DR is expected to transition into the ICA, which with current timelines is expected to be in the early 2020s. More details will be available when the ICA high-level design is finalized.*

With regards to slide 10 of the presentation, a member asked why shadow prices went above \$1900 in the Toronto, South West, and East zones. Additionally they asked if resources in these zones were settled on local shadow prices.

The high prices for the Toronto, South West, and East zones were reflective of local and global system conditions during the polar vortex of 2014-2015. HDR resources are dispatched based on pre-dispatch shadow prices.

A member asked for information pertaining to the HDR capacity procured at the previous auction, and whether these are made up of new participants or existing DR3 participants.

In the December 2016 DR auction 455 MWs of capacity was procured for the 2017 summer commitment periods, and 478 MWs procured for the 2017/2018 winter commitment period. This was made up of existing participants from the DR3 program, as well as new participants. Details on the participants that cleared the 2016 DR Auction are published in the 2017 DR Auction Post Auction Summary report available on the IESO's website.

A member advised that DR resources have the potential to displace a large volume of generation in Ontario. The issue lays in the structure of DR in Ontario which results in optimal bidding strategies at the \$1999.99 price ceiling.

A member commented that resources with certain attributes such as a quicker response time should be viewed as a higher value resource. The increased value of more flexible loads should be reflected in the Ontario DR model.

A member commented that there is no incentive or additional revenue stream for resources other than avoiding higher electricity costs. They believe that providing a utilization payment would change this.

The IESO responded that resources that can respond faster are a more valuable resource. This increased value is recognized through the energy market where the faster resource would be scheduled to reduce more frequently when energy prices are high, allowing more opportunities for cost management. In addition, faster responding resources such as dispatchable loads can participate in providing 10 and 30 minute Operating Reserve, which is an additional revenue stream that not available to slower moving resources.

Note: Since the September 12 DRWG, the IESO has announced that it will be holding an information session on Expanding Participation in Operating Reserve in November 2017. This initiative will look at

expanding participation in Operating Reserve from resources types not currently providing the service. Demand response participants that are interested are encouraged to register for this upcoming meeting by contacting engagement@ieso.ca.

A member commented that instances of zero marginal cost energy prices in Ontario are becoming increasingly common. The DRWG should be thinking of the market this is coming. DR resources will not be compensated on the energy side and should be compensated on the capacity side.

[Slide 18 asked HDR participants how much notice they require in order to be activated? Below are member responses to this question.]

A member commented that there is no one size fits all when it comes to the notice required for a standby. Aggregators have participants that can respond with no notice, and other participants that require a notice day-ahead.

A member commented that bidding residential loads do not require a standby notice and could potentially be activated with 2 hours or 1 hour notice.

A member commented that we would probably see a loss of MW's from industrial loads if HDR resources transitioned to a 1 or 2 hour activation notice from the current 2.5 hours. Removing the standby notice would also be impactful because there are loads that change their production based on their standby.

A member commented that grid services are often multi-part products, and DR is a resource that is able to do the same. We should be looking at how to value the multi part product on the demand side, as well as on the generation side as is being discussed in Market Renewal.

A member commented that in an event of a standby notice they would require 4-hours to switch on their gas generator and prepare themselves for an activation.

A member commented that there are different attributes on the demand side with regards to the notice required. It should be noted that large industrial loads require a longer notice time.

Item 2 - IESO Report access and interfaces

In response to the 2017 work plan item "Automated standby/activation notice for HDR resources", the IESO presented an overview of existing IT capabilities of IESO systems. All reports can be accessed through the reports.ieso.ca website and are available in both XML and Json format. There is also remote access to IESO reports through a web API and SFTP.

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

A member commented that they would like to see the addition of an anonymized field in the public reports that shows the total MWs in the province that are placed on standby on any given day.

The IESO responded that the amount of HDR capacity that is currently bid into the energy market, and therefore available to be called upon is reported and updated hourly via the Adequacy Report.

Item 3 - Update on 2017 DR auction parameters

Jason Kwok provided an update on the 2017 auction parameters and informed that the reference price for the summer 2018 and winter 2018/2019 commitment periods will remain at \$413 Mw/day

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

A member asked how peaksaver will transition into the auction and whether this will be on an incremental basis.

The IESO responded that at the last DRWG meeting in July, the IESO proposed to transition peaksaver capacity by increasing target capacity over three years. The increase to target capacity for peaksaver capacity is informed through stakeholder feedback.

Item 4 – Utilization Payment discussion paper update

Mark Hartland informed the working group on the progress of the utilization payment discussion paper. Navigant is tasked with producing a discussion paper on the pros and cons of utilization payments that will include a jurisdictional scan, economic efficiency arguments, potential impacts on DR participation, and impacts to the wider market. This paper will help facilitate discussion on the merits of utilization payments in the working group.

Once the discussion paper is completed, the IESO will publish this on its website and include a presentation of the paper as an agenda item at the subsequent DRWG.

Item 5 - Review of standby notices for HDR resources

Monique Chugh provided information to members on the following reasons for issuing a standby notice; economics, testing, outage conditions.

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

A member asked if there is a definitive way for a resource to understand that they have been issued a standby notice based on an outage condition.

The IESO responded that for certainty on whether a standby notice has been issued based on an outage condition, a resource should contact IESO Customer Relations, who will investigate the reason that the standby notice was issued.