

Technical Session – HDR Qualification and Performance Assessment

Meeting Notes

Date: August 26, 2022

Time: 10:00 AM EST

Facilitator: Jason Grbavac, Supervisor, Stakeholder Engagement

Attendees

Name	Organization
Emma Wilson	ABO Wind
Wagner Ksenhuk	Algonquin Power
Colin Anderson	AMPCO
Alvin Zhang	Bruce Power
Jennifer Xu	Bruce Power
Paul Luukkonen	Customized Energy Solutions
Allen Freifeld	Demand Power
Chris Carradine	Ecobee
Shawn Peterson	Ecobee
Sarah Griffiths	Enel X
Lucas Born	EnPowered
Éveline Pelletier	Hydro Quebec
Francois Abdelnour	Ivaco Rolling Mills
Derek Blais	Kingston Cogen
Sean Mehrvarz	Lakeland Solutions

Name	Organization
Utilia Amaral	MarketStep Consulting
Rob Coulbeck	Ontario Energy Association
Daniel Tadros	OPG
Rose DeSantis	OPG
Monique Machado	Peak Power Energy
Sarah Simmons	Power Advisory LLC
Dave Forsyth	Rodan Energy Solutions
Roman Grod	Rodan Energy Solutions
Michael Pohlod	Voltus
Cam Carver	Workbench Energy
Erika Fleming	
Jessie Cheng	
Bala Venkatesh	
Adam Cumming	IESO
Adnan Jabbar	IESO
Andrew Duncan	IESO
Conrad Fox	IESO
Dale Fitzgerald	IESO
Daniel Coffin	IESO
Emma Ferner	IESO
Fahad Rashid	IESO
Jason Grbavac	IESO
Jeffrey Huang	IESO
Karan Ujla	IESO
Laura Zubyck	IESO
Maral Kassabian	IESO
Mark Drummond	IESO
Mike Risavy	IESO
Nam Nguyen	IESO

Name	Organization
Natalia Perdomo	IESO
Nicole Kosonen	IESO
Vipul Agrawal	IESO

Welcome and Introductions – Jason Grbavac

The IESO welcomed stakeholders to the meeting and provided an outline of the morning’s agenda, which included discussing the hourly demand response (HDR) qualification methodology and standby availability charge, and HDR performance assessment and thresholds. The IESO also spoke about the draft engagement plan, timelines and design elements discussed at the previous day’s meeting and reminded stakeholders that feedback is being accepted for those, in addition to today’s topics, until September 9th.

Discussion on HDR Qualification and the Standby Availability Charge – Fahad Rashid, Dale Fitzgerald, Vipul Agrawal

The IESO presented a recap of the general qualification methodology and the proposal for the standby availability charge (Appendix A). Stakeholders were then invited to ask questions on the IESO’s proposal or provide feedback for discussion.

A stakeholder asked how the IESO arrived at the factors used in the calculation for the standby availability charge in the example provided (and seen in Appendix A), and followed up by asking how the IESO arrived at a 25 MW de-rate.

The IESO responded that the factors generally are: capacity de-rate (MW) X clearing price (seasonal) X 125 business days (representative of the business days in an obligation period). The calculation on the right-hand side shows the implicit financial loss a dispatchable load resource is subject to after the application of a de-rate during the pre-auction qualification. For clarity, as a result of the 25 MW de-rate, the 100 MW dispatchable load is capped at offering a max of 75 MW into the auction therefore losing the revenue that could have been earned on that additional 25 MW during each obligation period.

The IESO also clarified that the 25 MW used as the capacity de-rate is an assumption made for this example (25% de-rate on a 100 MW resource), and that the function of the calculation would be the same regardless of the capacity amount used.

A stakeholder commented that engagement on this proposal was done in a condensed period of time, and suggested that there should be further consideration as to whether a dispatchable load is the appropriate resource to use as a proxy for the qualification of an HDR or whether using the methodology used for a generator (EFOR_d), for example, may be more appropriate.

The IESO responded that regardless of the de-rate methodology that is utilized, the important piece of the calculation is the revenue that could not be earned as a result of that de-rated capacity. The calculation is taking that de-rated amount and applying it across the 125 business days of the obligation period to determine the revenue that is not earned. The purpose of the standby

availability charge is to take that lost revenue incurred by another resource type and apply it over the standby days with a multiplier, to balance out the financial exposure across resource types.

The stakeholder followed up that the outage management component needs to be considered for loads, and commented that it will have a serious impact on the calculation.

The IESO thanked the participant for their comment.

A stakeholder asked if the IESO used a generator as the proxy resource, which is qualified using EFOR_d instead of a dispatchable load, would change the number of standby days used in the standby availability charge calculation.

The IESO responded that the dollar amount of lost revenue would change, but the number of standby days used in the standby availability charge would remain the same. The IESO then clarified that the design of the calculation is taking the 125 days of exposure for other resources (the obligation period), and applying that exposure over the 25 standby days to determine a multiplier that would make them equivalent.

The stakeholder followed up asking if the IESO could determine an EFOR_d for HDR resources instead of using the standby availability charge, or whether it would be something to consider in the future.

The IESO responded that they don't have access to the data needed to calculate an EFOR_d for HDR resources in the pre-auction period as they do physical resources like generators, but stressed that this would be the preferable method if it could be done. The fundamental framework of participation for HDR resources does not allow the IESO to access the data needed to calculate an EFOR_d, due to limiting factors such as:

- Contributors typically do not have IESO revenue meters that gives the IESO access to data;
- The portfolio of contributors in a particular resource can change month to month;
- Per the provisions in the market rules and manuals, HDR resources can pull their bids if not issued a standby notice by 9:30 a.m. on that day, and;
- The IESO does not have a relationship with the contributor themselves (the aggregator does).

Due to this, the standby availability charge is meant to apply a financial incentive to encourage participants to self-qualify to a level that would have them avoid the charge.

A stakeholder asked if aggregators would be open to providing the IESO with the data required to calculate an availability de-rate factor in the pre-auction period, such as aggregated consumption data for contributors. The stakeholder added that this is what is looked at in the ERCOT market on a monthly basis, with a penalty applied if availability falls below a certain level.

The IESO asked the stakeholder to clarify how they would account for the fluctuating contributors in the portfolio over the course of the obligation period.

The stakeholder provided details to clarify that the availability of the resource as a whole is what performance is measured against each month, regardless of who the contributors are.

The IESO asked the stakeholder to confirm that this de-rate is applied during the obligation period and not in advance of it.

The stakeholder confirmed this is correct. Data is submitted and performance is assessed each month. An availability de-rate is applied to each month's payments based on performance that month.

The IESO thanked the stakeholder for the clarification, and added that they may still have trouble using the data submitted by aggregators due to the fact that it is not an IESO revenue meter installed at the contributors.

A stakeholder commented on the frequency of data submission and how the requirement to submit measurement data has changed from monthly submission to submission only during activation months. They continued by asking what the trustworthy source of data might be, and whether we can come to an agreement on what data should be used.

The IESO thanked the stakeholder for their comment, and asked stakeholders to elaborate on the example provided from the ERCOT market assuming the correct data set is determined, such as how is system adequacy considered.

The stakeholder commented that UCAP applications in all other markets they have worked in generally assume an availability of 1 going into an auction then de-rate after the fact, during the obligation period. In ERCOT for example, they have access to the contributor data through a central repository.

The IESO thanked the stakeholder for their comment.

A stakeholder asked if the IESO has a problem with LDC revenue quality meter data being used for this purpose?

The IESO said the LDC revenue quality meter data is acceptable but clarified there may be an issue in terms of timing considerations with getting the data from each of the LDCs into the IESO processes at the same time on a monthly basis.

The IESO then asked stakeholders to confirm that the issue with using their own meters is solely due to the 1% variation requirement of the IESO vs the 2% variation of the participant installed meters.

A stakeholder clarified that the older meters weren't Measurement Canada approved meters, which would require the 1% variation. They added that when Green Button is implemented in Ontario this concern should be alleviated. Another stakeholder agreed, and added that Green Button is mandated to be available by November, 2023. They suggested the IESO may be able to utilize Green Button to access the data themselves.

The IESO asked stakeholders whether they agree that, for the immediate-term, some form of financial action during the obligation period would drive participants to self-qualify MWs into the auction.

A stakeholder agreed that proposal makes sense by fundamentally turning it into a pay-for-performance approach. They added that, in terms of the burden of data submissions on a monthly basis for the IESO, it does not have to be a monthly submission but could be done in any frequency desired by the IESO (e.g., at the end of the obligation period).

Another stakeholder added that the more the IESO can align the penalties with the obligation period they are associated with, the better they will align with the aggregator's contracts with the

contributors. This limits a contributor having a detrimental effect on the results of a capacity test, exiting their contract and leaving that penalty with the next contributor base.

A stakeholder asked the IESO to clarify whether the preference for the IESO is to complete a pre-auction calculation for HDRs that is similar to other resources, or is it to apply an in-period charge in lieu of a de-rate?

The IESO responded by saying they would prefer to do a pre-auction qualification like other resources, but said they do not have the historical data required to be able to do so. They closed by saying this may be something that could be done in the future, but re-iterated it is a longer-term discussion and cannot be implemented for the 2023 auctions.

The stakeholder followed up by saying it sounds like there is more of an M&V issue as there is a willingness from participants to provide the necessary data. They also suggested the IESO could only look at the data if there is a resource not performing, and not require it across the board.

The IESO thanked the stakeholder for their comment.

Discussion on Performance Assessment and Performance Thresholds for HDR Resources – Dale Fitzgerald, Emma Ferner

The IESO introduced this topic by outlining how there has been concern in the HDR stakeholder community about the effect a large contributor outage has on the HDR performance assessment in terms of the baseline calculation. They pointed to an engagement conducted by the IESO in 2021 on the accuracy of the baseline, and confirmed for stakeholders that a summary report of that study will be published shortly. For today's session, the IESO reiterated they wish to discuss how large contributor outages affect the performance assessment, which relates to the 2023 capacity auction enhancement that will adjust the performance threshold in the capacity test from 80% to 90% of the obligation for HDR resources.

A stakeholder commented that stakeholders disagreed with the outcome of the baseline review and the application of the in-day adjustment factor conducted by the IESO and for this reason it does not need to be brought to these technical discussions. They added that, in terms of the large contributor outages, a plant could be taken offline due to Hydro One completing testing. If they are a large contributor, they can drag the entire portfolio down by a substantial amount which can cause the participant to have to bring their bids to 0 MW if they know they cannot perform properly without the large contributor. They added that these outages are not because the contributor does not want to perform, it is caused by a legitimate outage that prevents them from performing, and that in some cases the downward baseline adjustment could result in the rest of the portfolio not having to take any action, which is not proper measurement. The stakeholder closed by saying they can provide some scenarios to the IESO to illustrate the issue.

The IESO thanked the stakeholder for their comment, and added that an option they are looking at is to remove that contributor from the portfolio for the purpose of performance assessment. The IESO also acknowledged that understanding what constitutes an outage is an important piece and those considerations must be built into the solution. It must be clear when the curtailment is not available, even if they are consuming.

A stakeholder commented that there is an existing non-performance process for HDR resources where information about an outage must be tracked, so perhaps it is a matter of making that process more formal. Having an outage process would mean that a resource would incur availability charges if that outage impacts the ability of the portfolio to deliver on the obligation, but would ensure the baseline calculation is not skewed by that outage.

The IESO explained the basics of the proposal being considered, which is that during the measurement data submission stage in the baseline calculation, the aggregator would remove the contributor data for any virtual contributors that were on a forced outage. For physical contributors that were on forced outage, the IESO will have a process to remove these if an outage was reported. The baseline would then be calculated without using those contributors, and the performance assessment and settlement thereafter will also exclude those contributors.

A stakeholder asked for clarification on whether the contributor would be removed for the entire month, or if aggregators would be able to submit an outage for a smaller subset of days.

The IESO replied that they are still trying to determine what would constitute a forced outage, but added that the solution is focused on when a forced outage takes place on the activation day. The proposal to remove that contributor from the 3-months of measurement data used to calculate the baseline after the activation would control for any impacts of the outage on assessed performance. If the outage takes place over multiple days, this should be reflected in the resource's bids.

The stakeholder asked for clarification on whether the contributor's obligation would be removed from settlement and no availability payment provided for that portion of the portfolio for those 3-months.

IESO clarified this is not the case. The proposed solution only removes the contributor on outage from the baseline calculation (which uses 3-months of historic consumption data) in order to assess performance on the activation day. IESO clarified that there may be cases where the remainder of the portfolio can still deliver the full obligation, meaning there would be no impact to the availability payment and no charges levied if the performance assessment showed the full obligation delivered. IESO indicated an intent to present a plan for the more detailed proposal for the contributor outage solution in September. IESO will be seeking feedback on the definition of the forced outage and other design elements of the proposal such as the timing of communications between aggregators and the IESO.

A participant asked if a generator receives an availability charge if they are on a forced outage?

The IESO confirmed this is the case, and added that they are also eligible for an availability charge true-up payment because that forced outage rate was already applied as a de-rate during the qualification stage so the true-up ensures the IESO is holding the participant to that de-rate.

IESO concluded the technical session by thanking stakeholders for their participation and noting the action items the IESO would follow up on, which are listed below:

Post the feedback document

Post a summary of the meeting

Send out a communication to solicit stakeholder submissions on potential proposals for the use of a charge in lieu of an availability de-rate to be discussed in September

Provide a timeline for when details of the contributor outage proposal will be shared

Appendix A – IESO Proposal #1, Standby Availability Charge

Hourly Demand Response (HDR) Resource			
Month	Multiplier	Standby Days	Implicit Financial de-rate Loss
Jan	5x	25	\$ 187,500
Feb	5x		
Mar	-	0	-
Apr	-	0	-
May	-	0	-
Jun	-	0	-
Jul	5x	25	\$ 828,125
Aug	5x		
Sep	5x		
Oct	-	0	-
Nov	-	0	-
Dec	-	0	-
Total	-	50	\$ 1,015,625

The 5x Availability Charge is based on equivalency to the reduced revenues associated with an availability de-rate for dispatchable load resources. The analysis reflects the maximum possible exposure for an HDR resource, not the expected financial impact.

Dispatchable Load (DL) Resource
Implicit Financial De-Rate Loss – Winter 25 MW x \$60 x 125 business days = \$ 187,500
Implicit Financial De-Rate Loss – Summer 25 MW x \$265 x 125 business days = \$ 828,125
Total reduction in revenue from de-rates: \$ 1,015,625

AEMA is their discussion with the IESO had proposed that instead of applying a 5x multiplier, IESO could use a 2x multiplier (in addition to the 2x non-performance factor for the peak months) for the stand-by availability charge. AEMA was unclear on the rationale provided for the 5x multiplier as it seemed overly penalizing to the HDR resources versus other capacity auction participants.