

UCAP Response - IESO - July 7, 2021

Dear IESO Stakeholder Engagement Team,

Thank you for the opportunity to provide comment on the current draft proposal for Unforced Capacity for the 2023-2024 Capacity Auction. Voltus submits the following comments for your consideration:

1) Loss Factors

Voltus strongly believes that demand response resource UCAP values should include the reduction of system losses. There is a strong precedent throughout the continent of demand-side resource UCAP values including this. Examples from NYISO and PJM are documented below. Suggestions for how the IESO could incorporate this into the Online IESO system follow.

Use of Loss Factors in UCAP calculations in NYISO and PJM

- a) NYISO multiplies demand response resource ICAP values by (1+Transmission Loss Factor (TLF)), where TLF is reflected by the Transmission Operator in their most recent tariff. Source: NYISO ICAP Manual, https://www.nyiso.com/documents/20142/2923301/icap_mnl.pdf/234db95c-9a91-66fe-7306-2900ef905338, p. 108).
- b) PJM calculates performance by subtracting site load multiplied by the Electric Distribution Company's loss factor from the Peak Load Contribution (PLC). The PLC is equal to a site's usage during the previous year's coincident peak multiplied by the site's loss factor. Source: [PJM Market Manual 18. Section 4.3.7](#) pp. 78-79.

Approaches suggested to the IESO:

Voltus suggests adding loss factors to the contributor management portal, which should be an easy addition for the IESO. Aggregators currently submit utility invoices which generally include the customer's loss factor. The IESO would add a single data field (loss factor), which the aggregator would complete when registering each contributor. When submitting performance data, the aggregator would then submit loss adjusted load data to the IESO. Aggregators could either obtain non-loss adjusted data and perform the adjustment themselves, or request loss adjusted data from the utilities.

This is a relatively minor lift for the IESO and would only require the addition of loss factor checks to the current IESO audit process. The result is a proper representation of the Capacity provided by Demand Response resources and a UCAP that meets current standards.

2) Reliability Factor

When modelled into the generating stack, load-side resources can reduce the amount of surplus generation required on the system at any time. To this end, some jurisdictions calculate Demand Response UCAP values by multiplying the nominated capacity of the resource by the ISO's reserve margin. Voltus believes that this is the correct approach because it minimizes surplus generation without undermining reliability. Voltus encourages the IESO to consider adding reserve margin to the Demand Response UCAP calculation.

- a) PJM calculates UCAP by multiplying the Load Management resource's nominated capacity value by the Forecast Pool Requirement (FPR). The FPR is calculated by PJM each year and is a function of their Installed Reserve Margin and the Pool Average Equivalent Demand Forced Outage Rate. Sources: UCAP: [PJM Market Manual 18](#), p 79. FPR: [PJM Market Manual 20](#), pp. 14-15.

3) Performance Factor Ideas

Voltus understands the IESO is considering adding a performance factor to the UCAP calculation. To this end, Voltus suggests the following:

- a) *Resource Initial Performance Factor*

Voltus believes that a demand response resource's initial performance factor should be 1. HDR resources are not homogenous. As a result, it would not make sense for a newly registered portfolio of embedded battery storage resources to be represented by the HDR aggregated average composed of many different resources. Moreover, zonal differences between HDR resources make it difficult for cross-zone comparisons. To this end, we believe that each resource should set its own seasonal performance factor in its first season of operation.

- NYISO uses this methodology: [NYISO ICAP Manual Section 4.12.2.1.3](#)

- b) *Seasonal Performance Factors*

Voltus also contends that performance factors should be seasonal. HDR resources vary seasonally and it makes sense for performance factors from the previous Summer to reflect on the UCAP value of the following Summer, and for the performance factor from the previous Winter to reflect on the UCAP value of the following Winter. NYISO also uses a seasonal performance factor.

- c) *Calculation Methodology*

Voltus believes that the performance factor should reflect the highest performance of the resource in the previous season of the same type. This enables resources to recover from any outages that may have impacted their earlier test.

4) **Resource Average Performance Factor Examples:**

IESO representatives also asked for any examples of how other ISOs derive resource average performance factors. Voltus has encountered the following:

- a) NYISO Derating Factor - NYISO uses a derating factor of 90%, which Voltus believes comes from the NERC Class Average EFORd for Demand Response. However, we have been unable to verify this number with NERC. It is possible that NYISO estimates the initial performance factor for demand response using the methodology described on page 55 of its ICAP Manual: “If no NERC class average exists, the NYISO will estimate a class average using capacity values for at least three (3) Resources of the same type currently providing capacity in the NYISO market and have sufficient operational data...”

Additional information about NYISO’s process can be found in the ICAP Manual Attachment J.