

Capacity Market Rules for Distributed Energy Resources

Zachary T Smith

Manager, Capacity Market Design

ICAPWG

July 26, 2018

DRAFT – FOR DISCUSSION PURPOSES ONLY

©COPYRIGHT NYISO 2017. ALL RIGHTS RESERVED



Agenda

- **Background**
- **Capacity Market Rules for DER**
 - Capacity Market Eligibility Rules
 - Available ICAP/UCAP
 - Obligations of Capacity Suppliers
- **Other Market Design concepts to be evaluated in DER**
 - Aggregations
 - Capacity Market Duration Requirements
 - Full obligations
 - Partial obligations
 - Dual Participation

Background

Purpose of Today's meeting

- Identify the concepts that should be addressed in the rules for DER participation in the Capacity Market
- Provide examples of current requirements for other types of resources
- Discuss other Capacity Market issues that will need to be resolved as part of this design effort
 - Aggregations
 - Change in duration requirements and partial capacity
 - Dual participation
- Solicit feedback and ideas on how the DER Capacity Market participation rules should be structured

Distributed Energy Resource Overview

Distributed Energy Resource Overview

- A Distributed Energy Resource is an aggregation consisting of either:
 - 1 or more load reduction resources
 - 2 or more load reduction, generation, or energy storage resources with different technology types

Capacity Market Rules For Distributed Energy Resources

Capacity Market Eligibility Rules

- What will the qualifications for a Distributed Energy Resource be to participate in the Capacity Market?
- Existing Generator requirements include
 - 2 year forward Outage Schedules
 - DMNC
 - Interconnection Agreement
 - CRIS
 - Buyer-Side Mitigation

Available ICAP/UCAP

- How will the NYISO calculate available ICAP and UCAP for a DER?
- Today's rules for Generators include:
 - DMNC
 - Derating Factor
 - Availability: EFORD
 - Performance: Actual Output during measured windows
 - Generally, today's calculations are:
 - $ICAP = \text{Min}(CRIS, DMNC)$
 - $UCAP = ICAP * (1 - \text{Derating Factor})$
 - Subject to Supply Side Mitigation

Obligations of Capacity Suppliers

- What will the obligations be for a Distributed Energy Resource that has sold capacity into the NYISO's Capacity Market?
- Current obligations include:
 - GADS submissions
 - 2 year outage information
 - Bid/Schedule/Notify in DAM for non-intermittent resources
 - Must Bid/Schedule/Notify for ICAP sold
 - Respond to a NYISO SRE
 - Subject to penalties/shortfalls for over sale of capacity, failure to Bid/Schedule/Notify, etc.
 - Fuel Reporting Requirement

Other Market Design Concepts to be evaluated in DER

Aggregations

- **Rules to allow aggregations will be needed for DER**
 - Rules to allow aggregations of other types of capacity resources could also be developed
 - Would be for aggregations of a single resource type
 - What, if any, changes to existing rules for those resources would be needed to support aggregations

Duration Requirements and Partial Capacity

- As part of the DER effort, an evaluation of the capacity value of different durations is being performed by GE
- Using this evaluation, the NYISO is considering possible changes to the capacity market
 1. Evaluate and change, if necessary, the duration requirement of limited resources from the current 4 hour requirement
 2. Allow resources that can't meet the full duration requirement but can meet a shorter duration requirement to receive some capacity payment

Dual Participation

- As part of the DER effort, the NYISO is evaluating what types of Dual Participation models are permissible
 - These models will need to be evaluated to establish if resources using the Dual Participation models will be eligible to participate in the NYISO Capacity Market

Next Steps

- Future ICAPWG to continue discussion

Feedback/Questions?

- Email additional feedback to: ztsmith@nyiso.com and deckels@nyiso.com

The Mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefits to consumers by:

- Maintaining and enhancing regional reliability
- Operating open, fair and competitive wholesale electricity markets
- Planning the power system for the future
- Providing factual information to policy makers, stakeholders and investors in the power system



www.nyiso.com