Implementation Details in Response to FERC Notice

Andrew Levitt Market Design and Economics February 18, 2021 PJM Capacity Capability Senior Task Force

Strawman to Answer Questions in Deficiency Response

Q	Description	Plan
1	E3 Delta method vs. simple method	Work w/ stakeholders to clarify
2	Floor handling if class is redefined	Work w/ stakeholders to clarify
3	Floor details: arithmetic behind supporting floors; how are groupings determined; what if the entire ELCC Portfolio cannot support floors.	Work w/ stakeholders to clarify
4	CIRs: interaction of status quo with ELCC policy	Narrative answer
5	Why not implement ELCC framework for a DY after its BRA	Narrative answer
6	Preliminary results	Numerical answer
7	Can hybrids participate as two resources?	Work w/ stakeholders to clarify

Q1: Delta Method

Approach:

• Use the Delta method. See agenda item 2.

Q2: Impact of Class Redefinition on Floors

Approach:

- Define classes in a granular fashion (e.g., fixed and tracking solar in separate classes).
- In case of an old class being split, or multiple old classes being joined:
 - Adjust previously issued floors by the ratio of performance of new class relative to performance of old class.
 - Specifically: consider the "performance metric" (PM) = average output of the entire class over a) the 200 coincident peak hours of the gross load and b) the 200 coincident peak hours of the putative net load, where putative net load is gross load minus the expected hourly output of Variable Resources in the target year.
 - Recall that, in a given year, the Performance Adjustment is the ratio of a unit's performance metric (PM) to the weighted average of PM (PM_{ClassAvg}) across all units of a class.
 - The floor adjustment would be: PM_{NewClassAvg} / PM_{OldClassAvg}
 - The floor adjustment would be fixed in the year that the class redefinition occurs (i.e., it would not be recalculated each year).

Q3d: What if the Portfolio Cannot Support the Floors

Q3d: "Is it possible for ELCC Class Rating floors to bind to such an extent that PJM would be unable to identify sufficient offsetting reductions in ELCC Class Ratings across the ELCC portfolio to preserve the ELCC Portfolio UCAP? If so, <u>how would PJM ensure that ELCC Resources are not assigned an aggregate UCAP greater than the ELCC Portfolio UCAP?</u>"

Answer: the only way to maintain that condition is to adjust previously issued floors until the aggregate UCAP of resources in the ELCC model is equal to the ELCC Portfolio UCAP.

- Specifically: each *InitialFloorRating_n* (equal to the floor rating of a resource that otherwise would apply but for the excess floors) would be adjusted to a *FinalFloorRating_n* (the final, reduced floor rating of such resource) while meeting the following constraints:
 - A. Aggregate UCAP of all resources in the ELCC model equals the ELCC Portfolio UCAP
 - B. For each resource "n", *FinalFloorRating*_n = $X^*InitialFloorRating_n$, where "X" is the same fraction across all units of all classes
 - C. For each resource "n", the greater of *FinalFloorRating*_n and *ClassRating* will be used to determine the UCAP of such resource in the model.

Question 4b and 4c

- 4b. Please explain whether the instant filing will affect the quantity of CIRs that ELCC Resources secure upon interconnection.
 - The ELCC filing redefines ICAP for storage and combination resources.
- 4c. If the application of the ELCC analysis proposed in the instant filing results in an Accredited UCAP greater than a resource's existing CIRs, please explain whether the resource will be able to secure additional CIRs sufficiently in advance to offer its full Accredited UCAP into the capacity market.
 - In some cases, yes.

Q7: Can Hybrids Participate as Two Units?

Q7a: "Under PJM's proposal, would a Combination Resource offer into the capacity market as a single resource or two separate resources? Please provide any relevant tariff or manual citations."

Approach: Combination Resources (e.g., hybrids) participate in the Capacity Market as a single resource.



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