



WS Elliott Recommendations: Capacity Markets

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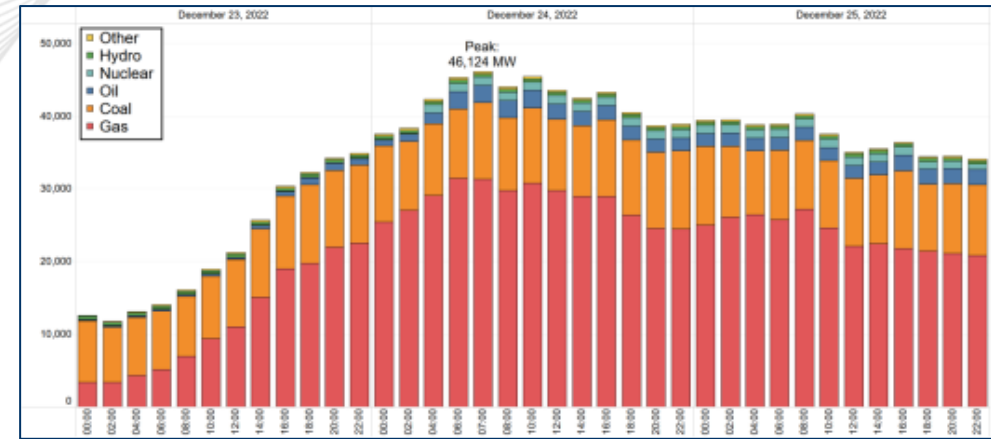
- The purpose of the analysis on WS Elliott is to look for what worked during the event, what did not, and identify areas where there were successes and we can improve.
- This section is on the capacity market and does not include things like resource scheduling, load forecasting, etc. Those topics will be part of the full report in July.
- An assumption for the recommendations is that we are generally operating within the same capacity market framework. More directly, the scope of this initiative is not to redesign the capacity market. The CIFP is working on that.
- These are recommendations for areas to evaluate the existing rules.

Observation: WS Elliott has provided another example where PJM and other regions have faced significant reliability risk during the winter season.

Recommendation: Evaluate how risk modeling in our planning studies can be improved to better account for the drivers of reliability risk experienced in the winter.

Observation: Despite high penalties, a significant portion of the generation fleet failed to perform during WS Elliott for reasons that included equipment failures, freezing, gas supply, etc.

[March 9 OC Presentation on WSE Outages](#)



Recommendation(s): Evaluate reforms to capacity market rules and incentives to improve the performance of resources, including:

- Review of the Capacity Performance construct, with consideration of financial risks
- Strengthening capacity accreditation and qualification criteria (e.g. winterization / fuel assurance)
- Evaluating opportunities to improve testing rules, including frequency of the tests
- Reach out to other ISOs for sharing best practices and benefits of generator site visits

Observation: There are occasions where the incentives from PAI non-performance charges and bonus credits do not align with incentives to follow dispatch.

Recommendation: Evaluate opportunities to align the incentives from the capacity market via PAIs with real-time operating conditions, particularly with regard to PAI triggers.

Observation: During certain periods of the event, PJM was exporting to neighboring regions. Exporting during PAIs increases committed generation capacity resources' performance obligation under the current balancing ratio formula.

Balancing Ratio for each PAI =

$$\frac{\text{Total Actual Generation and Storage Performance} + \text{Net Energy Imports}^* + \text{DR} + \text{PRD Bonus Performance}}{\text{All Generation and Storage Committed Capacity Commitments (UCAP)}}$$

** Net Energy Imports floored at zero*

Recommendation: Evaluate if and how exports should be accounted for in the balancing ratio.

Observation: Some resources do not submit price/MW offers into the market that can be used to calculate a desired MW amount for the purpose of excusals or bonus MW. In these instances, M11 rules prevent the unit from being eligible for excused or bonus MW.

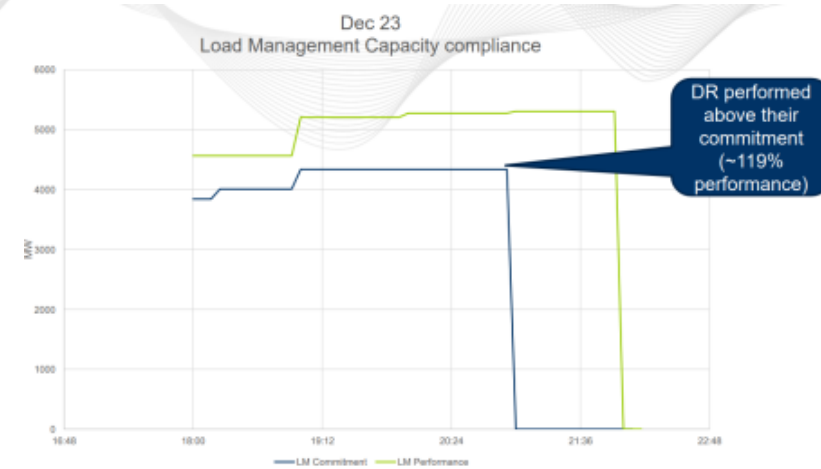
Recommendation: Re-evaluate what happens in the scenario that a resource has not submitted a valid offer.

Observation: The current PAI excusal rules and process can be manual and require case-by-case review in certain instances.

Recommendation: Explore opportunities to refine and simplify excusal rules to reduce manual and case-by-case review processes.

Observation: Energy Efficiency and Demand Resources were allocated a significant portion of the PAI bonus revenues during WS Elliott; for DR, particularly during the time period outside of their winter performance window (6AM – 9PM).

[DISRS presentation on DR performance](#)



Recommendation: Review the M&V calculations of Energy Efficiency and Demand Resources for PAIs to assess if the determination of actual performance and bonus accurately reflects the reliability benefit provided.

Observation: Non-Retail Behind-the-Meter Generation (NRBTMG) did not perform well during the event.

[DSIRS presentation on NRBTMG performance](#)

	December 23, 2022	December 24, 2022
Expected Performance (MW)	1313.3 MW	1313.3 MW
Unit Performance Shortfalls (MW)	886 MW	633.5 MW
Netting Reduction Penalty Amount (MW)	89.2 MW	64.2 MW

Recommendation: Evaluate the performance issues regarding NRBTMG and provide recommendations on enhancing its performance or altering its participation in the capacity market.

Observation: During the event itself and throughout the settlement process, there were often needs to educate certain entities on what a PAI was, how it worked and where in the governing documents the rules are described.

Recommendation: Explore opportunities for further education on PAIs, such as providing periodic training sessions.

- Full report on WS Elliott to be issued in mid-July
- Report will provide a comprehensive analysis of WS Elliott & recommendations for a variety of topic areas, including resource scheduling, load forecasting, etc.
- PJM will review recommendations with stakeholders and discuss the best venue(s) to address