

I. COMMENTS

- 1. According to complainants, PJM indicated in the stakeholder process that a procurement of 80 percent Capacity Performance and 20 percent Base Capacity yields a near-zero loss of load expectation (LOLE) over 42 (non-summer peak) weeks of the year. Do these results provide information about the value of lost load in 10 peak-summer weeks versus the rest of the year? Is placing the majority of loss-of-load risk in 10 peak-summer weeks an appropriate allocation of risk for purposes of meeting the 1-in-10 LOLE target in a cost-effective manner? If yes, please explain why. If not, what would be a better distribution of risk that can still satisfy the 1-in-10 LOLE target?**

No, these results do not provide information about the value of lost load in the 10 peak summer weeks versus the rest of the year. As the Market Monitor understands PJM's analysis, PJM assumed that all forced outages were random and not correlated. As there is evidence that outages are frequently highly correlated during periods of weather related high demand, the cited PJM analysis is not a good basis for reaching conclusions. PJM identified these issues and the Market Monitor understands that PJM is addressing these issues.

The actual LOLE in PJM is higher in the summer because PJM is, in aggregate, a summer peaking system. That is a result of the actual distribution of loads and not an allocation decision.

- 2. How is the conclusion that PJM's current capacity procurement yields a near-zero LOLE in the winter consistent with PJM's experience in the Polar Vortex? How does the LOLE calculation take into account outage-related factors, for instance, planned maintenance outages are typically scheduled only during non-summer months?**

PJM's modeling used a set of assumptions that, as demonstrated by the experience in the Polar Vortex, were not adequately realistic and which understated LOLE in the winter. The assumptions were that forced outages were random rather than correlated and that PJM could perfectly schedule planned outages to avoid peak load days and hours. PJM identified these issues and is addressing them.

- 3. Complainants argue that it is appropriate to procure more capacity for the summer months than for the non-summer months. What would be the advantages and disadvantages of (a) procuring this capacity by using annual and summer-only capacity products in a single auction, as PJM did in the past, versus (b) creating two distinct auctions, and procuring summer capacity in one auction and non-summer capacity in the other? Are there other viable methods to meet this objective? If so, please describe them.**

In general, the market design should not incorporate price discrimination in order to reduce load payments. The objective of the capacity market should continue to be to procure capacity which is consistent with supplying energy on a competitive and efficient basis. The only purpose of the capacity market is to facilitate a competitive energy market.

Running a single capacity auction including two different products will not result in a competitive outcome. This is the approach that PJM used prior to the full introduction of the Capacity Performance model. The Market Monitor pointed out that under this approach an inferior product, the summer only product, is competing with an annual product. The result is price suppression and a price less than the competitive level.

Creating a separate summer and winter auction would create multiple issues. It is not clear such a design would actually reduce total payments by load or be consistent with PJM's reliability objectives. The issues include: the allocation of capacity costs would need to include at least summer and winter allocations; use of demand side resources as summer only will result in an increased probability of system emergency declarations; evaluation of the actual availability of summer only resources for the entire defined summer period; accounting for planned outages; treatment of annual resources needed in the summer but not in the winter; calculation of seasonal forced outage rates; definition of the must offer requirement and definition of offer caps, including offer caps for demand side resources that are pivotal.

Currently, PJM allocates capacity costs to LSEs based on their share of load coincident with a single peak demand hour. That hour occurs in the summer. If there were

to be summer and winter capacity requirements, the associated cost allocation would have to be broadened to include winter hours and perhaps shoulder hours. This would have a significant impact on the efficacy of summer peak shaving as a strategy for avoiding the payment of capacity costs.

Demand side capacity resources are treated as emergency resources and not as economic resources. Demand side resources are called on to perform only during emergencies; calling demand side resources defines an emergency under PJM rules.² If the result of a summer only auction is that demand side resources comprise all or a significant share of the reserve margin, PJM will be in emergency conditions on a regular basis in the summer and will regularly have performance assessment hours (PAH) because calling on demand resources triggers a PAH, with correspondingly high costs to customers.

Serious consideration of a summer only auction means that demand side resources should be treated as economic resources like all other capacity resources. If demand side resources are to be a substitute for other capacity resources, for a full year or for the summer only, they must be full and complete substitutes. Treatment as emergency only resources is anachronistic and inconsistent with a competitive market design.

If the summer is six months long, there would have to be a process to determine whether resources would be available at a defined level for the full six months. This is likely to mean that demand side resources and solar resources are derated from their peak contributions.

PJM coordination of planned outages will be more challenging if procured capacity is lower in the winter than in the summer. The definition of winter and summer required capacity and associated reserve margins would have to explicitly account for this issue. Procuring an annual product allows for planned maintenance outages during the non-

² See PJM Manual 13 (Emergency Operations) Rev. 65 (Jan 1, 2018), Section 2.3.2 Real-Time Emergency Procedures (Warnings and Actions) at 29–32.

summer months. This is a byproduct of the current annual design rather than a feature that is directly modelled.

If there are annual resources that are needed in the summer but not in the winter, the result will be higher risk to those resources, due to the potential for clearing in only a single season auction, and potentially higher offers to reflect annual costs in single season offers, and higher clearing prices.

Forced outage rates are an annual concept. Seasonal auctions would require seasonal forced outage rates.

The definition of offer caps would have to change to reflect the probability of performance assessment hours (PAH) in each season and therefore the probability of paying capacity nonperformance charges and earning bonuses. The definition of avoidable costs would have to change to reflect seasons.

Cost-based offer caps would have to be defined for demand side resources which are likely to be pivotal in a summer only auction.

- 4. Does PJM's load forecasting methodology reasonably reflect peak shaving efforts by end users? What is the basis for the current load forecasting methodology and what are its advantages within the context of peak shaving practices? Are there aspects of the current load forecasting methodology that can be improved and may be incorrect or resulting in unreasonable outcomes within the context of peak shaving practices? Are there alternative methodologies to reflect peak shaving efforts? If so, what are they and are there obstacles to implementing them?**

PJM's load forecasting method uses historical data. The historical data incorporates any actual peak shaving behavior by participants that is not offered into the capacity auction as a demand side resource. PJM adds back, to the actual load, the peak shaving load that is offered and cleared in a capacity auction. By definition, a new peak shaving program will be incorporated only in the first year of historical data and will not be fully incorporated in the forecast until it has existed for the duration of the historical data used by PJM, apparently 18 years.

It should be a goal of PJM market design to facilitate the flexible participation by demand side resources in PJM markets by providing for the immediate reduction in payments by load that avoids the use of capacity during the defined hours. Correspondingly, it should be a goal of PJM market design to reduce the load forecast to appropriately account for load behavior, recognizing the probabilistic nature of such reductions and the impact on reliability, while not simply discounting the impact by using a simple historical regression as the basis for the forecast.

II. CONCLUSION

The Market Monitor respectfully requests that the Commission afford due consideration to these comments as it resolves the issues raised in this proceeding.

Respectfully submitted,



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Dated: April 11, 2018

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Eagleville, Pennsylvania,
this 11th day of April, 2018.



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