THE NRG COMPANIES COMMENTS ON PJM'S CAPACITY PERFORMANCE PROPOSAL

In response to PJM’s request for stakeholder comments in its Enhanced Liaison Committee process for Capacity Performance, the NRG Companies submit the following comments. The NRG Companies own or operate over 16,000 MW of generation in PJM and also provide retail electricity and demand response services in the PJM market. While the NRG Companies are supportive of a capacity market design that ensures a reliable system, we do not support the Capacity Performance Proposal as drafted, nor do we support the expedited schedule that PJM is pursuing to make fundamental changes to its markets. In short, the current Proposal is discriminatory and likely to have unintended and adverse consequences by excluding substantial quantities of reliable, fuel-diverse resources from the premium capacity product. The expedited schedule precludes PJM from fully considering and determining important details and stakeholders from fully understanding the Proposal and evaluating its impacts and potential ramifications.

I. NRG COMMENTS ON THE PROPOSAL

PJM’s proposed Capacity Performance target excludes significant reliable and available resources. To remedy this flaw, the NRG Companies urge PJM to make a number of fundamental changes to the Proposal. Importantly, PJM should (1) not use the flexibility criteria as pre-qualification requirements for participation as a premium capacity resource; (2) eliminate the 6,000 run hour threshold requirement and revise the greater than 18 hour minimum run time requirement for baseload resources to greater than or equal to 12 hours and less than or equal to 24 hours, if PJM maintains the flexibility criteria as pre-qualification thresholds; (3) eliminate the force majeure exclusion; (4) decrease the proposed penalty (currently up to 2.5 times a
resource’s total annual capacity payments) structure; (5) eliminate the officer certification requirement; and (6) align payment and penalty measurement (either use UCAP or ICAP for both).

A. PJM Should Eliminate the Flexibility Criteria From the Proposal.

1. PJM’s Proposal is Discriminatory

PJM has stated that the new premium Capacity Performance product will need to fill roughly 85% of the total installed capacity requirements of the market, but the current Proposal excludes a large percentage of reliable baseload resources from qualifying for the premium capacity product. As currently drafted, the Proposal discriminates between resources by relying on arbitrary parameters that do not contribute to grid reliability or promote more efficient capacity market functionality. By disqualifying these resources from the premium capacity product, PJM fails to recognize that it may be incenting the development of a less fuel diverse fleet.

Ironically, PJM’s Proposal would reduce fuel diversity by excluding some of the same assets that were available, reliable, and responsible for keeping the lights on during the Polar Vortex. Regardless of the size of the penalty, some generators could not qualify for the currently proposed Capacity Performance product. For example, many baseload resources with substantial on-site fuel storage will not qualify as Capacity Performance resources because they do not satisfy the required 6,000 run hour qualification or the greater than 18 hour minimum run time requirement for the Base Load Asset Class. A facility’s run time is based purely on energy market economics and has nothing to do with investment surrounding fuel certainty. A run time measurement should not be a criterion for qualifying to supply the Capacity Performance product. Additionally, there could be limited potential for ‘investment’ to enable many older
steam-based generators to cycle within the timeframes proposed by PJM as minimum eligibility criteria. PJM’s Proposal appears to be little more than a thinly-veiled effort to push an entire category of baseload units with excellent multi-day fuel supplies into early obsolescence. PJM fails to offer justification for including the flexibility criteria in a planning product such as capacity and, accordingly, these criteria should be eliminated as qualification criteria for the premium capacity product.

2. **PJM Mixes Generator Flexibility With Fuel Security**

The Proposal appears aimed at two different goals – fuel security through a dependable fuel source and generator flexibility of which only the former is directly related to resource adequacy and thus to the capacity market. Unit flexibility as PJM has proposed is primarily an energy and ancillary services market issue. The flexibility requirements should not be included in the capacity market proposal. To improve flexibility, PJM should focus on the energy and reserve markets, and perhaps consider additional reserve products that will provide the incentive for units to be more flexible.

The NRG Companies are generally supportive of considering improvements to the capacity market product that improve fuel security and the recovery of the associated costs. We are open to the concept that resources with reliable and secured fuel sources should command a premium in the capacity market. However, there is an inherent disconnect between units with a high degree of fuel security (e.g., mid-merit coal) and high levels of flexibility (e.g., CTs). PJM should eliminate the unit flexibility components as a qualification of any capacity market proposal and re-focus its Capacity Performance Proposal on fuel availability and the ability to avoid unplanned outages, which are directly related to assuring long term resource adequacy during times of system stress.
3. **Generator Flexibility Requirements Should Not be Used as Eligibility Criteria**

The confusion between capacity and flexibility can be seen throughout the proposed list of flexibility requirements. The specific flexibility criteria set forth in the PJM Proposal for baseload resources, for example, includes:¹

- Resources with more than 6,000 run hours per year
- Startup + notification time exceeds 12 hours
- Minimum run time exceeds 18 hours
- Minimum down time exceeds 8 hours

PJM has suggested that these criteria are threshold requirements for eligibility for the premium product. However, specific qualifications based on flexibility for a capacity product are inappropriate for a planning/reliability product. In particular, flexibility “characteristics” that rely on economic outcomes (e.g., a baseload unit’s run hours) are completely inappropriate as criteria in this context. Utilization of such criteria risks both premature exit from the market and the creation of uneconomic generation (in an attempt to avoid such exit) that would otherwise be economic, both of which have negative reliability and system efficiency impacts.

PJM should eliminate the flexibility characteristics as a qualification for the premium capacity product altogether. If PJM’s goal of the Proposal is to develop market mechanisms that incent generators to obtain the necessary firm fuel arrangements for reliability planning purposes, it should be irrelevant to PJM whether the generator meets specified flexibility criteria.

**B. If PJM Retains the Flexibility Criteria as Pre-Qualification Requirements, the Baseload Resource Criteria Should be Modified.**

If PJM maintains any flexibility requirements as threshold Capacity Performance qualifications, it should modify the following requirements.

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¹ PJM Proposal at 23.
First, the 6,000 hour limitation on baseload resources should be eliminated. This requirement in particular will exclude from the Capacity Performance market many units with excellent fuel availability, security and demonstrated reliability during the Polar Vortex and will diminish rather than enhance fuel diversity. The run hour limitation is based on the actual run time of the unit, in other words, a more economical unit in the energy market will run more and have a greater chance of meeting the qualification requirement in the capacity market. Thus, whether a unit meets the run hour threshold to qualify as a premium capacity resource is based on the unit’s relative economics to other units in the energy market supply stack. The unit’s position in the energy market supply stack can vary from year to year as the relative price of fuel varies. For example, a coal unit that is less in the money one year (already struggling financially due to diminished energy margins) makes it no less valuable to system security during a cold snap or hurricane event when gas prices spike due to scarcity conditions. Such economic measurement is an inappropriate qualification criterion and in fact, results in the Proposal penalizing the very units that are providing high availability during scarcity.

Further, PJM states that baseload resources are eligible for the premium product because they are typically operating any time that they are not on an outage. Running for 6,000 hours in a prior year is a meaningless factor when PJM will provide resources advance notice of the Hot and Cold Alert days, during which PJM is proposing to measure performance. By providing such notice, PJM is putting resources in the same “ready state” position as units that are likely to be already on-line. Thus, the number of hours the unit runs a year and whether the unit is operating prior to the Hot/Cold Alert day being called is completely irrelevant to the ability to run during an actual time of need. In short, the 6,000 hour run limit is not an indicator of

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2 See FAQ ID No. 75 (stating that the 6,000 hour run requirement is based on actual run times not hypothetical).

3 PJM Proposal at 23.
reliability and, accordingly, should be eliminated as a qualification for the Capacity Performance product.

Second, the baseload flexibility requirement that a resource’s minimum run time must exceed 18 hours to qualify for the premium capacity product should be eliminated. The greater than 18 hour minimum run time requirement essentially penalizes baseload units that provide greater resource flexibility. If PJM is indeed trying to encourage resource flexibility with a minimum run time criterion, units that are more flexible should not be prevented from participating in the premium capacity product auction because they must run less than 18 hours. If PJM continues to use a minimum run time criteria, it should modify the criteria to include resources with minimum run times within a range – for example, greater than or equal to 12 hours, but less than or equal to 24 hours.

C. The Elimination of Force Majeure is Inappropriate.

The Proposal’s exclusion of Outside Management Control outages from the calculation of UCAP is far-reaching and detrimental to operational incentives for generators. In the FAQs, PJM clarified that it proposes to eliminate OMC outages, including force majeure outages, from UCAP and to only have an exemption for transmission-related (lack of electrical connectivity) outage causes.\(^\text{4}\) The exclusion of force majeure is inappropriate and could lead one to believe PJM wants every generator to make investments to be hardened for hurricanes and all conceivable natural disasters. This cannot be accurate. Likewise, if a generator has firm natural gas service, and that service is disrupted by an outage on the interstate pipeline system, that is a classic force majeure and the generator should not be penalized for events that are truly outside of its control.

\(^4\) FAQ ID No. 64.
D. The Proposed Penalty is Too High.

The Proposal contains significant and punitive asymmetric risk. The proposed penalty is so high (up to 2.5 times a resource’s total annual capacity payments) that it could bankrupt an otherwise viable resource after only one unpredictable outage that should be considered out of the control of the generator. A more appropriate penalty design would place no more than 100% of a Delivery Year’s capacity credits at risk (as opposed to the 250% in the proposal) for any single unit. PJM’s efforts to provide a mechanism to include a risk premium are appropriate given any expected change in the penalty structure. However, the details of the risk premium framework remain undefined\(^5\) and require significant clarity before moving forward.

Additionally, the punitive penalty proposal discussed above hinders the effectiveness of using market design as a “carrot” to incent market performance. As proposed, the PJM Proposal relies on a speculative and short term clearing price shock, and includes only incremental investment costs – to the extent allowed by the market monitor – in their RPM offers. As observed in past RPM auctions, once the capital investment has been made, the premium is likely to disappear from subsequent BRA clearing prices.

Further hindering the potential of the premium capacity product is PJM’s proposal to allocate any penalties back to LSEs on a load ratio share. A more appropriate approach would be to allocate the revenues generated from the penalties back to capacity resources to strengthen the incentive to perform when needed most.

\(^5\) See various “in progress” action items regarding risk premium questions.
E. PJM Should Eliminate the Officer Certification Requirement.

The Proposal requires an officer certification certifying that the resource will meet the fuel requirements.\(^6\) The officer certification is poorly described and PJM has failed to explain why the certification is necessary given that penalties are applied based on availability metrics during Hot and Cold Weather and Max Gen Emergency Alerts.

In an FAQ, PJM explains that “Failure to perform is subject to penalties regardless of what the resource did to ensure performance during Hot/Cold Weather Alerts. If PJM believes the officer certification was misrepresented, the market participant may be in violation of, and could be subject to penalties under, PJM and FERC rules.”\(^7\) Fuel availability issues and unit problems should not be equated with making a false statement. For example, extreme weather events can result in generator forced outages despite best intentions and prudent preventative and predictive maintenance practices. Fuel delivery problems outside the control of the unit owner should not be equated with making a false statement. PJM should eliminate the certification requirement and should clarify that a failure to perform, coupled with the tariff-based penalties, will not trigger an independent referral to FERC. It cheapens the FERC enforcement process and simply creates additional work for no benefit.

F. ICAP/UCAP Mismatch

Under the Proposal, resources are paid for UCAP and penalized based on ICAP performance. The measurements should be aligned and generators should be paid and penalized based on either one or the other.

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\(^6\) Proposal at 10.

\(^7\) FAQ ID No. 56.
II. PJM SHOULD ENSURE SUFFICIENT TIME FOR DEVELOPMENT AND EVALUATION OF THE PROPOSED SOLUTION

A. PJM Should Provide Itself and Stakeholders the Requisite Time to Develop a Reasonable Solution to its Operating Concerns.

While the NRG Companies support a capacity product that improves fuel security and reliability, in order to adequately develop this product, PJM needs to take the time to fully evaluate the underlying issues creating the need for the product. PJM repeatedly points to the experiences of January 2014 as the foundation that led to the Proposal. While the Polar Vortex demonstrated stress points in the energy market, it did not show a systemic failure of RPM design. In fact, the availability of units dispatched in the day-ahead market was extremely high. According to PJM data, most gas unavailability came from post-DAM dispatches, including where PJM’s load forecast was significantly off and PJM tried to dispatch many units at the last moment after the gas market had already closed.\(^8\) The DA and RT performance comparisons also demonstrate that there is ample room to improve generator availability by improving the PJM load forecasting and day-ahead commitment processes. Additionally, these statistics suggest that better aligning the gas and electric markets and/or shortening the amount of time it takes for PJM to clear the market could further enhance reliability. PJM should take the time to evaluate a comprehensive solution set.

Through the expedited stakeholder process it has become clear that PJM has not had enough time to fully develop its Proposal. The expedited time frame has led to many areas of uncertainty. Affording stakeholders a mere six weeks to evaluate and understand a Proposal concerning such a dramatic and fundamental capacity market change that is still in sketch form is

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\(^8\) See “Capacity Performance Action Items” dated Sept. 16, 2014 at p. 4 (reflecting that 86% of the January 7, 2014 lack of fuel outages were not committed day ahead).
simply unreasonable.\textsuperscript{9} The desire for speed is taking a priority over a solid analysis that includes meaningful stakeholder examination of the underlying issues and proposed solutions.

Despite the poorly defined and hastily proposed Capacity Performance product, it is already clear that, as discussed above, the Proposal has many troubling features that will discriminate against highly reliable generator resources and undercut reliability and market performance. PJM has failed to provide a justification of why market design should be jeopardized for speed. Significant time remains to address operating concerns. Such concerns can be adequately addressed through the series of incremental auctions contemplated for 2015/16, 16/17 and 17/18 or by increasing the amount of capacity procured in auctions undertaken while considering improved incentives for specified operating characteristics. Foregoing the accelerated timeframe is more prudent than acting with haste and creating unintended, and potentially very negative, market consequences.

Further, the fundamental premise of the Proposal is that the increased penalties will work to incent generators to obtain the requisite fuel. PJM suggests that ‘with investment’ and ‘with sufficient lead time’ generators can obtain the necessary fuel assurances, but PJM must recognize the challenges that generators will face in evaluating and procuring “firm” fuel and must afford generators appropriate time to evaluate options in the context of the proposed capacity market changes. In addition to the obvious considerations in evaluating secure fuel options, additional complexities must be understood. \textit{First}, even with firm transportation contracts, the misalignment of the timing of the gas and power markets may prevent gas generators with firm transportation from obtaining fuel if they do not have sufficient notice. If a generator is called

\textsuperscript{9} Throughout this expedited process, there have been many comparisons drawn to the ISO-NE Performance Incentive proposal. Notwithstanding any superficial similarities to that misguided market design, at least as far as process, ISO-NE worked with stakeholders for over a year in vetting its Performance Incentive Proposal, including visits to individual companies and a 13-month stakeholder process.
upon in real time after the timely nomination deadline, the relevant pipeline may be fully scheduled and the generator will be unable to nominate the necessary supply to meet the real time dispatch requirement. In short, regardless of the size of the penalty and contrary to the assertions of some participating stakeholders, generators cannot procure no-notice gas. *Second,* some generators will likely face air permitting restrictions in attempting to utilize back-up oil. *Third,* generating units that are located behind an LDC face additional challenges. In short, PJM must afford generators time to evaluate the complexities of obtaining secure fuel supplies.

**B. As a Result of the Expedited Stakeholder Process, Fundamental Elements of the PJM Proposal Remain Unclear.**

The abbreviated time frame of the Capacity Performance stakeholder process has created a significant amount of uncertainty around the Proposal and a significant amount of the Proposal remains subject to interpretation. Some of these items are highlighted below. A key element of the Proposal that has yet to be defined is the transition mechanism. The transition mechanism is described in a single paragraph in the Capacity Performance White Paper. PJM may have a firm idea of its transition proposal, but no stakeholder can point to a clear articulation of what PJM would buy or sell, what the auction structure would look like and how a clearing price would be determined, or how such costs would be allocated. Market participants, such as the NRG Companies, simply cannot evaluate the potential impacts to their generation assets or contracts with LSEs with no information. The NRG Companies recognize that PJM intends to issue its proposal in short order; however, the six week process for stakeholder evaluation has already nearly been cut in half. Such a short time period for evaluation simply is not enough. In addition, PJM is proposing that such transition auctions would take place as early as the beginning of 2015 and impact LSE costs for capacity in the summer of 2015. Many LSEs have contracts in place for that time period that would be adversely impacted by these new,
unanticipated costs. It is inappropriate for PJM to layer new costs onto LSEs without more notice.

Additionally, there are a multitude of related issues that have gone unaddressed through the process so far. These include:

- **Must Offer Requirements:** Will PJM require a must offer requirement for both the base and Capacity Performance products? Will there be a must offer requirement for the transition auctions?
- **If PJM creates a new Capacity Performance product, what are the implications for the Installed Revenue Margin? Will PJM redefine IRM?**
- **BRA deadlines:** The changes contemplated in the Capacity Performance process cannot accommodate the 2018/19 BRA schedule as contained in the tariff.
- **BRA implementation:** How are costs associated with Capacity Performance eligibility reflected in CONE? How is the risk adder reflected in CONE? How are penalties reflected in E/AS offset?
- **Bidding requirements:** Under PJM’s current rules, generators are required to bid as Max Emergency when running low on fuel. This requirement contradicts the Proposal’s exclusion of Max Emergency as compliance with Capacity Performance. Max Emergency bidding requirements based on certain fuel inventories will need to be reviewed and revised.
- **Energy and Ancillary market rules:** The energy and reserve markets could equally be modified to support incentives for PJM’s desired unit flexibility and solve perceived issues on a market basis in lieu of the command-and-control approach of the Capacity Performance proposal.

The aforementioned are just a few items that remain open. Even if the NRG Companies agreed with the Proposal as stated, we simply could not support a proposal with this magnitude of open items and uncertainty.

### III. PROPOSED SOLUTIONS

While much of the current Proposal needs to be further specified, clarified and revised, it should be noted that the NRG Companies can support focused capacity changes to help ensure investment in performance, fuel security and reliability. A reasonable increase in the “stick” to perform could be appropriate, provided it is accompanied by a corresponding increase in the
“carrot.” Some of the key features of such a proposal that are important to the NRG Companies are reflected in the Capacity Performance Proposal and with some modification could lead to a Proposal that the NRG Companies could support.

- **Offer Caps**: Ensuring eligibility in offer caps for fuel firming costs and other costs that improve reliability, availability, and flexibility of a resource is paramount regardless of any Capacity Performance proposal. The goal is not merely to provide reimbursement, but to create an affirmative profit incentive for better performance.

- **Enhanced Penalties**: Increased penalties for non-performers are reasonable, but the penalty itself must also be reasonable and counterbalanced by appropriate incentives.

- **Explicit Risk Premium**: Providing for an explicit, flexible risk adder without a cap that accurately reflects the risk of nonperformance, especially those risks outside of the operator’s control such as *force majeure* events and transmission outages, is a necessary condition for any change in the obligations of a capacity resource. Contrary to the current Proposal’s use of a system average forced outage rate for the risk premium, the adder must be allowed to reflect individual companies’ outage rates, outlook on market uncertainties and relative risk tolerance.

- **Improvement on Treatment of Transmission Outages**: Recognizing that generators should not be penalized for PJM actions and transmission events is a notable lesson-learned from the ISO-NE experience.

- **Measurement of Performance**: Consistent with RPM as a resource adequacy construct, PJM appropriately proposes to measure performance during reasonably predictable periods when the overall adequacy of the resource fleet is under stress, *i.e.*, during Hot and Cold Weather Alerts and Max Gen Emergency Alerts.

- **Enhanced Energy & Reserve Markets**: Further, there are some key elements that can be added in conjunction that will achieve PJM’s fundamental goal of achieving increased availability in the day-ahead and real-time markets: PJM should address flexibility issues by making modifications in its energy and reserve markets where flexibility can be most appropriately incented and rewarded.

- **Product Definition**: To resolve the seasonal reliability problems raised by PJM, PJM should rely on only a single annual capacity product.

- **Procurement Levels**: PJM should eliminate the Short Term Resource Procurement Target. If there is an identifiable problem with load forecasts, remedy the issue, but do not rely on 100% must offer obligations to fulfill 97.5% of demand; by definition the market systemically underfunds the capacity product.
- **Gas-Electric Alignment:** Proactively and timely address gas-electric coordination issues.
  - Addresses fundamental timing issues observed on January 7th and PJM dispatch decisions.

PJM should afford itself and shareholders with sufficient time to thoroughly evaluate the most efficient solution to adequately address its concerns.

**IV. CONCLUSION**

While the NRG Companies are generally supportive of considering improvements to the capacity market product that improve fuel security and reliability, the NRG Companies urge PJM to consider and proactively address the suggestions raised by the NRG Companies herein. In summary, NRG’s fundamental hurdles with the Proposal as drafted include the inclusion of flexibility criteria as qualification requirements for the capacity performance product, the exclusion of *force majeure* events from the outside management control classification, the substantial magnitude of the penalty, and the extent to which the risk outweighs any reward. The NRG Companies urge PJM to afford a process to evaluating the potential problems and developing solutions that is symmetric to the magnitude of the market change.