The Energy Efficiency Coalition ("EEC") is an ad hoc group of PJM members, public interest groups, and energy services companies united behind four principles:

- PJM’s capacity market should promote investment and innovation in energy efficiency.
- Owners of energy efficiency projects should have as much choice as possible in bringing those projects to market.
- Rules for energy efficiency should fully value its contribution to reliability and its ability to replace power plants.
- There should be no unnecessary barriers to energy efficiency participation in capacity markets.

EEC members believe that energy efficiency is a vital component of a well functioning capacity market. In this, we support FERC’s finding that “We believe that energy efficiency is a critical part of efficient energy markets, and should be treated comparably to other types of resources, by being allowed to participate in base residual auctions and be paid the auction clearing price when they are accepted in the auction.”\(^1\) Including energy efficiency improves forecast accuracy and price signals, creates appropriate incentives for energy efficiency development, and sends price signals to support efficiency projects that match system needs. PJM’s current approach of allowing energy efficiency to offer as a supply side resource has succeeded in meeting these goals. This success is highlighted by a recent Brattle report\(^2\) showing that PJM’s load forecasts underestimated 2017/18 energy efficiency by over 1,800MW, but that supply-side energy efficiency in RPM corrected nearly three-quarters of that discrepancy. PJM

\(^1\) 126 FERC ¶ 61,275 at 130.
\(^2\) The Brattle Group, Quantifying the Amount and Economic Impacts of Missing Energy Efficiency in PJM’s Load Forecast. (September 2014)
current energy efficiency markets meet FERC’s goal of “correct[ing] a mismatch between EE-related load reductions and capacity requirement levels.”

**Summary**

Our comments are divided into two broad areas. First, we address PJM’s decision in the wake of EPSA v FERC to limit energy efficiency in RPM to only that provided by Load Serving Entities (“LSE”s) representing projects undertaken by the customers they serve. Briefly, we believe that is an ill-considered decision that is premature, based on questionable legal reasoning, and, in any event, introduces unnecessary complications to the Capacity Performance initiatives’ goal of resolving “issues related to generation performance and increasing dependence on natural gas for power generation during winter peak conditions.”

The second section of our comments speaks to market and technical concerns with PJM’s proposed redesign of the rules for energy efficiency in RPM. Energy efficiency is still relatively new in RPM, and has grown rapidly, with over 1,300 MW cleared in the 2017/18 BRA. Energy efficiency has proven to be one of the most reliable and least speculative capacity resources in PJM, consistently delivering beyond RPM commitments and improving the accuracy of capacity price signals. We believe that PJM’s proposed changes to energy efficiency rules will unnecessarily exclude or undervalue much energy efficiency, inevitably resulting in needless procurement of excess capacity at great cost to consumers.

**A note on the Enhanced Liaison Committee process**

Many of our comments are at a level of detail that is not ordinarily brought to PJM’s Board’s attention. We believe that this highlights that the Enhanced Liaison Committee may not be the most appropriate venue for a wholesale redesign of PJM’s energy efficiency market. The Enhanced Liaison Committee (“ELC”) is an extraordinary measure that bypasses normal stakeholder consensus building processes in order to quickly resolve critical issues. On the other hand, energy efficiency is a technical and detail oriented field best served by a deliberative rule making process. To make matters worse, the treatment of energy efficiency in PJM’s final

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3 126 FERC ¶ 61,275 at 132.

4 PJM Staff, *Problem Statement on PJM Capacity Performance Definition*, page 3 (August 1, 2014).
capacity performance proposal was dramatically different than in their draft proposal; this has resulted in little opportunity for stakeholder input on the proposal currently before the Board. We submit that if the Board directs PJM to move forward with the energy efficiency portions of the Capacity Performance proposal, those rules will be submitted to FERC after a rushed process with insufficient opportunity to clarify technical and market design issues. To the extent the Board believes changes to the energy efficiency product are necessary, they may be better served by referring matters back to PJM stakeholders.

**Energy Efficiency Should Not Be Restricted to LSEs**

As the Board is no doubt aware, the DC Circuit Court’s decision in *EPSA v. FERC* has cast great uncertainty over demand response’s future role in the wholesale power markets. In that decision, the Court ruled that FERC has no jurisdiction over demand response, raising a host of questions regarding if and how demand response may continue to be incorporated into wholesale power markets. In an effort to reduce this uncertainty, PJM staff has issued a white paper proposing that the jurisdictional issues created by the Court’s decision can be resolved by allowing customers providing demand response to only participate in PJM markets through their LSE.

In the Capacity Performance proposal currently before the Board, PJM has gone further and proposes to limit energy efficiency resources in the same manner. As currently proposed by PJM, energy efficiency will be limited to participation in the RPM auction through Load Serving Entities. We urge the board to reject this aspect of PJM’s Capacity Performance proposal. Specifically, we believe that this approach will have several undesirable outcomes:

- It needlessly restricts consumer choice as to how and what energy efficiency projects they bring to RPM. Any end user who switches retail choice providers risks losing the capacity value of their energy efficiency measures.
- It resurrects the classic problem of why LSEs should pay their customers to use less of their product.

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5 PJM Interconnection, *The Evolution of Demand Response in the PJM Wholesale Market* (October 6, 2014)
• Many state mandated energy efficiency programs are administered through EDCs and rely on capacity market revenues to justify their cost/benefit structure. For example, Baltimore Gas and Electric states that “BGE expects to be able to bid peak demand reductions from energy efficiency programs into RPM. This wholesale revenue stream will serve to reduce the amount of cost recovery needed from customers.”\footnote{Transmittal letter to BGE’s Energy Efficiency Plan as required by the EMPower Maryland Act. MD PSC Case 9154. September 2, 2008.} In retail choice states, these EDCs are often not the LSE and will not be able to realize the capacity value of projects they are mandated to undertake. This undermines the financial structure behind many energy efficiency programs.\footnote{For example, we believe that ComEd is the largest provider of energy efficiency into RPM through their various energy efficiency programs. However, ComEd is only the LSE for roughly 45% of the customers in their service area. The majority of customers eligible for ComEd’s energy efficiency programs use one of the 54 different retail choice providers registered in Illinois as their LSE. For the energy efficiency currently offered into RPM by ComEd to remain, every one of those 54 retail choice providers would have to independently develop their own energy efficiency M&V programs and make forward commitments in the BRA.}

• Energy efficiency measurement and verification (M&V) is a complex task with significant economies of scale—every energy efficiency provider must develop technical protocols, and assess and measure the demand reduction for each project while adhering to PJM M&V precision requirements\footnote{Full details of this process can be found in PJM Manual 18b.}. The amount of M&V effort involved is relatively constant regardless of the scale of an energy efficiency program. Thus, requiring each LSE to administer their own individual program will at best needlessly increase costs. In many cases, LSEs will simply decline to make the investment, shutting customers out and putting smaller LSEs at a competitive disadvantage. For example, under PJM’s proposal, responsibility for the largest EE program in the RTO would be removed from a single EDC and distributed among 54 different LSEs. It is unrealistic to
imagine that all 54 of those LSEs will undertake to develop their own EE programs and make RPM commitments in order to preserve the current value of that program.

- It complicates administration and increases the risk of making energy efficiency capacity commitments. In particular, most RPM commitments are made three years in advance, while most power supply contracts are shorter than that. That means that any LSE committing energy efficiency into RPM risks being unable to fulfill those commitments simply because customers switch to another LSE.

All told, it seems inevitable that restructuring energy efficiency as PJM suggests will significantly reduce the amount of EE committed and delivered in RPM. This results in unnecessary procurement of capacity from other sources, needlessly raising costs and distorting RPM price signals.

We also believe that the reasons given for considering restructuring energy efficiency markets at the current time do not hold up to scrutiny on several fronts.

_There is no justification for extending EPSA v. FERC to Energy Efficiency._ As PJM itself recently argued at length to FERC⁹, EPSA v. FERC does not apply to capacity markets. The sole justification for extending EPSA v. FERC to demand response in capacity markets is demand response’s participation in energy markets. Energy efficiency does not participate in energy markets. Quite simply, even if EPSA v. FERC is upheld, it is not relevant to energy efficiency’s participation in PJM’s capacity markets.

_The issue is irrelevant to the problem the Board has asked PJM to address._ The winter of 2014 revealed acute reliability risks due to generator underperformance and gas-electric coordination. There does not appear to be any connection between generator outages and under-performance and the role of energy efficiency in capacity markets. EPSA v FERC is almost certainly the beginning of protracted litigation. Needlessly linking winter reliability to EPSA v. FERC risks embroiling PJM’s current capacity performance proposal in that litigation.

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⁹ EL14-55-000, ANSWER OF PJM INTERCONNECTION, L.L.C. TO COMPLAINT.
Instead PJM should focus on preparing for any potential reliability needs for the coming winters

**PJM’s proposal is premature.** Legal appeals for EPSA v. FERC have not been exhausted.

Indeed, On October 20, 2014, the DC Circuit Court stayed enforcement of the ruling for the explicit purpose of allowing FERC to petition the Supreme Court to review the matter. FERC has issued no order or guidance to RTOs regarding how to comply with any yet-to-be-issued mandate from the Court. Although PJM’s intent is to reduce uncertainty, commencing market restructuring before key legal issues are resolved will add another variable to an already uncertain situation.

In conclusion, we recommend that at this time the Board direct PJM staff to not modify the tariff to treat energy efficiency as a demand-side modification of LSE obligations, but instead to retain the current supply-side treatment.

**Energy Efficiency Product Changes**

Beyond the structural changes just discussed, the Capacity Performance proposal includes many changes to the measurement, eligibility, and settlement of energy efficiency capacity resources. Specifically, PJM has proposed:

- Limiting projects meeting the current ‘summer only’ efficiency standards to the Base capacity product.
- Expanding the hours over summer EE must deliver savings.
- Setting a cap on the amount of summer EE that may clear RPM auctions.
- Only allowing EE measures that deliver year-round savings to qualify as Capacity Performance.
- Penalizing under-delivered EE resources identically to as a generator on permanent outage.

We agree that proposing changes to the EE product definition are within the scope of addressing winter reliability. However, we believe that the particular changes PJM has proposed do not accurately measure the value of energy efficiency measures. By doing so, these changes reduce incentives for the energy efficiency projects that provide the most reliability
benefit while increasing incentives to projects that may provide reductions outside of peak hours.

**Performance Hours:** To qualify as Capacity Performance, EE projects must demonstrate that they provide load reduction during over the 17 hour period from 5:00 a.m. to 10:00 p.m. EPT every day during the Delivery Year. Measuring EE projects based on their average savings over 6205 hours per year instead of the 260 hours of current EE Performance Hours will vastly under-estimate their value. Increasing the applicable hours over 20 times will significantly decrease the Coincidence Factor used to determine qualified EE kW reduction. In the Capacity Performance proposal, PJM defines the “times that resources are needed to ensure system reliability” as averaging 642 hours per year. All capacity resources other than energy efficiency are evaluated based on their performance during those hours. No justification is given for measuring energy efficiency over a time period nearly 10 times longer. Simply put, PJM’s proposal evaluates efficiency during hours when there just isn’t much load on the system, limiting the capacity value in a way that has nothing to do with maintaining system reliability.

Beyond undercounting energy efficiency, this approach sends incorrect price signals. The RPM revenue from energy efficiency projects is considered by both state policymakers and private investors. PJM’s proposed rules would send the signal that energy efficiency during off-peak hours are as valuable as savings during critical reliability periods. We submit that a market design that values savings at 5:00 on a May morning equally with savings on an August afternoon does not provide incentives to develop energy efficiency when it is needed most.

The capacity value of EE projects is more accurately captured by taking the average of its kW value in summer and its kW value in winter. Based on historic winter peaks we would suggest Winter EE Performance Hours of 6-9 AM and 5-8 PM during January and February, and that holidays, weekends, and shoulder months be excluded from EE performance calculations.

**Summer-only efficiency:** Under current RPM rules, Energy Efficiency (EE) participates as an annual capacity resource based on the measured permanent, continuous demand reduction achieved between 2-6 PM, Monday through Friday during June and August. The proposed capacity performance rules restrict summer EE to only participating as Base Capacity, change the performance hours to 9am -10 pm, June through September, and appears to include
weekends as well as weekdays. The hours should be adjusted to more accurately match the periods of expected peak demands.

It is generally accepted that traditional EE measures designed to reduce cooling energy use have significant capacity value. It is unclear why PJM proposal changes the current design to include off peak times and possibly days in which buildings are unoccupied in calculating the peak load reduction. This change reduces the contribution energy efficiency makes during times of peak load. Given recent history of September peaks, we suggest that the current energy efficiency performance hours be retained at 2-6 PM, Monday through Friday, but be expanded to include June through September.

Because summer EE is counted as Base Capacity, we believe that this creates a need for the Base Capacity product to be retained. In particular, the Board should reject the aspect of the proposal that requires all planned resources to be Capacity Performance. Because energy efficiency projects only have capacity value for four years, most energy efficiency offered into RPM auctions is planned. Going further, as the Capacity Performance proposal is written only planned EE is allowed in RPM auctions, and all planned resources must be Capacity Performance. This combination of rule changes eliminates summer EE from the capacity market. We do not believe that this was PJM’s intent, and we urge the board to direct PJM to allow summer energy efficiency projects to continue to offer into RPM as planned Base Capacity resources.

**Winter-only efficiency:** There are EE project categories such as heating equipment upgrades and exterior lighting upgrades that provide savings during peak winter conditions but not during summer or shoulder months. Ironically in an attempt to address winter reliability, the current proposal provides no mechanism for such projects to participate in RPM.

The capacity value and contribution of these projects could be captured in RPM through the introduction of a Winter Capacity product with performance measured 6-9 AM and 5-8 PM during January and February workdays. The value of such a product should logically be the difference between the clearing price of the “summer only” portion of Base resources and Capacity Performance resources. Alternatively, winter only projects could be allowed to be paired with summer only projects to create a single annual Capacity Performance resource.
**Caps on EE Participation:** The PJM proposal sets caps on the amount of energy efficiency allowed to clear RPM auctions under the Base Capacity product. PJM’s rationale for setting caps is that a megawatt of summer energy efficiency provides less benefit than a megawatt of Base generation capacity because generation is considered available at all times except during winter peak. Our understanding is that outside summer, reliability risk is highly concentrated in the peak winter week. Given this, and the limited detail that PJM has made available on their calculations, we submit that the caps on summer EE have not been sufficiently justified and needlessly limit qualified energy efficiency from full participation. We recommend that the initial implementation of capacity performance place no limitation on summer EE beyond the overall limit on Base Capacity. Should PJM demonstrate a need for a cap in the future, PJM and the stakeholders should develop one in a more deliberative manner through the standard stakeholder processes.

**Penalty Structure:** We understand and support the goal of the Capacity Performance proposal to create strong incentives for capacity resources to deliver on their commitments. However, we believe that the proposal inappropriately extends the penalty treatment of generation plants to energy efficiency. Generators are penalized in hours in which they are called on for energy but do not deliver. As extended to energy efficiency, this approach is unduly punitive: an EE project that delivers less savings than expected will be treated as if it was a generator that cleared the energy market every single hour of the year but failed to run. Furthermore, generators have a variety of options to manage this risk, including replacement capacity transactions and using excess output from uncommitted units to make up for under delivery.

A more equitable approach would be to subject undelivered energy efficiency to the capacity deficiency charge. That is the purpose of the capacity charge, and we believe that is a more appropriate approach than applying energy market rules to apply to passive energy efficiency projects. We also suggest that energy efficiency should retain the same rights as other resources to manage risk through replacement capacity transactions, and that energy efficiency projects that deliver beyond their commitments should enjoy the same opportunities as other resources to offset underperformance.
Thank you for the opportunity to submit these comments.

The Energy Efficiency Coalition,

EnergyConnect, Inc.
EMC Development Company*
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Juice Technologies* d/b/a/ Plugsmart
Encentiv Energy
Keystone Energy Efficiency Alliance
Piedmont Environmental Council
The Union of Concerned Scientists

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