

**UNITED STATES OF AMERICA**  
**BEFORE THE**  
**FEDERAL ENERGY REGULATORY COMMISSION**

PJM Interconnection, L.L.C. ) Docket No. ER17-367-000

**COMMENTS AND LIMITED PROTEST  
OF THE PJM POWER PROVIDERS GROUP**

Pursuant to Rules 211 and 212 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission ("FERC" or the "Commission"), 18 C.F.R. § 385.211 (2016), and 18 C.F.R. § 385.212 (2016), the PJM Power Providers Group ("P3")<sup>1</sup> respectfully submits these comments and limited protest regarding the November 17, 2016, filing by PJM Interconnection, L.L.C. ("PJM"), pursuant to Section 205 of the Federal Power Act ("FPA"),<sup>2</sup> that proposes revisions to the PJM Open Access Transmission Tariff ("Tariff"), and the Reliability Assurance Agreement among Load Serving Entities in the PJM Region ("RAA") regarding participation of certain resources in PJM's Reliability Pricing Model capacity market ("RPM"). Specifically, PJM proposes to: (1) enhance its aggregation rules to provide additional ways in which eligible resources can participate in PJM's capacity market; (2) provide an opportunity for such eligible resources to obtain additional Capacity Interconnection Rights ("CIRs") for the winter period to support aggregation; and (3) modify rules for measuring

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<sup>1</sup> P3 is a non-profit organization dedicated to advancing federal, state and regional policies that promote properly designed and well-functioning electricity markets in the PJM Interconnection, L.L.C. ("PJM") region. Combined, P3 members own over 84,000 MWs of generation assets, produce enough power to supply over 20 million homes and employ over 40,000 people in the PJM region covering 13 states and the District of Columbia. For more information on P3, visit [www.p3powergroup.com](http://www.p3powergroup.com). The comments contained in this filing represent the position of P3 as an organization, but not necessarily the views of any particular member with respect to any issue.

<sup>2</sup> 16 U.S.C. §824d.

Demand Resource (“DR”) performance during the winter period. PJM is seeking these changes in time for the next Base Residual Auction (“BRA”), commencing May 10, 2017, for the 2020/2021 Delivery Year (“May 2017 BRA”), to support the continued participation of resources which otherwise would not be able to be committed and perform as Capacity Performance Resources (“Enhanced Aggregation and Seasonal Capacity” filing, or “PJM proposal”).

The Commission issued a Combined Notice of Filings #1 on November 17, 2016, setting December 8, 2016, as the deadline to file comments, interventions and protests.

On November 17, 2016, pursuant to Rule 214 of the Rules of Practice and Procedure of the Commission, 18 C.F.R. § 385.214 (2016), P3 submitted a doc-less motion to intervene.

While P3 is generally supportive of the concept of PJM’s proposals in its Enhanced Aggregation and Seasonal Capacity filing, P3 must submit these comments and limited protest and request that the Commission accept PJM’s filing conditioned on the various requests made herein. P3 believes, however, that with these modifications, PJM’s proposal will be just and reasonable and will afford additional opportunities for seasonal resources to participate in RPM.

## **I. COMMENTS**

The winter of 2014 was a historic year by PJM standards. On January 7, 2014, PJM experienced its highest-ever winter usage, and eight of the ten highest winter peaks (at the time) in PJM happened in that month. Winter peaks that were set one day were broken the next day. On one particularly harsh day, PJM’s outage rate was 22 percent, which was roughly three times the historical average - over 40,000 MW of cleared capacity was not available.<sup>3</sup>

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<sup>3</sup> <https://www.ferc.gov/CalendarFiles/20140401084146-Kormos,%20PJM%20Slides.pdf>

With the system stressed, PJM operators were forced to call on demand response to voluntarily participate in the market, despite the fact that most of those resources had no capacity obligation to perform. PJM also implemented voltage reductions and triggered shortage pricing in order to maintain system reliability.<sup>4</sup> Despite the significant unavailability of resources, very few non-performance penalties were issued.<sup>5</sup>

The events of 2014 were a wake-up call. PJM, PJM's stakeholders and the Commission recognized that the events of winter 2014 and the challenges presented by the Polar Vortex revealed weaknesses in the PJM capacity market that needed to be addressed. Among many other things, changes were needed to the definition of capacity obligations. Since the winter events proved that challenges to the system can present themselves at virtually any time of year, PJM needed assurance that capacity that is being counted on will be available at all times. Generators also needed appropriate incentives to perform at all times. The PJM Capacity Performance ("CP") proposal was aimed to address both points.

In June of 2015, the Commission approved PJM's CP proposal to rectify identified shortcomings of the PJM capacity market construct ("CP Order").<sup>6</sup> Chief among the changes in the CP Order was replacing PJM's existing capacity products with a new capacity product, a Capacity Performance Resource, an annual product that was "capable of sustained, predictable operation such that the resource will be reliably available to provide energy and reserves in an

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<sup>4</sup> <https://www.ferc.gov/CalendarFiles/20140401084146-Kormos,%20PJM%20Slides.pdf>  
<http://www.pjm.com/~media/library/reports-notice/weather-related/20140509-analysis-of-operational-events-and-market-impacts-during-the-jan-2014-cold-weather-events.ashx>

<sup>5</sup> <http://www.pjm.com/~media/library/reports-notice/weather-related/20140509-analysis-of-operational-events-and-market-impacts-during-the-jan-2014-cold-weather-events.ashx> at p. 53.

<sup>6</sup> *PJM Interconnection, L.L.C.*, 151 FERC ¶61,208 (June 9, 2015) ("CP Order").

emergency condition.”<sup>7</sup> PJM argued, and the Commission agreed, that capacity needed to be available at all times of the year in order to be considered a capacity resource.<sup>8</sup> The Commission did allow for intermittent and seasonal demand response to aggregate in order to meet the annual obligation, but the fundamental principle that capacity is inherently an annual product is a hallmark of the 2015 CP Order.<sup>9</sup>

As a transition to the CP product, PJM proposed a separate, interim capacity product with a lower performance expectation, referred to as a Base Capacity Resource (“BCR”), which could be used over a five-year transition period. PJM proposed a cessation of the BCR for the 2020-21 delivery year and beyond, at which time PJM would procure all of the region’s capacity requirement in the form of the Capacity Performance Resources. PJM had stated that “Base Capacity must be phased-out, under the timetable (it) propose(d), because when called upon during an emergency, resources must be counted on to fulfill their capacity commitments.”<sup>10</sup> PJM noted that the 5-year transition mechanism would provide an opportunity for resources to invest in, and sufficient time to build, improvements necessary to meet the operational and performance requirements expected of Capacity Performance Resources.<sup>11</sup> The Commission accepted PJM’s 5-year transition, finding that it “will allow resources to make gradual

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<sup>7</sup> CP Order at P 28.

<sup>8</sup> Describing the Commission’s CP Order, the Commission recently stated, “...allowing non-year-round resources to participate in the capacity performance market could result in a loss of reliability in those resources’ lower-performing seasons, because PJM would have fewer resources available to respond to emergency conditions.” Brief of Respondent, Federal Energy Regulatory Commission, *Advanced Energy Management Alliance v. FERC*, U.S. District Court of Appeals, Docket Nos. 16-1234, 16-1235, 16-1236 and 16-1239 (Consolidated), Nov. 23, 2016, at p. 60.

<sup>9</sup> CP Order at P 101.

<sup>10</sup> CP Order at P 245.

<sup>11</sup> CP Order at P 213.

improvements and reduce the burdens such improvements may impose.”<sup>12</sup> In doing so, the Commission explicitly recognized that after the transition, certain resources would no longer be eligible to participate as Capacity Performance resources on a standalone basis:

As a general matter, we accept PJM’s proposal to establish, on a phased-in basis, an Annual Demand Resource product that will: (i) replace PJM’s existing demand response capacity products; and (ii) require conformance with the standards applicable to a Capacity Performance Resource, as modified herein. We agree with PJM that, as modified, PJM’s proposal is appropriate, because it creates the same expectations for all Capacity Performance Resources (i.e., the expectation that such resources will be available to provide energy and reserves when called upon), without regard to technology type. We note that currently the vast majority of Demand Resources are available to PJM during the summer peak season only, with Limited Demand Response available for 10 days and for a maximum of 6 hours a day.<sup>13</sup>

The Commission subsequently reiterated that opportunities remained for those resources no longer able to participate as Capacity Performance resources on a standalone basis:

Permitting non-year-round resources to continue participating could result in a loss of reliability during the fall, winter and spring when PJM will not have as many resources to respond to emergencies, such as a polar vortex. Moreover, PJM has provided reasonable accommodation to permit greater participation in the capacity market by such resource types, including a reasonable transition period and the ability to participate in aggregated offers.<sup>14</sup>

Implicit in PJM’s Enhanced Aggregation and Seasonal Capacity filing is the commitment to maintaining the transition period’s timetable in order to realize the full benefits of the significant efforts by PJM and its stakeholders to begin the sole use of Capacity Performance Resources for the 2020/2021 Delivery Year. As the Commission considers tariff revisions to

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<sup>12</sup> CP Order at P 253.

<sup>13</sup> CP Order at P 99.

<sup>14</sup> *PJM Interconnection, L.L.C.*, 155 FERC ¶61,157 (May 10, 2016) (“CP Rehearing Order”).

further assist with the aggregation process for Seasonal Capacity Performance Resources, it is important that the principle of capacity as an annual product not be weakened.

In regards to the tariff provisions proposed by PJM in this filing, P3 is generally comfortable with PJM assisting with the aggregation of specified sub-annual resources with other specified sub-annual resources in order to make a single resource capable of meeting an annual capacity obligation. This role is an appropriate one for the Regional Transmission Organization (“RTO”) to play, and PJM appears to have put forth meaningful improvements to assist with that aggregation. However, certain clarifications accompanied by corresponding tariff revisions, as detailed below, are necessary in order for the proposal to be considered just and reasonable.

**A. The PJM Proposal Lacks Sufficient Tariff Detail And PJM’s Anticipated Implementation Is Not Just and Reasonable.**

Under the current PJM rules, capacity aggregation offers are consummated prior to bid submission, subject to certain restrictions. This coordination by market participants prior to bid submission allows for many important issues to be addressed on commercial terms – including the bid level for the aggregated resource. Under the changes proposed by PJM, consummation occurs after bid submission with PJM in the role of “matchmaker.” The role of matchmaker is fairly straight forward if the winter resource and summer resource are proximate, similarly-sized and offer at the same non-zero price. However, the reality is that PJM will likely be placed in the position of dealing with a myriad of seasonal offers that are not easily matched or reconciled within market parameters. The tariff language needs to clearly state how PJM will act in these situations, and it is currently silent.

Consider a scenario in which Winter Resource A (a wind resource) submits a winter capacity bid of 10 MW at \$200/MW-day and Summer Resource B (demand response) submits a summer capacity market bid of 10 MW at \$0. PJM has indicated, although the PJM filing is not explicit on this point, that the two bids would be aggregated to a single 10 MW bid at \$100/MW-day. Assuming for this example the market clears at \$120/MW-day. Summer Resource B would be paid \$120/MW-day; however, it is not clear in the proposed tariff language what Winter Resource A would be paid.

We understand that PJM will calculate an average cost for the aggregated annual resource and that average will constitute the offer from that resource for purpose of clearing the supply stack. To the extent that the higher cost resource submitted a seasonal offer that exceeds the market clearing price, PJM's use of an average cost offer creates the need for a make-whole payment. P3 believes that a better method for pricing the aggregate annual resource would be at the higher seasonal resource's offer. This would signal to the market the true cost of creating the annual product and would eliminate the need for uplift or a make-whole payment.

Under PJM's proposal, assuming Winter Resource A was compensated at its \$200/MW-day offer; that resource would receive a capacity market premium that other capacity resources would not enjoy and consumers would be forced to pay more than the market clearing price for the aggregated capacity (10 MW \* \$120/MW-day \* 12 months) + (10 MW \* \$80/MW-day \* 6 months), reflecting the payment of the full market clearing price to both resources for their respective six-month obligations, plus the uplift paid to the Winter Resource for its six month obligation at the higher resource-specific offer price. Such a result would be patently discriminatory, and displace other capacity resources that bid between \$120 - and \$200/MW-day. PJM's proposed average pricing, combined with its proposed cost allocation for uplift (discussed

below) would provide seasonal resources with an unnatural competitive advantage relative to competing annual resources because the seasonal aggregates are placed into the supply stack below the true cost of the aggregate, with load covering the cost of the resource that would otherwise not clear because of the level of its offer. PJM's proposal also discourages the low-cost seasonal resource in a synthetic aggregate from offering at their cost and revenue requirements, instead encouraging price-taking offers in order to ensure the likelihood of pairing with a resource in the opposite season and clearing.

PJM also fails to describe how seasonal resources with identical offers would be matched to opposite-season resources; especially if there are many seasonal megawatts offered at \$0/MW-day. For example, assume that 3,000 MW of summer-only resources submit offers at \$0/MW-day and only 1,000 MW of winter resources offer at multiple price points. The PJM proposal does not address which of the summer-only resources will be selected to be matched with a corresponding winter-only resource. In analogous situations, the PJM Tariff includes specific rules for breaking such ties and should do so here as well.<sup>15</sup>

The Commission should direct PJM to incorporate tariff language that outlines how it will select the resources to aggregate and calculate the offer price of the aggregated annual product. To that end, the Commission should further direct PJM to use the higher cost seasonal resource's offer to set the offer level for the aggregated annual product.

**B. If the Commission Does Not Direct PJM To Price Aggregated Resources at the Price of the Higher Seasonal Resource Offer, It Should Direct PJM To Adopt Its Second Option for Allocation of Make-Whole Payments.**

PJM's second option for allocation of make-whole costs, outlined on page 19 of its transmittal letter, is superior to PJM's proposed method allocating the cost of make-whole

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<sup>15</sup> See Section 5.12(d) of Attachment DD of the Tariff.



payments to load. PJM's second option provides that the cost of the "make-whole" payment to higher cost seasonal resources is covered by the infra-marginal revenues created between the low-cost seasonal resources' offers and the auction clearing price. Such market design is more consistent with commercial terms that would be developed by a bilateral aggregation deal, in which the parties would negotiate an offer price for the aggregate annual product and one party would pay the other for the risks imposed by that offer level. Under a bilateral contract approach, the total cost of the aggregation would be covered in the structure of the aggregation and reflected in the aggregate's offer price. In contrast, under PJM's proposed design, part of the costs of the seasonal resource may be covered via out of market assessments directly to consumers. This creates an opportunity for cost recovery that is simply not available in the bilateral markets and may also create perverse offer incentives. The payments from owners of lower-cost seasonal resources to owners of higher-cost seasonal resources also better comports with the "the Commission's long-standing principle that costs should be allocated to those who benefit from the incurrence of the costs."<sup>16</sup> Unlike load, the owner of a lower-cost seasonal resource benefits from make-whole payments that allow its seasonal offer to clear.

Accordingly, if the Commission does not grant P3's request to direct PJM to use the higher cost seasonal resource's offer to set the offer level for the aggregated annual product as described in Subsection A, above, the Commission should direct PJM to adopt PJM's second option for allocation of make-whole payments, which would internalize all costs of the aggregate offer to the participants in the aggregation, instead of uplifting the "make-whole" payment to customers.

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<sup>16</sup> *ISO New England Inc.*, 147 FERC ¶ 61,026 at P 24 (2014).

**C. PJM’s Proposal as it Relates to Winter Capacity Interconnection Rights Requires More Analysis and Refinement.**

CIRs, or the rights to input generation as a Generation Capacity Resource into the Transmission System at the Point of Interconnection where the generating facilities connect to the Transmission System, are an essential tool for maintaining the operational and economic efficiency of the grid. Under PJM’s current rules, capacity resources can request CIRs up to the maximum net electrical output of a facility as experienced during summer conditions, or in the case of certain intermittent resources, up to a pre-established portion of their net output. These values are confirmed through either annual testing by thermal generation or actual performance over a defined time period for intermittent resources. CIRs are not specifically awarded for the winter season.

PJM now proposes, based on admittedly subjective criteria and processes, to award winter-only CIRs to resources that are intermittent or environmentally limited and eligible for aggregation.<sup>17</sup> PJM proposes these changes knowing that further evaluation and understanding needs to occur in order to develop a process and criteria that can accurately reflect the appropriate winter CIRs for certain resources in a manner that is fair to existing generation owners that may have paid for transmission upgrades as part of an interconnection agreement.

While P3 appreciates PJM’s proposed methodical approach to the question of winter CIRs, the lack of a fulsome understanding of how these newly awarded CIRs will impact the market is troubling and should give the Commission pause. Indeed, PJM concedes that

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<sup>17</sup> Despite having no approved Tariff to implement this process, PJM has nonetheless already undertaken this process and evaluation without Commission consideration or approval. See Enhanced Aggregation and Seasonal Capacity filing at p. 21.

additional studies are required and notes that a “.....more comprehensive and integrated process within its interconnection process under the Tariff, Parts IV and VI” is required.<sup>18</sup>

P3 respectfully suggests that the awarding of winter CIRs is an important enough issue that the Commission should have a clearer sense of the destination before starting the journey. Existing generation units most likely expended significant time and financial resources to acquire CIRs through the interconnection process. To now in essence “give away” these rights without a complete understanding of the impact of such a handout, seems unfair at best and discriminatory at worst. For any other resource in PJM, regardless of size or technology, a request to obtain CIRs for the purpose of selling capacity is subject to a rigid set of requirements, including monetary deposits for the purpose of funding the cost of the study, multiple iterations of screening and/or study by both PJM and the relevant Transmission Operator, to determine if any violations occur, and further revisions to Interconnection Service Agreements (“ISA”) in the event a resource seeking CIRs follows through to its completion. In an effort to manufacture additional winter capacity for the sole purpose of creating partners for certain summer-only resources, PJM proposes to ignore each of these steps. The class of resources eligible for this treatment makes no financial remuneration to PJM for the cost of the study, is seemingly not subject to any specific deliverability study, and has no obligation to formally record its increased winter capability as part of their ISA or other formal documentation.

Like PJM, P3 feels that more work needs to be done. P3 respectfully suggests that winter CIRs merit such a review before they are awarded with an incomplete understanding of the

impact.<sup>19</sup> In lieu of memorializing an incomplete process that will undoubtedly impact market results without a clear shelf life, the Commission should reject PJM's instant proposal to award incremental winter CIRs in the near-term and instead permit PJM to return to the Commission with its more comprehensive and integrated process at some point in the future.

**D. The Non-Performance Charge Rate Should be Imposed on Capacity Market Sellers with Seasonal Capacity Performance Resources that Fail to Meet Capacity Commitments in the RPM.**

P3 supports PJM's acknowledgement that Capacity Market Sellers with Seasonal Capacity Performance Resources that receive a capacity commitment for either the summer or winter period of the Delivery Year will be required to pay the Non-Performance Rate Charge for any failure to meet its commitment and obligations similar to that of any other Capacity Performance resource. P3 strongly believes that the Non-Performance Charge Rate should apply to any non-performing resource in a non-discriminatory fashion. To do otherwise would embark upon a slippery slope of disparate treatment of capacity resources that could ultimately undermine the very Capacity Performance construct that PJM has created to properly incentivize (and penalize) resources based on performance.

**E. P3 Supports PJM's Commitment to Continued Work on Seasonal Capacity Issues, Particularly as they Relate to The Proper Compensation of These Resources Outside of The Capacity and Energy Markets.**

P3 supports PJM's acknowledgement that continued work on further enhancements to recognize the value of Seasonal Capacity Resources in its markets should occur. At the very least, PJM should collect data and other empirical evidence regarding the results of any enhanced aggregation efforts to share with stakeholders. As PJM has suggested, it should also explore additional topics for consideration, such as whether PJM's load forecasting methodologies should

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<sup>19</sup> After PJM completes the first BRA with 100% Capacity Performance resources in May of 2017, there is a strong reason to believe that the system topology could change in a material way that impacts the value and allocation of CIRs.

be enhanced to recognize resources in a more distinct manner, and whether or not a mechanism should be designed outside the capacity and energy markets to properly value and compensate the operational flexibility of such resources.<sup>20</sup>

## II. CONCLUSION

P3 remains optimistic that the PJM proposal can be modified in order to meet the well-intended goal of facilitating the aggregation of seasonal resources. Unfortunately, there are simply too many troubling gray areas that prevent the proposal, as currently written, from being considered just and reasonable. P3 urges the Commission to order PJM to amend the original proposal and reject certain portions of the proposal, as described above, in order to address the important details of this proposal that it currently lacks.

Respectfully submitted,

On behalf of the PJM Power Providers Group

By: s/Glen Thomas

Glen Thomas  
Laura Chappelle  
GT Power Group  
1060 First Avenue, Suite 400  
King of Prussia, PA 19406  
gthomas@gtpowergroup.

December 8, 2016

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<sup>20</sup> Enhanced Aggregation and Seasonal Capacity filing at p. 5, footnote 12.

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 Washington, D.C., this 8th day of December, 2016.

On behalf of the PJM Power Providers Group

By: s/Glen Thomas

Glen Thomas  
Laura Chappelle  
GT Power Group  
1060 First Avenue, Suite 400  
King of Prussia, PA 19406  
gthomas@gtpowergroup.