

155 FERC ¶ 61,157
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Norman C. Bay, Chairman;
Cheryl A. LaFleur, Tony Clark,
and Colette D. Honorable.

PJM Interconnection, L.L.C.	Docket Nos. ER15-623-002 ER15-623-004 ER15-623-005
PJM Interconnection, L.L.C.	EL15-29-001 EL15-29-003
Essential Power Rock Springs, LLC, Essential Power OPP, LLC, and Lakewood Cogeneration, L.P. v. PJM Interconnection, L.L.C.	EL15-41-001

ORDER ON REHEARING AND COMPLIANCE

(Issued May 10, 2016)

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1. We address, below, requests for rehearing of the Commission's order issued in Docket No. ER15-623-000, *et al.*, on June 9, 2015, conditionally accepting the establishment of a new capacity product, a Capacity Performance Resource, on a phased-in basis, as proposed by PJM Interconnection, L.L.C. (PJM).¹ We also address compliance filings that PJM submitted on July 29, 2015, in response to the Capacity Performance Order.

2. For the reasons discussed below, we grant in part, and deny in part, rehearing of the Capacity Performance Order. We also accept, subject to condition, PJM's compliance filings to the Capacity Performance Order and direct PJM to submit an additional compliance filing within 30 days of the date of this order.²

¹ *PJM Interconnection, L.L.C.*, 151 FERC ¶ 61,208 (2015) (Capacity Performance Order).

² The Commission can revise a proposal filed under section 205 of the Federal Power Act as long as the filing utility accepts the change. *See City of Winnfield v. FERC*,

I. Background

3. In the Capacity Performance Order, the Commission accepted, subject to condition, PJM's proposal to establish a Capacity Performance Resource, on a phased-in basis, to provide greater assurance of delivery of energy and reserves during emergency conditions. The Commission also granted, in part, and denied, in part, a related filing PJM filed under section 206 of the Federal Power Act (FPA) to address performance issues, as applicable to PJM's energy market.

A. Capacity Market Changes

4. PJM relies on a three-year forward capacity market construct to ensure resource adequacy at a reasonable cost through the use of an annual auction and subsequent Incremental Auctions held closer in time to the relevant delivery year.³ As PJM explained in its filing, in recent years this capacity construct has failed to fully ensure that capacity resources will perform when called upon, in the event of an emergency. As a result, PJM states that the current construct has threatened reliability, while requiring consumers to pay for capacity that might lack a sufficient (and commensurate) reliability benefit.⁴

5. To address these concerns, PJM proposed revisions to the PJM Open Access Transmission Tariff (OATT) and Reliability Assurance Agreement Among Load Serving Entities (RAA), to establish enhanced capacity resource performance requirements, on a phased-in basis. PJM also proposed to establish charges for poor performance (Non-Performance Charges) and credits for superior performance (Performance Bonus Payments), a must-offer requirement as applicable to Capacity Performance Resources, and a transition mechanism to remain in effect through May 31, 2020.

6. In the Capacity Performance Order, the Commission found that the market performance concerns PJM outlined in its filing warranted the implementation of new rules and that the OATT revisions PJM proposed were generally well-tailored to satisfy these needs. Accordingly, the Commission accepted, subject to condition, PJM's proposal addressing the performance requirements and expectations applicable to

744 F.2d 871, 875-77 (D.C. Cir. 1984). The filing utility is free to indicate that it is unwilling to accede to the Commission's conditions by withdrawing its filing.

³ Capacity Performance Order, 151 FERC ¶ 61,208 at P 5 (citing *PJM Interconnection, L.L.C.*, 117 FERC ¶ 61,331 (2006)).

⁴ *Id.*

Capacity Performance Resources, including PJM's proposed mechanism for reviewing and, when appropriate, rejecting a sell offer. The Commission also accepted, subject to condition, PJM's proposed Non-Performance Charge mechanism, and its proposal to apply more stringent consequences for failing to deliver energy or reserves during emergency conditions to Fixed Resource Requirement entities.⁵ In addition, the Commission accepted PJM's proposed five-year transition mechanism, permitting PJM to acquire a mix of Capacity Performance and non-Capacity Performance Resources on an interim basis, and applying a lower Non-Performance Charge for the 2016-17 and 2017-18 delivery years.⁶ The Commission also accepted, subject to condition, PJM's proposal, as amended, addressing mitigated capacity market sell offers, to account for the costs of firm transportation gas costs.⁷ Finally, the Commission accepted, subject to condition, PJM's revisions to its credit requirements and its proposed elimination of its short-term resource procurement requirement.⁸

B. Energy Market Changes

7. In the Capacity Performance Order, the Commission also granted, in part, and denied, in part, PJM's related filing under section 206 of the FPA, in Docket No. EL15-29-000, addressing PJM's proposed energy market changes to its Amended and Restated Operating Agreement (Operating Agreement) and OATT.⁹

⁵ *Id.* PP 158, 202.

⁶ *Id.* P 253.

⁷ *Id.* P 334.

⁸ *Id.* PP 378, 394.

⁹ *Id.* P 400. While changes to the Operating Agreement require PJM to obtain a two-thirds vote from its members to support a filing made under section 205 of the Federal Power Act (FPA), 16 U.S.C. § 824e (2012), PJM noted that its proposed changes, in this instance, had been considered pursuant to a special procedure, without a vote. Accordingly, PJM requested that its Operating Agreement revisions be reviewed, pursuant to FPA section 206, with its related OATT changes, reviewed pursuant to section 205. In the Capacity Performance Order, the Commission found that in reviewing such a filing, it would proceed pursuant to section 206 alone, i.e., by the filing code PJM chose when it submitted the filing in eTariff. *Id.* n.3 (citing *Electronic Tariff Filings*, 130 FERC ¶ 61,047, at P 8 (2010)).

8. In its energy market filing, PJM explained that, in developing its capacity market design changes, PJM had identified four areas in its current energy market rules that enable, or could enable, unreasonable excuses for non-performance, namely (i) rules permitting market sellers in certain circumstances to limit their day-ahead energy offers based on operating parameters that extend beyond the operating design characteristics of their specific resources and that include economic or budgetary concerns; (ii) force majeure rules that are unreasonably overbroad as applied to transactions and commitments in PJM's wholesale markets; (iii) rules affording sellers of Generation Capacity Resources an opportunity to submit Maximum Emergency offers in the day-ahead energy market, thereby avoiding energy market performance and potentially engaging in economic withholding; and (iv) a lack of clarity regarding PJM's authority to withdraw or rescind prior approval of a Generator Maintenance Outage when necessary to ensure reliability and maintain adequate reserves at a reasonable cost in anticipation of, or to avoid, emergencies.

9. In the Capacity Performance Order, the Commission agreed with PJM that, given the capacity market changes the Commission was accepting, PJM's then-existing energy market rules addressing operating parameters, force majeure, and generator outages were unjust and unreasonable and must be revised.¹⁰ Accordingly, the Commission accepted PJM's proposed revisions with respect to force majeure and generator outages, and accepted in part, and rejected in part, PJM's proposed revisions addressing operating parameters. The Commission found, however, that PJM had not demonstrated that its rules related to Maximum Emergency Offers are unjust and unreasonable and denied this aspect of PJM's proposal.

II. Requests for Rehearing

10. Requests for rehearing of the Capacity Performance Order were submitted by the entities noted in the Appendix to this order. Exelon and PJM submitted answers to rehearing requests on July 23, 2015, and July 24, 2015, respectively. On August 3, 2015, the Market Monitor also submitted an answer to rehearing requests. Rule 713(d)(1) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.713(d)(1) (2015), prohibits an answer to a request for rehearing. Accordingly, we reject Exelon's, PJM's, and the Market Monitor's answers.

A. Overview

11. In this order, we largely affirm the Commission's finding in the Capacity Performance Order that PJM's proposal represents a just and reasonable improvement to

¹⁰ *Id.* P 400.

PJM's capacity market design. PJM has presented compelling evidence in this proceeding that capacity resource performance has deteriorated significantly since PJM implemented its Reliability Pricing Model (RPM) to ensure resource adequacy in the PJM region. The Polar Vortex events of the winter of 2013-14, when 22 percent of the generation in the PJM region failed to respond on the peak winter day, illustrated the severity of this performance deterioration.

12. Multiple parties in this proceeding generally argue that the Capacity Performance reforms are too costly for the benefits produced. PJM, however, provided evidence that its pre-existing capacity market rules, and the penalties for non-performance, were inadequate to ensure that resources will perform during the most critical periods of the delivery year.

13. Those seeking rehearing, with few exceptions, do not challenge the fundamental logic of tying capacity revenues to performance during critical hours. Rather, their arguments distill down to concerns about how certain parameter values in the new market design are calculated and the extent to which those parameters may lead to the exercise of market power. The most central of these parameters is the Non-Performance Charge rate, which not only establishes the rate at which capacity resources will be penalized for under-performance, but is also a determinant of each market seller's offer cap applicable when PJM determines the seller may have market power. Some parties argue that the proposed Non-Performance Charge rate is too high, and others argue that it is too low. As explained in greater detail below, we continue to find that the rate is just and reasonable. We next turn to specific issues raised on rehearing.

B. Standard of Review

14. APPA/NRECA argue that PJM's section 205 filing, consisting of PJM's capacity market revisions to its OATT and RAA, must be considered under section 206, given PJM's corollary section 206 energy market revisions to its Operating Agreement. APPA/NRECA further argue that, under the FPA, a public utility may not file a rate change proposal under section 205 and then use the Commission's acceptance of that filing as the predicate for a related filing submitted under section 206. APPA/NRECA assert that such a request would allow a public utility and the Commission to "blur the line" between sections 205 and 206 and evade the burden of proof under section 206 to demonstrate that the public utility's existing rate is unjust and unreasonable.¹¹

¹¹ APPA/NRECA Request for Rehearing at 11 (citing *W. Res., Inc. v. FERC*, 9 F.3d 1568, 1578 (D.C. Cir. 1993)).

15. We reject APPA/NRECA's argument regarding the standard of review applicable to this proceeding. Under the terms of PJM's OATT, PJM is permitted to make unilateral section 205 filings to revise its capacity market provisions in the OATT since these provisions relate to the reliability of the system, which is PJM's responsibility. Under the terms of the PJM Operating Agreement, PJM can make section 205 filings to change the energy market provisions only if approved by supermajority vote of its members. The Operating Agreement, however, permits PJM management to file under section 206 of the FPA to revise its Operating Agreement if the stakeholders do not approve the proposal by the requisite percentage. In this proceeding, PJM concluded that, due to OATT changes to the capacity market it filed under section 205, corresponding changes were necessary to the Operating Agreement energy market provisions. Because the Operating Agreement provisions did not receive the requisite stakeholder vote, PJM filed the energy market revisions under section 206. In the Capacity Performance Order, the Commission applied the appropriate burdens under each provision of the statute, reviewing the capacity market proposal under section 205 and the proposed energy market provisions under section 206.

16. APPA/NRECA first suggest that, because PJM was required to submit its energy market revisions to its Operating Agreement pursuant to section 206, it forfeited its section 205 filing rights to propose revisions to its capacity market construct under its OATT as made in a separate section 205 filing. Given the unusual situation created by the differences between the Operating Agreement and OATT, we cannot conclude that a proper interpretation of the FPA would deny PJM the right it has reserved unilaterally to file changes to its OATT under section 205 merely because some related provisions of the Operating Agreement may be implicated by the filing. The PJM OATT reserves to PJM the right to make a unilateral section 205 filing to revise its capacity market to ensure reliability and we see no basis to deny that right merely because PJM under its Operating Agreement believes changes to provisions of the energy market are also warranted based upon the capacity market changes. APPA/NRECA cite no case or tariff authority in support of its attempt to narrow PJM's reserved section 205 filing rights.

17. APPA/NRECA relatedly contend that FPA section 206 prohibited the Commission from taking into account the implications of PJM's section 205 capacity market changes, as conditionally accepted by the Commission. We reject the notion implicit in APPA/NRECA's rehearing that, in these atypical circumstances, the statute requires the Commission to ignore the terms of the OATT it has accepted in determining whether provisions of the Operating Agreement are unjust and unreasonable. Under section 206 of the FPA, the Commission must find that PJM's existing Operating Agreement is unjust and unreasonable, but the statute does not prohibit the Commission from taking into account all factors that bear upon the justness and reasonableness of these provisions.

C. Justification for Market Changes

1. Capacity Performance Order

18. In the Capacity Performance Order, the Commission found that PJM adequately justified the proposed revisions to its capacity market rules, having demonstrated that the revised capacity market construct will ensure resource performance during the most critical periods of the delivery year by more closely tying capacity revenues to actual delivery of energy during these periods.¹² The revised construct establishes a new capacity product with a defined performance obligation and enforces that obligation through a robust penalty and bonus payment mechanism. The penalty holds capacity resources accountable for delivering on their capacity commitments, while the bonus payments redistribute capacity revenues from resources that cannot perform to those that can. The Commission agreed with PJM that, together, these market improvements provide greater certainty that consumers will receive the service for which they paid through PJM's capacity market.¹³

19. The Commission recognized that PJM's proposal is part of a broader effort to ensure that the competitive wholesale markets continue to meet the needs of customers, and to encourage evolution of the markets based on operational experience.¹⁴ In response to arguments that PJM did not demonstrate, through a cost-benefit analysis, that the benefits of PJM's proposal outweigh the costs, the Commission noted that it does not generally require the mathematical specificity of a cost-benefit analysis to support a market rule change. Rather, the Commission explained, it considered the proposal in light of the currently effective tariff and comments in support and opposition to reach its determination that, on balance and in light of certain specific conditions, the proposal is just and reasonable.¹⁵ Further, the Commission was unpersuaded that intervenors'

¹² Capacity Performance Order, 151 FERC ¶ 61,208 at PP 5-9 (explaining that PJM's proposal, as modified, ensures the long-term reliability of electric supply in the PJM region and constitutes a significant step toward addressing a confluence of changes in the PJM markets, including a demonstrated deterioration in resource performance and ongoing changes in the resource mix in the PJM region that are projected to accelerate).

¹³ *Id.* P 5.

¹⁴ *Id.* P 8.

¹⁵ *Id.* P 49.

proposed alternative reforms are substitutes for PJM's proposal or render PJM's revisions unjust and unreasonable.¹⁶

2. Requests for Rehearing

20. Multiple parties assert that the Commission is obliged to engage in a cost-benefit analysis in determining whether PJM's OATT revisions are just and reasonable, and that the Commission failed to consider evidence showing that the costs outweigh any reliability benefits.¹⁷ They argue that, at a minimum, the Commission should have established hearing procedures to determine whether in fact consumers will benefit.¹⁸

21. Ohio Consumers' Counsel also argues that none of the market concerns cited in the Capacity Performance Order justify the Commission's acceptance of PJM's proposal. Specifically, Ohio Consumers' Counsel asserts that the record here does not support the finding that PJM's prior rules had provided inadequate performance incentives.¹⁹ Ohio Consumers' Counsel argues that, in fact, such a finding is inconsistent with the

¹⁶ *Id.* P 50 (explaining that better alignment of electric market and natural gas pipeline scheduling deadlines will not provide capacity market sellers the incentive to perform).

¹⁷ APPA/NRECA Request for Rehearing at 16-17 (citing *Michigan v. EPA*, 135 S. Ct. 2699 (2015); DC/MD Commissions Request for Rehearing at 12-13; Ohio Consumers' Counsel Request for Rehearing at 5-6 (referring to costs identified by Joint Parties and the Maryland Commission compared with benefit of "the foregone cost of non-performance if the existing rules are to remain in effect" identified by Joint Consumer Representatives and Joint Protestors); Steel Producers request for rehearing at 2-3 & nn.8, 14 (referring to PJM and Monitoring Analytics, Capacity Performance Initiative Cost Benefit Analysis, at 4).

¹⁸ DC/MD Commissions Request for Rehearing at 12-13 & n.24 (citing Chairman Bay's dissent in the Capacity Performance Order, 151 FERC ¶ 61,208 at P 6 and pointing to testimony in the record, which they argue indicates that the costs of the Capacity Performance proposal may be greater than PJM and the Commission assumed); Joint Consumers Request for Rehearing at 4 (citing *Jersey Cent. Power & Light v. FERC*, 810 F. 2d 1168, 1177-78 (D.C. Cir. 1987) and *FPC v. Hope Natural Gas Co.*, 320 U.S. 591 (1944)).

¹⁹ Ohio Consumers' Counsel Request for Rehearing at 9-10 (asserting that the record indicates that PJM "has repeatedly touted the success of its RPM capacity auction structure in procuring more than adequate resources to reliably serve the PJM region").

Commission's own precedent.²⁰ Ohio Consumers' Counsel also argues that, in accepting PJM's proposal, the Commission relied on evidence from a single atypical year. Ohio Consumers' Counsel similarly argues that the Commission's reliance on a changing fuel mix cannot support PJM's Capacity Performance revisions. In addition, Ohio Consumers' Counsel asserts that, in addressing PJM's proposal, the Commission failed to consider intervenor arguments that PJM's revised market rules would not fix the incentive to trim capital-investment plans and operating budgets, given that resources will still be able to offer as price-takers.²¹

22. Finally, APPA/NRECA and Ohio Consumers' Counsel argue that the Capacity Performance Order erred by failing to consider lower-cost alternatives to PJM's proposal,²² including intervenors' argument that it would be less costly to pay uplift during extreme weather conditions.

3. Commission Determination

23. We deny rehearing of the Capacity Performance Order regarding PJM's justification for revising its capacity market rules to ensure resource performance during the most critical periods of the delivery year. We reaffirm the Commission's finding that PJM's prior rules had failed to ensure that resources perform when called upon. As the Commission noted, the "record reflects that there are three primary reasons for this failure to perform: (i) a lack of an adequate penalty structure; (ii) a limited ability to recover costs of necessary investments; and (iii) an incentive to trim capital improvement plans and operating budgets."²³ We affirm our finding that PJM's proposal, as modified in the Capacity Performance Order, is a just and reasonable solution to address these concerns.

24. The Commission concluded, based on documented record evidence, that the failure to make necessary investments caused resource performance to deteriorate over time. In particular, the Commission found persuasive PJM's demonstration that generator equivalent forced outage rates have steadily increased since implementation of

²⁰ *Id.* at 16 & n.45 (citing *Duke Energy Corp. v. PJM Interconnection, L.L.C.*, 151 FERC ¶ 61,206 (2015) (Day-Ahead Offers Order)).

²¹ *Id.* at 17-18.

²² *Id.* at 5, 15-17.

²³ Capacity Performance Order, 151 FERC ¶ 61,208 at PP 42-44.

PJM's capacity auctions in 2007.²⁴ The Commission further determined that the Polar Vortex in January 2014 highlighted additional capacity resource performance concerns, noting that this extreme weather event had produced a 22 percent generator equivalent forced outage rate, with resources citing a broad range of reasons for their inability to deliver energy when called upon by PJM.²⁵ Aside from the Polar Vortex, PJM showed that generator equivalent forced outage rates have worsened over the last ten years, having gone from approximately 6 percent to almost 10 percent.

25. While parties argue on rehearing that PJM already has sufficiently addressed the poor performance issues without the need for this proposal, we continue to find that PJM demonstrated that ongoing changes in the resource mix in the PJM region justify an enhanced capacity product, citing evidence of current and expected generation retirements in PJM and PJM's increased reliance on natural gas as a fuel source.²⁶ We note that PJM's proposal is part of a broader effort, by the RTOs, market participants, and the Commission, to adapt the nation's wholesale electric markets to the underlying changes in how electricity is generated and ensure that reliability is sustained during and after that transition. For example, in recent years, the Commission has convened technical conferences specifically addressing the operation of wholesale capacity markets²⁷ and the increasing importance of coordination between the electric and natural gas industries for the reliability of the nation's electricity supply.²⁸ Those efforts have resulted in both regional market changes, such as ISO New England, Inc.'s Pay for Performance capacity market reforms (upon which PJM's Capacity Performance program

²⁴ *Id.* P 42.

²⁵ *Id.* (explaining that “[w]hile PJM reports that natural gas interruptions accounted for the largest single cause of resource non-performance on a MW basis, roughly three-quarters of the over 40,000 MW on forced outage were due to other causes.”). Even after significant efforts to improve resource performance in the wake of the Polar Vortex, outage rates for the subsequent winter remained above historic levels.

²⁶ *Id.* P 44 (citing PJM December 12, 2014 Capacity Markets Filing at 23-25 and Exelon January 20, 2015 Comments at 11, 16-17).

²⁷ *Centralized Capacity Markets in Regional Transmission Organizations and Indep. Sys. Operators*, Docket No. AD13-7-000.

²⁸ *Coordination Between Natural Gas and Elec. Markets*, Docket No. AD12-12-000.

is modeled),²⁹ and national changes to communication and coordination processes between the natural gas and electric industries.³⁰ PJM's Capacity Performance proposal is a significant regional component of this larger effort to ensure that both existing and new resources needed to sustain reliability are available and perform when needed.

26. To that end, we affirm our finding that PJM showed that these revisions are needed to provide adequate incentives for resources to perform during the most critical periods of the delivery year. PJM sufficiently demonstrated that its prior capacity product did not, and going forward would not, provide sufficient incentives and penalties for resources to perform during times of system stress. PJM's development of a new capacity product, coupled with new obligations specifically targeted at performance during peak periods, was a reasonable solution to address this deficiency. We also disagree with the implication in the requests for rehearing that customers in PJM were required to experience further consequences of continued poor performance, beyond those already experienced in recent years, before PJM could file these revisions. PJM justified these revisions based on existing and projected market dynamics, including resource retirements and an increased reliance on natural gas as a fuel source, that may exacerbate resource under-performance given that a large portion of the observed forced outages in the PJM region have been associated with gas-fired generators.³¹

27. Multiple parties argue that the Capacity Performance Order erred by disregarding evidence indicating that the costs of PJM's proposal may exceed its benefits.³² We disagree and affirm the finding that, by compensating resources based on their availability without regard to performance, PJM's prior rules had contributed to the region's resource performance problems.³³ As the Commission explained, under PJM's

²⁹ *ISO New England Inc. and New England Power Pool*, 147 FERC ¶ 61,172 (2014) (ISO-NE Pay for Performance Order), *order denying reh'g*, 153 FERC ¶ 61,223 (2015) (ISO-NE Pay for Performance Rehearing Order).

³⁰ *Coordination of the Scheduling Processes of Interstate Natural Gas Pipelines and Public Utils.*, 80 Fed. Reg. 23,198 (Apr. 24, 2015), FERC Stats. & Regs. ¶ 31,368 (2015) (cross-referenced at 151 FERC ¶ 61,049).

³¹ PJM December 12, 2014 Capacity Markets Filing at 18.

³² *See* APPA/NRECA Request for Rehearing at 16-17; Steel Producers Request for Rehearing at 2-3; DC/Maryland Commissions Request for Rehearing at 12-13; Ohio Consumers' Counsel Request for Rehearing at 5-6.

³³ Capacity Performance Order, 151 FERC ¶ 61,208 at P 45.

prior rules, a market seller could earn substantial revenues through PJM's capacity auctions with little risk that it would lose significant revenue due to poor performance in the delivery year. This prior design provided little incentive for a market seller to invest in its units for the purpose of enhancing their availability during emergency conditions.³⁴ PJM provided evidence that its previously effective rules failed to adequately incent resource performance and perversely resulted in the selection of less reliable resources over more reliable resources. As a result, much of the risk, and cost, of under-performance was placed on load.³⁵ PJM's proposed revisions to the capacity market penalty structure reallocate a significant portion of this performance risk to capacity resource owners and operators.

28. We continue to find that PJM's approach (as modified) to address the foregoing issues is based on sound economic principles and will improve resource performance and reliability by enhancing capacity resources' incentive to perform.³⁶ As the Commission noted, PJM's capacity market is designed to ensure resource adequacy at a reasonable cost through the use of an annual auction.³⁷ PJM's revisions to the capacity market strengthen the relationship between a market seller's capacity revenues and its resource's real-time performance because the net revenue a market seller retains for providing capacity in a given delivery year is effectively linked to its resource's real-time performance in the delivery year. This is consistent with the PJM capacity market's fundamental purpose to help ensure reliability through resource adequacy, because resources are compensated based on their contributions to system reliability.

29. Moreover this approach, which ties resource compensation to a resource's actual performance, is consistent with fundamental principles of fairness. Resources should be compensated in proportion to their performance. Under PJM's capacity market construct, a resource that clears in a capacity auction secures the right to be compensated based on the auction clearing price. However, if and to the extent that resource fails to perform

³⁴ *Id.*

³⁵ *Id.*

³⁶ *See Cent. Hudson Gas & Elec. Corp. v. FERC*, 783 F.3d 92, 109 (2d Cir. 2015) (In concluding that benefits of proposed tariff revisions justify the costs, "FERC may permissibly rely on economic theory alone to support its conclusions so long as it has applied the relevant economic principles in a reasonable manner and adequately explained its reasoning."); *Sacramento Mun. Util. Dist. v. FERC*, 616 F.3d 520, 531 (D.C. Cir. 2010).

³⁷ Capacity Performance Order, 151 FERC ¶ 61,208 at P 5.

during an emergency, when it is most needed, it is appropriate that the compensation for that resource be reduced and possibly entirely forfeited, as PJM's market changes contemplate in the Capacity Performance Order. Specifically, if a resource fails to perform under these circumstances, it is just and reasonable for that resource to receive reduced, or even no, net capacity compensation based on that resource's specific performance results.

30. We disagree that the Commission did not appropriately consider the costs attributable to PJM's proposal, and that a cost-benefit analysis was required. As an initial matter, we note that costs are an important consideration in our decision-making, and we do not take lightly the concern that PJM's reforms will likely increase the capacity market costs borne by customers.³⁸ However, in determining whether rates are just and reasonable, the Commission has "broad authority to consider non-cost factors as well as cost factors."³⁹ Furthermore, while the Commission is required to consider all relevant

³⁸ *Compare Farmers Union Cent. Exch., Inc. v. FERC*, 734 F.2d 1486, 1502 (D.C. Cir. 1984) ("The delineation of the 'zone of reasonableness' in a particular case may, of course, involve a complex inquiry into a myriad of factors. Because the relevant costs, including the cost of capital, often offer the principal points of reference for whether the resulting rate is 'less than compensatory' or 'excessive,' the most useful and reliable starting point for rate regulation is an inquiry into costs."), with *Interstate Natural Gas Ass'n of Am. v. FERC*, 285 F.3d 18, 31 (D.C. Cir. 2002) (finding that the Commission's reliance on competitive market forces in combination with non-cost factors, price transparency, and the Commission's jurisdiction to entertain complaints and to respond to specific allegations of market power on a case-by-case basis was sufficient to determine that a rate is within a zone of reasonableness).

³⁹ *Midwest Indep. Transmission Sys. Operator, Inc.*, 122 FERC ¶ 61,172, at P 26 (2008) (declining to condition approval of MISO's proposal to implement a day-ahead and real-time ancillary services market, under section 205 of the FPA, on Commission approval of cost-benefit studies and denying requests to require MISO to propose cost-based protections or to submit the underlying data and assumptions of its cost-benefit studies); *e.g.*, *Permian Basin Area Rate Cases*, 390 U.S. 747, 814-15 (1968) (finding the Commission's consideration of non-cost factors is consistent with the terms and purposes of its statutory authority); *Pub. Utilities Comm'n of Cal. v. FERC*, 367 F.3d 925, 929 (D.C. Cir. 2004) ("A primary purpose of the [FPA], and its counterpart, the Natural Gas Act, 'was to encourage the orderly development of plentiful supplies of electricity and natural gas at reasonable prices.' To carry out this purpose the Commission may consider non-cost factors as well as cost factors in setting rates.") (citing *NAACP v. FPC*, 425 U.S. 662, 670 (1976) and *Permian Basin*, 390 U.S. at 791)); *Amer. Elec. Power Serv. Corp.*, 118 FERC ¶ 61,041, at P 18 n.33 (2007) (noting that a cost-benefit analysis is not

(continued...)

factors and make a “common-sense assessment” that the costs that will be incurred are consistent with the ratepayers’ overall needs and interests, the Commission’s finding need not be accompanied by a quantitative cost-benefit analysis.⁴⁰

required under FPA section 205 and stating that “the courts have long recognized that a primary purpose of the FPA is to encourage the orderly development of plentiful supplies of electricity at reasonable prices. To carry out this purpose, the Commission . . . may consider non-cost factors as well as cost factors) (internal citations omitted)); *see also Morgan Stanley Capital Grp. Inc. v. Pub. Util. Dist. No. 1 of Snohomish County*, 554 U.S. 527, 558 (2008) (“We have repeatedly emphasized that the Commission is not bound to any one ratemaking formula.”); *PJM Interconnection, L.L.C.*, 147 FERC ¶ 61,103, at P 37 (2014).

⁴⁰ *Process Gas Consumers Grp. v. FERC*, 866 F.2d 470, 476-77 (D.C. Cir. 1989); *see also Amer. Elec. Power Serv. Corp.*, 118 FERC ¶ 61,041 at P 18; *Sw. Power Pool, Inc.*, 116 FERC ¶ 61,289, at P 47 (2006). We disagree with arguments that the recent decision in *TransCanada Power Marketing Ltd. v. FERC*, 811 F.3d 1 (2015) (*TransCanada*) compels a different outcome. As relevant here, the Court of Appeals for the District of Columbia Circuit remanded the Commission’s approval of a winter reliability program for the ISO New England, Inc. (ISO-NE) region, finding that the Commission failed to adequately support its determination that the rates resulting from that program were just and reasonable. *TransCanada*, 811 F.3d at 12-13. We note that there is a basic structural difference in the ISO-NE winter reliability program at issue in that case and the Capacity Performance proposal at issue here: namely, the Capacity Performance proposal relies on market forces and *ex ante* market rules to drive resource selection and set prices, while the ISO-NE winter reliability program was a temporary out-of-market program. Thus, in *TransCanada*, the court faulted the Commission for failing to (1) adequately evaluate the profit margins reflected in the bids that set the selected resources’ compensation, (2) explain why it believed the program was competitive, or (3) “explain the economic forces that the Commission believed restrained the suppliers in their confidential bid offers.” *TransCanada*, 811 F.3d at 12-13. By comparison, in the Capacity Performance Order and this rehearing order, the Commission has explained at length its reasoning for accepting the Capacity Performance proposal, including explaining the concerns that justify the need for the proposal, its reasoning for using competitive market processes to address those needs, the economic theory underpinning the market mitigation design and incentive structure, and the factual record supporting specific critical components of the proposal’s design, such as the estimated number of Performance Assessment Hours.

31. Balancing multiple considerations, we continue to find that PJM's capacity market revisions, as modified, are just and reasonable. We conclude that, based on the record in this proceeding, the reliability benefits of PJM's proposal are significant. Customers will receive greater assurance that the resources needed to keep their lights on will deliver when needed because the Capacity Performance reforms will incentivize better performance and penalize poor performance, thereby allowing PJM to meet its reliability objective at a reasonable cost over time.

32. As the Capacity Performance Order recognized, the primary purpose of PJM's capacity market is to procure sufficient capacity to meet its reliability objective, which currently is a loss of load expectation of 1-day-in-10-years. Under PJM's prior capacity market rules, poor-performing and non-performing resources could expect to receive positive capacity revenues even if they failed to deliver energy when needed—and customers would pay for resources that did not reliably perform. PJM therefore sought to address the deficiency by developing a new penalty and incentive structure for Capacity Performance resources.

33. Under PJM's proposal, resources that clear the market and assume a Capacity Performance obligation are expected to perform during periods of system stress, with a failure to do so resulting in the loss of their capacity revenues. Therefore, each resource that offers into the auction will factor those revenues, and the potential loss thereof, into its capacity offer. A resource expecting to suffer the loss of capacity revenues due to poor performance during periods when reliability is threatened would submit a less competitive offer (i.e., a higher capacity sell offer price), thereby making the poorly-performing resource less likely to clear the auction; conversely, a resource that expects to perform well during periods of system stress could submit a more competitive offer and increase its chances of clearing the auction. The net effect of the Capacity Performance market design will therefore be to incentivize existing reliable resources to stay in the market while facilitating the entry of new reliable resources to displace less reliable ones. As a result, to meet the reliability objective under Capacity Performance, PJM's customers should pay only for resources that perform when they are needed. Further, as the Commission stated in the Capacity Performance Order, absent PJM's proposed changes, resource performance issues and anticipated resource fleet changes could cause reliability issues in the future that impose on consumers greater realized costs in the form of extreme price spikes and loss of load or other reliability events.⁴¹ While these costs might be difficult to quantify in advance, they are very real, and we believe that PJM's reforms will reduce the likelihood of such occurrences. Additionally, all else equal, because of the expected improvement in resource performance, PJM should need to

⁴¹ Capacity Performance Order, 151 FERC ¶ 61,208 at P 7.

procure less capacity to meet its reliability objective under Capacity Performance than under the pre-existing market rules.

34. Moreover, evidence in the record demonstrates that the reliability benefits derived from PJM's capacity market revisions, which parties objecting to PJM's proposal have not tried to quantify, are significant and justify the costs. For example, Exelon estimates that the value of avoiding load curtailment and scarcity energy pricing ranges from \$3.8 billion to over \$7 billion.⁴² Capacity Performance will also provide other benefits for PJM stakeholders, including reductions in energy production costs, reductions in distortionary out-of-market energy market payments, more efficient energy market dispatch, reduced energy and natural gas market volatility, and improved price signals for natural gas infrastructure investment.

35. We disagree with the Ohio Consumers' Counsel's argument that the Commission's finding with respect to performance incentives is inconsistent with the Commission's finding in the Day-Ahead Offers Order that generation resources undertaking a capacity obligation have a strict obligation to perform under PJM's OATT.⁴³ They argue that with this requirement, no further enhancements to the capacity market are necessary. We disagree. In a properly functioning market, it is essential that the incentive and penalty structure align with a resource's obligations. While it is true that capacity resources previously had a tariff obligation to perform, it is equally clear, based on the record evidence, that capacity resources failed to deliver on their commitments during periods of system stress, notwithstanding that obligation. PJM's prior capacity construct thus failed to properly value, and therefore compensate, a capacity resource for its performance during peak periods, which exposes customers to potentially significant cost spikes and loss of load events during those peak periods. PJM's proposal sought to address this problem by proposing a new compensation and penalty structure targeting this deficiency. By properly valuing this reliability characteristic, PJM's Capacity Performance proposal seeks to encourage resource owners to make the longer-term maintenance and investment decisions to ensure that their resources will consistently and reliably perform when called upon by PJM. And, it appropriately penalizes resources that fail to perform. As a result, PJM's proposal aligns

⁴² Exelon January 20, 2015 comments at 40; *see id.* Exhibit A – Schnitzer Aff. at 8-9.

⁴³ Day-Ahead Offers Order, 151 FERC ¶ 61,206 at P 62 (explaining that the capacity resource owner is free to decide when and how it will secure the fuel it will need to make its resource available, or otherwise satisfy its obligation to be available in real-time).

the incentives and penalties with capacity resources' obligation to perform and remedies the prior construct's failure to adequately incentivize performance during peak periods.

36. Ohio Consumers' Counsel argues that PJM failed to demonstrate that the OATT revisions are just and reasonable, because the revisions will not address the incentive to trim capital-investment plans and operating budgets. The Capacity Performance proposal, however, does address this issue, since those who fail to make necessary investments will be subject to appropriate penalties if they fail to perform. A resource that can trim its expenditures and perform is providing enhanced efficiency, to the benefit of customers.

37. Finally, we reject the argument made by APPA/NRECA and the Ohio Consumers' Counsel that the Commission erred by failing to consider lower-cost alternatives in lieu of PJM's proposal. The Commission, acting under section 205, is not required to consider whether proposed revisions other than those that the utility submitted may also be just and reasonable; the relevant inquiry is whether the utility's proposed tariff changes have been shown to be just and reasonable.⁴⁴

D. Performance Requirements

1. Capacity Performance Resource Requirements and Expectations

a. Capacity Performance Order

38. In the Capacity Performance Order, the Commission accepted, subject to condition, PJM's proposal addressing the performance requirements and expectations applicable to Capacity Performance Resources. Specifically, the Commission accepted PJM's proposed mechanism for reviewing and, when appropriate, rejecting a sell offer, but found that PJM should remove a proposed requirement that a market seller submitting a Capacity Performance offer make certain good faith representations.⁴⁵ The Commission also conditioned its acceptance of the filing on PJM requiring an External Generation Capacity Resource seeking to submit a sell offer as a Capacity Performance Resource to meet the criteria for obtaining an exception to the Capacity Import Limit, as contained in section 1.7A of the RAA, including the requirement that the External

⁴⁴ *City of Bethany v. FERC*, 727 F.2d 1131, 1136 (D.C. Cir. 1984) (the Commission's authority to review rates under the FPA is limited to an inquiry into whether the rates proposed by a utility are reasonable – and not to extend to determining whether a proposed rate schedule is more or less reasonable than alternative rate designs).

⁴⁵ Capacity Performance Order, 151 FERC ¶ 61,208 at P 95.

Generation Capacity Resource be pseudo-tied to PJM by the beginning of the relevant delivery year.

b. Requests for Rehearing

39. Ohio Consumers' Counsel argues that the Commission's acceptance of PJM's proposal to exercise discretion in determining whether a resource is eligible to submit an offer as a Capacity Performance Resource is too vague and ambiguous and conflicts with the Commission's finding that the proposed seller representations are inappropriately vague.⁴⁶

40. The Illinois Commission and Illinois Municipal Electric Agency object to requiring External Generation Capacity Resources to meet the criteria for obtaining an exception to the Capacity Import Limit, including the requirement to be pseudo-tied to PJM, on the grounds that these requirements will unduly limit resource participation. The Illinois Commission and Illinois Municipal Electric Agency further assert that requiring external resources to be pseudo-tied to PJM will effectively nullify the capacity import limit, as previously established by the Commission, without a proper factual basis for doing so in all cases.⁴⁷

41. Illinois Municipal Electric Agency similarly contends the Commission erred in not eliminating the eligibility requirement for External Generation Capacity Resources for the delivery years associated with the Transition Incremental Auctions or, at a minimum, eliminate the requirement that such resources complete a pseudo-tie prior to a delivery year, if the reason they are unable to do so is beyond the control of the seller. Illinois Municipal Electric Agency argues that in some cases it will be physically impossible to have resources pseudo-tied prior to the 2016-17 delivery year.⁴⁸

c. Commission Determination

42. For the reasons discussed below, we deny rehearing and continue to find that PJM's proposal to maintain discretion to reject requests to offer a resource as a Capacity

⁴⁶ Ohio Consumers' Counsel Request for Rehearing at 23-25.

⁴⁷ Illinois Commission request for rehearing at 23-24 (citing *PJM Interconnection L.L.C.*, 147 FERC ¶ 61,060 (2014) (Import Limitations Order)).

⁴⁸ Illinois Municipal Electric Agency notes that the first Transition Incremental Auction is for the 2016-17 delivery year, prior to the effective date applicable to PJM's capacity import limit exception. Illinois Commission Request for Rehearing at 23-24.

Performance Resource is just and reasonable, subject to the condition that PJM retain certain eligibility requirements for External Generation Capacity Resources.

43. We are unpersuaded by Ohio Consumers' Counsel's contention that PJM's ability to reject sell offers is just as vague and ambiguous as the seller representation requirement the Commission rejected, and that we therefore should eliminate PJM's ability to reject sell offers. The Commission conditioned acceptance on removal of the seller representations not only because the Commission found them to be vague, but also because they may not provide any added value in incenting resource performance and could serve as an unnecessary barrier to entry for new Capacity Performance Resources.⁴⁹ We find no such shortcomings in allowing PJM to exercise discretion to reject sell offers if, after review, PJM is convinced that the resource cannot reasonably be expected to meet Capacity Performance obligations consistent with the resource's offer by the relevant delivery year. Granting this limited discretion to PJM to eliminate such offers at the outset will help to curb speculative offers (i.e., those seeking to profit exclusively off the financial price spread between Base Residual Auction and Incremental Auction clearing prices) and reduce the likelihood that resources with Capacity Performance commitments reach the delivery year physically unprepared or incapable of performing reliably during critical periods. In addition, a capacity seller whose request to offer a resource as a Capacity Performance Resource is rejected by PJM may seek recourse with the Commission prior to the applicable capacity auction, pursuant to Attachment DD of PJM's OATT.⁵⁰

44. Illinois Municipal Electric Agency and the Illinois Commission assert that the Commission failed to provide a proper factual basis for its condition requiring a pseudo-tie in all cases and applying the capacity import limit exemption requirement to Capacity Performance Resources beginning with delivery year 2016-17. We disagree. The Commission explained in the Capacity Performance Order why the pseudo-tie requirement is necessary for Capacity Performance Resources within the new market design.⁵¹ As PJM described in its deficiency letter response, under the preexisting capacity market rules PJM evaluates the availability of external capacity resources using external interchange schedules, but those schedules do not provide unit-specific performance data. Given that the Capacity Performance design will assess resource performance on a resource-specific basis, the Commission agreed that PJM now requires resource-specific visibility of the energy provided by all Capacity Performance

⁴⁹ Capacity Performance Order, 151 FERC ¶ 61,208 at PP 94-95.

⁵⁰ See PJM OATT at Attachment DD, section 5.5A(a)(ii)(B).

⁵¹ Capacity Performance Order, 151 FERC ¶ 61,208 at PP 96-97.

Resources, including those that are external capacity resources, during Performance Assessment Hours. We therefore continue to find that the pseudo-tie requirement is a just and reasonable modification to provide PJM with the necessary visibility of external capacity resources' performance to accurately assess Non-Performance Charges and credit Performance Bonus Payments.

45. Further, the fact that these requirements apply to external Capacity Performance Resources during delivery years associated with the Transition Incremental Auctions is not unjust and unreasonable as certain parties allege. Participation in the Transition Incremental Auctions is voluntary, so an external resource may choose not to offer as a Capacity Performance Resource, and an external resource with an existing capacity commitment in PJM may choose not to participate and still retain its existing commitment. Each unit with an existing commitment for the 2017-18 delivery year will have to evaluate whether it can satisfy the new requirements for Capacity Performance Resources or retain its existing capacity obligation not subject to the Capacity Performance requirements.

46. Regarding Illinois Municipal Electric Agency and the Illinois Commission's concern that PJM's proposal will limit the participation of external resources in the Transition Incremental Auctions, thereby increasing costs to load, we reiterate that PJM has already taken steps to limit cost increases during this interim period. Specifically, PJM proposed, and the Commission accepted, to limit the amount of Capacity Performance Resources that may be obtained and to apply price caps.⁵²

2. Aggregated Offers

a. Capacity Performance Order

47. The Commission accepted PJM's proposal to allow Capacity Storage Resources, Intermittent Resources, Demand Resources, and Energy Efficiency Resources to participate as Capacity Performance Resources, subject to the condition that PJM submit revisions clarifying that these resource types may submit stand-alone Capacity Performance sell offers in a megawatt quantity consistent with their average expected output during peak-hour periods. The order also conditionally accepted PJM's proposal to allow a combination of Capacity Storage Resources, Intermittent Resources, Demand Resources, or Energy Efficiency Resources to aggregate their unforced capacity value in order to offer as a Capacity Performance Resource. The Commission conditioned this latter acceptance on PJM submitting revisions to also allow Environmentally-Limited Resources to participate in an aggregated offer and to allow aggregated offers composed

⁵² *Id.* P 253.

of resources from different entities, so long as the associated bilateral arrangements are reflected in PJM's system. Additionally, the Commission declined to require PJM to allow eligible resources in different Locational Deliverability Areas to submit aggregated offers, finding that this proposal, which was raised by PJM and other parties in their comments, was not adequately supported.

b. Requests for Rehearing

48. Illinois Commission and Joint Parties contend that allowing only a limited number of resource types to submit aggregated offers is unduly discriminatory.⁵³ In addition, Illinois Commission and Joint Parties argue that the Commission erred by not requiring PJM to permit resources located in different Locational Deliverability Areas to submit aggregated offers. Joint Parties asserts that, to allow the broadest aggregation of resources that can reliably provide capacity when needed, aggregated offers should be permitted unless a binding transmission constraint exists between the resources seeking to aggregate. Illinois Commission argues that the Commission's decision unnecessarily limits such resources' ability to compete with local incumbent resources.

49. Joint Parties seek clarification that the performance of an aggregated resource during a Performance Assessment Hour will be determined by the combined quantity of energy it delivers. Joint Parties note that PJM, in its representations to stakeholders, presented conflicting performance evaluation methods—one that assesses the aggregated resource's total performance and another that assesses performance individually based each asset within the aggregated resource.

c. Commission Determination

50. For the reasons discussed below, we deny rehearing of the Commission's acceptance, subject to condition, of PJM's proposal to allow aggregated offers from certain limited resource types.

51. The Illinois Commission and Joint Parties request rehearing to require PJM to allow aggregated offers from all resources types, but we find that PJM's proposal reasonably distinguishes between resource types and is therefore not unduly discriminatory. The resources that PJM permits to submit aggregated offers generally would not be able to satisfy the annual performance obligation of the Capacity Performance product on their own, but may through aggregation meet that requirement,

⁵³ Illinois Commission Request for Rehearing at 21-23; Joint Parties Request for Rehearing at 35-36.

thereby increasing competition and providing enhanced reliability to the PJM region.⁵⁴ In this respect, resources that PJM permits to aggregate are unlike other resource types—such as natural gas-, coal-, and nuclear-powered combustion or steam turbines—because no reasonable amount of investment can mitigate the non-performance risk they face. Allowing Capacity Storage Resources, Intermittent Resources, Demand Resources, Energy Efficiency Resources, and Environmentally-Limited Resources to submit aggregated offers is a reasonable accommodation to permit greater participation in the capacity market by those resource types that would generally lack incentives to offer as Capacity Performance Resources on a stand-alone basis, and will provide benefits to consumers through greater competition in the capacity market. Further, limiting aggregation to this distinct group of resource types preserves the individual-unit bidding approach that is central to PJM’s capacity auction process.⁵⁵

52. The Illinois Commission and Joint Parties contend that aggregated offers should include resources located in different Locational Deliverability Areas. They point out that, although PJM’s initial filing did not propose aggregation, PJM’s February 13, 2015, answer presented a potential alternative application of the aggregated-offer option that would permit cross-Locational Deliverability Area aggregation, and described a method by which an aggregated resource made up of assets in different Locational Deliverability Areas could be treated within the Capacity Performance design. However, this proposal was not fully developed, and the Commission found it was not sufficiently substantiated to meet PJM’s section 205 burden and the Commission’s regulations. PJM failed to demonstrate that its proposal would be feasible across Locational Deliverability Areas in all circumstances, or would be able to provide the required resource adequacy during emergency conditions. In particular, PJM failed to explain how various Locational Deliverability Area-specific penalty and other provisions that apply in Local Deliverability Areas could be applied to aggregated offers.

53. We deny as unnecessary Joint Parties’ request for clarification of how PJM will assess the performance of aggregated resources.⁵⁶ The relevant sections of PJM’s OATT

⁵⁴ Capacity Performance Order, 151 FERC ¶ 61,208 at P 101.

⁵⁵ *See id.* P 102.

⁵⁶ We note that the two performance assessment methods described by Joint Parties in their request for rehearing—i.e. measuring the collective, or net, performance of the aggregated resource’s constituent assets or measuring the performance of those constituent assets individually—would be equivalent if not for the possibility that, during any given Performance Assessment Hour, the Non-Performance Charge rate may be greater than the Performance Bonus Payment rate. *See* Capacity Performance Order, 151 FERC ¶ 61,208 at PP 342-343.

reasonably provide that PJM will assess performance of an aggregated resource based on the collective, or net, delivery of energy and reserves from all assets comprising that aggregated resource. Section 5.6.1(h) states that a capacity seller owning or controlling one or more resources eligible for inclusion in an aggregated offer “may submit a Sell Offer which represents the aggregated Unforced Capacity value of such resources.”⁵⁷ An aggregated resource is therefore associated with a single sell offer in the capacity market, indicating that it is analogous to a conventional sell offer representing the unforced capacity of a single Capacity Resource. Section 10A(c) then states that “[f]or each Performance Assessment Hour, the Office of the Interconnection shall determine whether, and the extent to which, the actual performance of *each Capacity Resource* and Locational UCAP has fallen short of the performance expected of such committed Capacity Resource, and the magnitude of any such shortfall[.]”⁵⁸ This provision indicates that calculation of under- or over-performance for purposes of assessing Non-Performance Charges or crediting Performance Bonus Payments will be done on a Capacity Resource-specific basis. Read together, these two provisions provide that PJM assesses the performance of an aggregated resource during any Performance Assessment Hour by comparing the collective delivery of energy and reserves of the aggregated resource to its Expected Performance.

3. Demand Resource Participation

a. Capacity Performance Order

54. The Commission accepted PJM’s proposal to phase out PJM’s Limited Summer and Extended Summer demand response programs by delivery year 2020-21, when PJM will procure 100 percent of its capacity in the form of Capacity Performance Resources.

b. Requests for Rehearing

55. The Pennsylvania/Delaware Commissions and Steel Producers contend that the Commission erred by accepting without adequate support PJM’s proposal to eliminate Limited and Extended Summer Demand Response. The Pennsylvania/Delaware Commissions argue that PJM, in its filing, did not demonstrate that these demand response resources had failed to fulfill their capacity commitments when requested. The Pennsylvania/Delaware Commissions and Steel Producers argue that, in fact, Limited and Extended Summer Demand Response is reliable and cost-effective and that eliminating these resources will only reduce supply and raise rates. Steel Producers add that the

⁵⁷ PJM OATT at Attachment DD, section 5.6.1(h).

⁵⁸ PJM OATT at Attachment DD, section 10A(c) (emphasis added).

Commission failed to balance the asserted but unproven reliability that would be gained by eliminating summer demand response resources with the ratepayer costs attributable to this measure.

56. Finally, Talen argues that the Commission erred by failing to apply a United States Court of Appeals ruling⁵⁹ addressing demand response participation in PJM's energy market.⁶⁰

c. Commission Determination

57. For the reasons discussed below, we deny rehearing of the Commission's acceptance, subject to condition, of PJM's proposed treatment of Demand Resources and Energy Efficiency Resources within the Capacity Performance design.

58. The Pennsylvania/Delaware Commissions and Steel Producers argue that the Commission should allow Limited and Extended Summer Demand Resources to continue to participate in PJM's capacity market on a stand-alone basis because they provide quantifiable reliability benefits. The parties assert that excluding the stand-alone participation of these resources is unduly discriminatory.

59. We disagree with these arguments and deny rehearing. PJM is treating all resources identically in this respect. The rehearing requesters are in effect asking for special treatment for certain resources, permitting them to provide a lesser quality of service for the same price. We cannot find unreasonable PJM's conclusion that non-year-round resources do not provide equivalent service as year-round resources. 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.

60. Finally, we dismiss as moot Talen's argument that the Court of Appeals ruling that the Commission lacks authority to regulate the compensation that wholesale energy markets pay for demand response as a supply resource must be applied to bar demand

⁵⁹ *Elec. Power Supply Ass'n v. FERC*, 753 F.3d 216 (D.C. Cir. 2014).

⁶⁰ See Capacity Performance Order, 151 FERC ¶ 61,208 at PP 99 & 100; See also PJM OATT at Attachment DD, section 5.5A(a).

response participation in PJM's capacity market. The ruling on which Talen relies has since been reversed and remanded by the U.S. Supreme Court.⁶¹

E. Non-Performance Charges

61. We address, below, requests for rehearing of the Commission's decision in the Capacity Performance Order to accept, subject to condition, PJM's proposed Non-Performance Charge revisions.

1. Non-Performance Charge Rate

a. Capacity Performance Order

62. In the Capacity Performance Order, the Commission accepted PJM's proposed Non-Performance Charge, which PJM defined as yearly Net CONE for a Capacity Performance Resource, or the yearly resource clearing price for a Base Capacity Resource, divided by 30, as just and reasonable, subject to condition. The Non-Performance Charge rate establishes the penalties applied for failure to perform during hours of emergency actions (Performance Assessment Hours). In establishing the Non-Performance Charge rate for Capacity Performance Resources, PJM seeks to estimate a rate that will deprive a Capacity Performance Resource that never performs of all of its capacity payments. To achieve this goal, PJM takes an estimate of an expected price for capacity divided by an estimate of the number of hours in which the Capacity Performance Resource is expected to perform. PJM chose net cost of new entry (Net CONE) as an approximation of the capacity price and 30 hours as the number of Performance Assessment Hours. However, because this estimate affects core components of the Capacity Performance design, including the Non-Performance Charge rate and the default offer cap, the Commission conditioned its acceptance on PJM making annual informational filings with the Commission to provide updates on the use of 30 hours for this parameter. The Commission also encouraged PJM to reassess the assumed number of Performance Assessment Hours after it has gained more experience with Capacity Performance and submit a filing if it finds a revision is warranted.⁶²

⁶¹ *FERC v. Elec. Power Supply Ass'n*, Case No. 14-840, slip op. at 34 (U.S. Jan. 25, 2016).

⁶² Capacity Performance Order, 151 FERC ¶ 61,208 at P 163.

b. Requests for Rehearing

63. Several parties challenge the use of Net CONE and estimate of 30 Performance Assessment Hours in the Non-Performance Charge rate formula.⁶³ Some assert that the values will result in excessive penalties, while others argue the penalties will be inadequate.

64. Pennsylvania/Delaware Commissions and AEP assert, for example, that Net CONE will likely overstate actual capacity revenues because it is significantly higher than PJM's historical capacity clearing prices.⁶⁴ AEP adds that a penalty based on Net CONE is unduly discriminatory with respect to resources in the rest-of-RTO area, given that these resources are likely to continue to receive lower capacity auction revenues relative to resources operating in PJM's eastern region.⁶⁵ On the other hand, Joint Consumers contend that approximating the number of Performance Assessment Hours is insufficient to ensure negative capacity revenues for complete non-performance during a delivery year, arguing that PJM's estimate should be a three-year rolling average divided by 1.5.⁶⁶ Pennsylvania/Delaware Commissions, Joint Consumers, DC/Maryland Commissions, Exelon, Ohio Consumers' Counsel, and the Market Monitor argue that historical data supports a denominator in the range of 6 to 14 hours, not 30 hours.⁶⁷

c. Commission Determination

65. For the reasons discussed below, we deny rehearing of the Commission's acceptance of the Non-Performance Charge rate. Some of the rehearing requesters

⁶³ Pennsylvania/Delaware Commissions Request for Rehearing at 4-8; Joint Consumers Request for Rehearing at 9-14; DC/Maryland Commissions Request for Rehearing at 5-7; Ohio Consumers' Counsel Request for Rehearing at 20-23; Exelon Request for Rehearing at 7-11; AEP Request for Rehearing at 14.

⁶⁴ Pennsylvania/Delaware Commissions Request for Rehearing at 4-8; AEP Request for Rehearing at 14.

⁶⁵ AEP Request for Rehearing at 16-17.

⁶⁶ Joint Consumers Request for Rehearing at 12-14.

⁶⁷ Pennsylvania/Delaware Commissions Request for Rehearing at 5-6; Joint Consumers Request for Rehearing at 9-11; DC/Maryland Commissions Request for Rehearing at 5-7; Ohio Consumers' Counsel Request for Rehearing at 20-23; Exelon Request for Rehearing at 7-11; Market Monitor Request for Rehearing at 10-11.

contend the Non-Performance Charge rate is too high while others argue that it is too low. Developing any penalty rate requires the use of estimates and projections. While the rehearing requests focus on different components of the Non-Performance Charge in attempts to lower or raise the Non-Performance Charge rate, we find that PJM reasonably justified the choice of each of those components and the overall Non-Performance Charge it developed.

66. We disagree with the Pennsylvania/Delaware Commissions and AEP that the use of Net CONE of the reference combustion turbine unit in the numerator of the Non-Performance Charge rate formula is inappropriate because it likely will result in penalties greater than capacity market revenues. A fundamental principle underlying PJM's Non-Performance Charge is that a non-performing capacity resource should be penalized at a rate that approximates the expected full costs of procuring replacement capacity, because a Capacity Performance Resource that does not perform during emergencies "is tantamount, from the perspective of system loads, to never having obtained the capacity in the first place."⁶⁸ We find that it is reasonable, therefore, to penalize under-performing resources based on a reasonable approximation of the replacement cost of capacity. The question, then, is whether a Non-Performance Charge rate that is a function of Net CONE is a just and reasonable proxy price for replacement capacity.

67. We believe Net CONE, not historical capacity clearing prices, is the appropriate measure to approximate the expected capacity revenue needed for a capacity resource so as to incent sufficient merchant entry when entry is needed for reliability. This is because replacement capacity must be priced at an approximation of the cost of procuring either new capacity or other existing capacity capable of performing in place of the non-performing resource. Net CONE is the approximation of the cost of procuring a new combustion-turbine generator in any given Locational Deliverability Area and is periodically recalculated by PJM for approval by the Commission. Over time capacity prices should approximate Net CONE, the cost of new entry, since this is the price required to cover the costs of the new plants needed as load grows and existing plants retire.⁶⁹ Thus, we continue to find that a Non-Performance Charge rate based on Net

⁶⁸ PJM December 12, 2014 Capacity Markets Filing at 43.

⁶⁹ The average annual capacity price can be expected to approximate Net CONE, because market conditions can be expected to push the capacity price toward Net CONE over time. During periods when the capacity price is above Net CONE, new resources should find it profitable to enter the market, and entry should continue until the capacity price approximates Net CONE. Similarly, when the capacity price is below Net CONE, new entrants may not find it profitable to enter. As load grows and older resources retire over time without entry, the capacity price can be expected to rise until the capacity price

(continued...)

CONE is a just and reasonable proxy price for replacement capacity when new merchant entry is needed for reliability, as explained in the Capacity Performance Order.⁷⁰

68. Further, the use of Net CONE has other advantages over a measure based on historical capacity clearing prices. Net CONE is a value that PJM market participants widely know and understand in advance of the capacity auction, so it provides a degree of certainty for market participants in assessing performance risk associated with accepting a capacity obligation and developing sound investment decisions and offer strategies prior to submitting offers. This permits merchant suppliers to develop more efficient investment decisions and offer capacity at the lowest value consistent with its performance risk. As noted above, Net CONE is a value that is periodically updated and approved by the Commission. Thus, basing the Non-Performance Charge rate on Net CONE results in a current, location-specific penalty rate that reflects the cost of replacement capacity over time. Pennsylvania/Delaware Commissions and AEP argue that the use of Net CONE in the Non-Performance Charge overstates actual capacity revenues because it is higher than past clearing prices seen in past capacity auctions. However, this assumes that past capacity prices are necessarily indicative of future capacity prices, despite the fact that Capacity Performance represents a fundamental modification to the RPM rules and the capacity obligation, a change that could render that assumption false.⁷¹ As uneconomic existing resources retire, new resources will be needed and Net CONE is a reasonable estimate of the cost of procuring those resources.⁷²

69. Moreover, a higher penalty based on Net CONE helps to ensure that resources will perform. Lowering the estimate of capacity revenue would lower the penalty for non-performance which could encourage poorly performing resources to participate in the market on the chance that PJM will experience few performance hours. Over time, as

reaches Net CONE. Since the average expected capacity price over time is likely to approximate Net CONE, it is reasonable for the numerator of the Non-Performance Charge rate to be Net CONE.

⁷⁰ Capacity Performance Order, 151 FERC ¶ 61,208 at PP 159-161.

⁷¹ We note that much of PJM has experienced capacity surpluses in the past, and when there is no need for new capacity, prices appropriately have been below Net CONE, thereby signaling that new capacity is not needed. But recent significant retirements in PJM have changed the supply/demand balance, and it is reasonable to expect higher prices when new entry is needed.

⁷² Capacity Performance Order, 151 FERC ¶ 61,208 at PP 159-161. *See also* ISO-NE Pay for Performance Order, 147 FERC ¶ 61,172 at P 74.

higher-performing resources replace lower-performing resources, overall capacity requirements may decline because fewer resources may be needed to satisfy reliability. These advantages of a non-performance penalty based on Net CONE would not be expected if Non-Performance Charges were based on a lower, uncertain value reflecting historical capacity clearing prices.

70. We also disagree with the Pennsylvania/Delaware Commissions, Joint Consumers, the DC/Maryland Commissions, Ohio Consumers' Counsel, Exelon, and the Market Monitor that 30 is an improper assumption for the expected number of Performance Assessment Hours for use in the denominator of the Non-Performance Charge. When used in connection with Net CONE to cover the expected cost of new entry, 30 hours provides a reasonable estimate of the value of non-performance during a Performance Assessment Hour. PJM submitted as part of its response to the Commission's March 31, 2015, deficiency letter data produced by the Market Monitor showing that PJM experienced 30 hours of RTO-wide emergency warnings and actions in delivery year 2013-14 that would trigger Performance Assessment Hours under the Capacity Performance rules.⁷³ While we acknowledge that the Market Monitor submitted additional data indicating that the average number of Performance Assessment Hours in delivery years 2009-10 through 2012-13 is less than 30, the same data also demonstrates that a number of zones in both 2010-11 and 2013-14 experienced well in excess of 30 hours.⁷⁴ In 2010-11, three zones experienced between 34 and 49 hours that would qualify as Performance Assessment Hours. In 2013-14, seven zones experienced between 37 and 62 hours that would qualify as Performance Assessment Hours.⁷⁵ This data indicates that while 30 hours may be greater than the recent average number of hours per year, it is not an unjust and unreasonable choice as it is within the range of hours seen in recent years in which some or all of the PJM region experienced worse-than-normal weather conditions.

71. In addition, it is possible that the number of Performance Assessment Hours in the coming years will be greater than those seen in past years. As evidenced by information PJM provided in its filing,⁷⁶ the region is currently undergoing a retirement and investment cycle and seeing an increased reliance on natural gas-fired generation. These

⁷³ PJM April 10, 2015, Deficiency Letter Response at 15-16.

⁷⁴ Market Monitor February 25, 2015, Answer Appendix B at 2.

⁷⁵ *Id.* These zones are Allegheny Power, Baltimore Gas & Electric, Potomac Electric Power, Atlantic Electric Company, American Electric Power, Dominion, and Commonwealth Edison.

⁷⁶ PJM December 12, 2014 Capacity Markets Filing at 12-15.

developments may, at least in the near term, lead to a greater number of emergency conditions than the 2009-14 data would suggest. Given the dynamic nature of the PJM fleet, and the inherent unpredictability of the weather in any given delivery year, we continue to find PJM's 30 hour estimate reasonable.⁷⁷ As we stated in the Capacity Performance Order, the Commission encourages PJM to reassess the 30 hours value after it has gained more experience with the new rules and to submit a filing if it finds a revision is warranted.

72. We disagree with Exelon and Joint Consumers that using 30 hours in the Non-Performance Charge rate denominator will significantly undermine the performance incentives that the Capacity Performance reforms are intended to create because it will not expose Capacity Performance Resources to the possibility of net negative capacity revenues in every year. A Non-Performance Charge rate equal to Net CONE divided by 30 hours represents a robust penalty for non-performance. As an example, for the 2018-19 delivery year, Capacity Performance Resources will face a Non-Performance Charge rate of between \$2,564/MWh and \$3,649/MWh, depending on their location.⁷⁸ These rates therefore act as a strong incentive for performance. Moreover, a Capacity Performance Resource need not face a guaranteed possibility of net negative capacity revenues *in every delivery year* to be compelled to make maintenance and investment decisions to improve resource performance. Rather, as PJM stated in its filing,⁷⁹ it is the *possibility* of zero or negative net capacity revenues that provides the proper incentive, and PJM's proposed Non-Performance Charge satisfies this criterion. Some uncertainty

⁷⁷ Just as the calculation of capacity is based on Net CONE, rather than past capacity payments, the estimate of performance hours should not necessarily be determined exclusively by historic averages as the rehearing requesters posit.

⁷⁸ These figures are derived by multiplying the installed capacity Net CONE value for any Locational Deliverability Area, in dollars per megawatt-day, by 365 days and dividing the product by 30 hours per year. *See* PJM OATT at Attachment DD, section 10A(e). For delivery year 2018-19, the Pennsylvania Electric Company zone has the lowest Net CONE at \$210.76, which corresponds to a Non-Performance Charge of \$2,564/MWh. The Commonwealth Edison zone has the highest Net CONE at \$299.95, which corresponds to a Non-Performance Charge of \$3,649/MWh. *See* PJM Planning Period Parameters for Base Residual Auction, available at <http://pjm.com/~media/markets-ops/rpm/rpm-auction-info/2018-2019-bra-planning-parameters.ashx>.

⁷⁹ PJM December 12, 2014 Capacity Markets Filing at 46 (citing ISO-NE Pay for Performance Order, 147 FERC ¶ 61,172 at P 70).

about the actual number of Performance Assessment Hours in any given delivery year is unavoidable, and no penalty rate based on an expectation of future conditions can resolve that uncertainty. The relevant question is whether the expectation is reasonable and, in this case, provides the possibility of zero or negative net capacity revenues for complete non-performance. Under PJM's proposed Non-Performance Charge rate, a Capacity Performance Resource can lose as much as Net CONE for complete non-performance in any delivery year that experiences 30 or more Performance Assessment Hours.

73. A reasonable Non-Performance Charge seeks a middle ground between a penalty rate that is too high and introduces excessive risk, and one that is too low and fails to spur performance improvement. We remain satisfied that, given evidence in the record before us, PJM's proposed rate falls within this middle ground. The Commission will also continue to monitor the application and effectiveness of the Non-Performance Charge, including through evaluation of PJM's annual informational filing to be submitted in compliance with the Capacity Performance Order.⁸⁰

2. Stop-Loss Limits

a. Capacity Performance Order

74. In the Capacity Performance Order, the Commission accepted PJM's proposed annual Non-Performance Charge stop-loss limit equal to 1.5 times annual Net CONE. The stop-loss limit caps the amount any Capacity Performance Resource and Base Capacity Resource can lose during a delivery year, thereby providing such resources with a maximum risk exposure to take into consideration when they formulate their sell offers.⁸¹ In addition, PJM initially proposed to apply a monthly stop-loss limit of 0.5 times Net CONE times the relevant resource's installed capacity, but later stated in its deficiency letter response that it was willing to eliminate the monthly limit, as it recognized that applying the stop-loss monthly limit would dilute the core incentives by allowing under-performance without consequence once a resource has reached the monthly stop-loss limit. The Commission accepted PJM's proposal to eliminate the monthly stop-loss limit, agreeing with PJM that applying the stop-loss limit monthly would dilute the performance charge too significantly.⁸²

⁸⁰ Capacity Performance Order, 151 FERC ¶ 61,208 at P 163.

⁸¹ *Id.* P 164.

⁸² *Id.* P 165. As PJM had explained in its response to Staff's Deficiency Letter, for any delivery year during which Performance Assessment Hours are highly concentrated in a single month, the monthly stop-loss limit will inappropriately increase the likelihood

(continued...)

b. Requests for Rehearing

75. Dayton/EKPC asserts that the Commission erred in accepting an annual stop-loss limit based on Net CONE rather than the capacity auction revenues that an individual resource is set to receive in a particular Locational Deliverability Area.⁸³ Dayton/EKPC argues that, unless the annual stop-loss limit ensures a maximum penalty proportional to the capacity revenues a given resource receives, the annual stop-loss limit could unduly discriminate against resources located in zones with lower capacity market clearing prices.

76. Others seek rehearing regarding the Commission's elimination of a monthly stop-loss limit.⁸⁴ Dayton/EKPC and AEP assert that the monthly stop-loss limit is an important and necessary mechanism that balances the risks and rewards of participating in PJM's capacity market.⁸⁵ Joint Parties and the Generator Coalition argue that without a monthly stop-loss limit, suppliers may be forced to choose between including substantial risk premiums in their sell offers or exiting the market entirely.⁸⁶ Dominion asserts that the monthly stop-loss limit is particularly critical during the initial years of Capacity Performance when resources are adapting to the new requirements, and that the presence of a monthly stop-loss limit will not undermine the incentives for capacity resources to perform when most needed. Joint Parties and the Generator Coalition agree that the Commission wrongfully assumed the monthly stop-loss limit would create improper incentives for resources and allow resources to under-perform without consequence.⁸⁷ Panda, on the other hand, claims that, without a monthly stop-loss limit, a resource that hits the annual stop-loss limit in a single month will not have the same

that a non-performing resource will earn positive net capacity revenues over the long run, and thus weaken the performance incentives that PJM's Capacity Performance design construct is intended to promote. *Id.*

⁸³ Dayton/EKPC Request for Rehearing at 6.

⁸⁴ *See* Capacity Performance Order, 151 FERC ¶ 61,208 at P 165.

⁸⁵ Dayton/EKPC Request for Rehearing at 20-21; AEP Request for Rehearing at 14.

⁸⁶ Joint Parties Request for Rehearing at 33-34; Generator Coalition Request for Rehearing at 7.

⁸⁷ Joint Parties Request for Rehearing at 34; Generator Coalition Request for Rehearing at 7-11.

incentive to be available during subsequent Performance Assessment Hours.⁸⁸ The Generator Coalition, Dominion, and Panda argue that eliminating the monthly stop-loss limit represents an unsupported departure from the ISO-NE Pay for Performance Order.⁸⁹

77. AEP argues that while the Commission addressed both the use of a Non-Performance Charge that is a function of Net CONE and the elimination of the monthly stop-loss limit, it failed to consider the relationship between the two.⁹⁰ AEP argues that these mechanisms, working in tandem, create a draconian penalty structure that could force a resource to shut down. AEP adds that such an approach is unduly discriminatory with respect to resources in the rest-of-RTO area, given that these resources are likely to continue to receive lower capacity auction revenues relative to resources operating in PJM's eastern region.⁹¹

c. Commission Determination

78. We deny the rehearing requests regarding the annual stop-loss limit and the elimination of PJM's original proposal of a monthly stop-loss provision. While a stop-loss limit provision is not necessary to find PJM's proposal just and reasonable, we find that the annual stop-loss limit proposed by PJM is reasonable as it protects resources against exceedingly large penalties resulting from an unforeseen event. However, we continue to find that we legitimately conditioned the order on PJM, consistent with its agreement, removing the monthly stop-loss provision as the monthly stop-loss would reduce the incentives for a resource to ensure that it stands able and ready to perform and could reduce performance after the monthly limit is reached.

79. We disagree with Dayton/EKPC that an annual stop-loss limit based on Net CONE and applied by the same terms to all capacity resources is unjust and unreasonable or unduly discriminatory because some resources may receive higher capacity prices in some zones or Locational Deliverability Areas than in others. PJM bases all of its calculations in this proposal on Net CONE and we cannot find the use of Net CONE unjust and unreasonable for the purpose of determining the stop-loss limit. Resources may receive higher capacity prices in some areas than others due to transmission constraints, and these prices signal where additional capacity investment may be most

⁸⁸ Panda Request for Rehearing at 8.

⁸⁹ See ISO-NE Pay for Performance Order, 147 FERC ¶ 61,172 .

⁹⁰ AEP Request for Rehearing at 14.

⁹¹ *Id.* at 16-17.

valuable. However, this does not necessarily demonstrate that using Net CONE for determining the stop-loss limit is unjust and unreasonable.

80. Locational price adders, which differentiate capacity clearing prices, and the Non-Performance Charge provisions, including the annual stop-loss limit, serve different purposes in PJM's capacity market construct. Capacity market clearing prices reflecting locational price adders send price signals to encourage capacity investment where it is most valuable. The stop-loss provision is designed to provide some protection to capacity resources while not unduly limiting the performance incentive underlying the Non-Performance Charge provisions. During an emergency action—when the PJM system is in some form of a capacity shortage—the failure of a capacity resource anywhere in the system to deliver the product for which it is paid may be equally detrimental to system reliability. Since each unit's performance may be crucial and all units need to have sufficient incentive to make investments and perform when needed, we cannot find PJM's proposal to apply a uniform annual stop-loss limit unjust and unreasonable.

81. In addition, and as explained in the Capacity Performance Order,⁹² basing the annual stop-loss limit on a market parameter, such as Net CONE, that is known in advance of the capacity auction allows capacity sellers to easily calculate their maximum financial exposure when formulating their sell offers as opposed to using capacity prices which are not known until after the auction. Lastly, we note that a resource would need to completely fail to deliver energy or reserves during a full 30 Performance Assessment Hours to lose Net CONE, and during a full 45 Performance Assessment Hours to reach the annual stop-loss limit. We are confident that capacity sellers will be capable of making the investment and maintenance decisions ahead of time to reduce the probability of such consistent and prolonged failure to an acceptably low level.

82. We also deny the rehearing requests of Dayton/EKPC, Dominion, the Generator Coalition, Panda, Joint Parties, and AEP on removal of the monthly stop-loss limit. The Commission stated in the Capacity Performance Order that information in the record for the most recent three delivery years showed a consistent clustering of emergency conditions in only one-to-two months per year, and that therefore the use of the originally-proposed monthly stop-loss limit could severely dilute the very performance incentives that the Capacity Performance design is intended to create.⁹³ The Commission explained that based on data provided by PJM in its deficiency letter response,⁹⁴ “in the

⁹² Capacity Performance Order, 151 FERC ¶ 61,208 at P 164.

⁹³ *Id.* P 165.

⁹⁴ PJM Deficiency Letter Response at Appendix 2.

2013-14 delivery year, over 70 percent of the RTO-wide Performance Assessment Hours occurred in one month, and in each of the 2012-13 and 2011-12 delivery years, 100 percent of the RTO-wide Performance Assessment Hours occurred in one month.”⁹⁵

83. This high concentration of Performance Assessment Hours in a small number of months presents two concerns with regard to the monthly stop-loss limit. The first concern is that the incentive to perform for resources that reach the monthly stop-loss limit, particularly early in the month, is greatly dampened. For example, in January 2014, there were 15 RTO-wide Performance Assessment Hours by midday on the seventh day of the month. In such a scenario, it is plausible that numerous resources could reach the monthly stop-loss limit at that point and face no additional Non-Performance Charges during the remainder of a peak winter month during which capacity resource performance is most critical for PJM’s system. The second concern is that if numerous resources reach the monthly stop-loss limit, the total pool of potential Performance Bonus Payment dollars decreases, dampening the incentives for other resources to perform during critical periods in that month. When Performance Assessment Hours are highly concentrated in only a few months, as appears to be the case in PJM, and resources may reach the monthly stop-loss limit frequently, the performance implications may outweigh the benefits provided by use of a monthly stop-loss limit.

84. Some rehearing requests maintain that the PJM stop-loss limit provision is unjust and unreasonable because it differs from the stop-loss limit provision adopted in ISO New England, Inc.’s (ISO-NE) Pay for Performance capacity market construct, which includes a monthly stop-loss limit. But the capacity market constructs in PJM and ISO-NE are different in a number of aspects, including that PJM assesses Non-Performance Charges during emergency actions while ISO-NE evaluates performance during reserve deficiencies. Also, in response to the Commission’s deficiency letter, PJM provided data showing that, given its experience, a reasonable risk exists that all emergency actions could occur in the same month and PJM agreed that, given these data, using a monthly-stop loss limit could jeopardize a resource’s incentive to perform once it reached the stop-loss limit. RTOs may take somewhat different approaches to similar problems.⁹⁶ Based

⁹⁵ Capacity Performance Order, 151 FERC ¶ 61,208 at n.145.

⁹⁶ *See* Capacity Performance Order, 151 FERC ¶ 61,208 at P 174 (“[I]n submitting proposed tariff changes pursuant to a FPA section 205 filing, PJM need only demonstrate that its proposed revisions are just and reasonable, not that its proposal is the most just and reasonable among all possible alternatives.”); *see also Me. Pub. Utils. Comm’n v. FERC*, 520 F.3d 464, 470-71 (D.C. Cir. 2008), *rev’d in part on other grounds sub nom. NRG Power Mktg., LLC v. Me. Pub. Utils. Comm’n*, 558 U.S. 165 (2010) (“When the

(continued...)

on the evidence here, we find that conditioning the order, based on PJM's agreement, on the removal of the monthly stop-loss limit is not unjust and unreasonable simply because another RTO took a different approach.

85. We recognize that several intervenors have argued that the same concerns apply to the annual stop-loss limit. For example, Panda argues that absent a monthly stop-loss limit, a resource that hits the annual stop-loss limit in one month will not have the same incentive to be available during subsequent Performance Assessment Hours in other months. But while any stop-loss limit will cause a resource to face a diminished incentive to perform after hitting the limit, given the likelihood of a strong concentration of Performance Assessment Hours in one or a few peak months in PJM, we continue to find that the use of a monthly stop-loss limit risks undercutting the performance incentive during those peak months.

86. On rehearing, Dayton/EKPC proposes an alternative to PJM's initially proposed monthly stop-loss proposal. It would set the monthly stop-loss limit at 0.5 times the resource's annual capacity revenues. Dominion states that PJM's proposal should be

record would support more than one outcome, we must uphold [the Commission's] order because "[t]he question we must answer ... is not whether record evidence supports [the petitioner's desired outcome], but whether it supports [the Commission's]."); *City of Bethany v. FERC*, 727 F.2d 1131, 1136-37 (D.C. Cir. 1984) (affirming that the Commission's authority to review rates under the FPA is "limited to an inquiry into whether the rates proposed by a utility are reasonable – and [does not] extend to determining whether a proposed rate schedule is more or less reasonable than alternative rate designs" and noting, for example, that "[b]ecause each utility is unique, [the Commission] has eschewed a rigid approach in assessing whether a proposed method of allocating fixed costs among customers is reasonable."); *City of Winnfield, La. v. FERC*, [744 F.2d 871, 875-76 \(D.C. Cir. 1984\)](#); *ISO New England Inc. & New England Power Pool*, 153 FERC ¶ 61223, at P 90 (2015) ("[I]t is well-established that there can be more than one just and reasonable rate. Thus, the existence of another potentially just and reasonable approach does not render [an approach] unjust and unreasonable."); *PJM Interconnection, L.L.C.*, 147 FERC ¶ 61,103, at P 59 (2014) ("In submitting proposed tariff changes pursuant to a FPA section 205 filing, PJM need only demonstrate that its proposed revisions are just and reasonable, not that its proposal is the most just and reasonable among all possible alternatives."); *Louisville Gas and Elec. Co.*, 114 FERC ¶ 61,282, at P 29 (2006) (The just and reasonable standard under the FPA is not so rigid as to limit rates to a "best rate" or "most efficient rate" standard; rather, a range of alternative approaches often may be just and reasonable.), *reh'g denied*, *E. ON U.S. LLC*, 116 FERC ¶ 61,020 (2006).

accepted along with a periodic review of the operation of the monthly stop-loss limit to assess its impact on resource performance. We decline to require this. PJM has agreed to eliminate the monthly stop-loss limit provision it initially proposed for the reasons discussed above, and we find elimination to be a just and reasonable response to the issues.

87. We disagree with AEP that the Commission did not consider the relationship between the Non-Performance Charge and the monthly stop-loss limit in the Capacity Performance Order. In considering the frequency with which the monthly stop-loss limit was likely to be reached, the Commission directly considered the interaction between the two elements.⁹⁷

88. We also disagree that the Non-Performance Charge combined with removal of the monthly stop-loss limit results in a “draconian” penalty structure that will force resources to retire or not participate in the capacity market. This argument is speculative and unsupported by the record. We recognize that eliminating the monthly stop-loss limit provision results in a risk capacity sellers must factor into their offers, but given the possibility that emergency actions may occur all in one month, a lower monthly stop-loss limit provision could result in insufficient investment and performance during the periods when PJM needs that performance the most. Capacity sellers need to make the investment and maintenance decisions ahead of time to reduce the probability that they will consistently, and for prolonged periods, be unable to deliver energy during Performance Assessment Hours.

3. Exemptions from Non-Performance Charge

a. Capacity Performance Order

89. In the Capacity Performance Order, the Commission accepted, subject to condition, PJM’s proposal to provide certain limited exemptions from the Non-Performance Charge to capacity resources that do not deliver their share of energy or reserves during a Performance Assessment Hour. Specifically, PJM proposed that an exemption apply, if (i) the resource is on a PJM-approved Generator Planned Outage or Generator Maintenance Outage and PJM determines that the resource was unavailable during the hour solely because it was on such an outage; or (ii) PJM did not schedule the resource to operate for reasons other than any operating parameter limitations submitted in the market seller’s energy market offer for the resource offer or the seller’s submission of a market-based offer price that is higher than its cost-based offer price.⁹⁸ The

⁹⁷ *Id.* P 165.

⁹⁸ *Id.* P 167.

Commission conditioned its acceptance on PJM submitting clarifying revisions to the scheduling exemption, specifically the language addressing seller-specified limitations on resource operating parameters, to provide that, if PJM does not schedule a resource during a Performance Assessment Hour due to *any* operating parameter limitation specified in a market seller's energy offer, the resource will be subject to Non-Performance Charges.⁹⁹

b. Requests for Rehearing

90. Multiple parties request rehearing regarding the Commission's conditional acceptance of the scheduling exemption to the Non-Performance Charge.¹⁰⁰ Numerous parties argue that the Commission erred by conditioning acceptance on PJM clarifying the scheduling exemption for operating parameter limitations to provide that a resource is not exempt if PJM determines that the sole reason the resource was not scheduled during a Performance Assessment Hour is *any* operating parameter limitation specified in the resource's energy market sell offer.¹⁰¹

91. Some contend that capacity resources should be subject to the Non-Performance Charge only if the market seller specifies limits to a resource's operating parameters beyond those established by PJM and the Market Monitor.¹⁰² AEP argues that parameter limitations reflecting actual constraints are not "seller specified," because resources cannot control such limitations and they are approved by PJM. Duke adds that a market seller should not be subject to a Non-Performance Charge for any portion of a resource's capacity that PJM does not schedule and dispatch, because such capacity is not required and PJM decides, in its sole discretion, whether to commit a Capacity Performance Resource for less than its full capacity.¹⁰³

92. Some parties argue that the interpretation in the Capacity Performance Order is inconsistent with PJM's market design. AEP and Joint Parties argue that penalizing a

⁹⁹ *Id.* PP 170-171.

¹⁰⁰ *Id.* P 167; *see* PJM OATT at Attachment DD, section 10A(d).

¹⁰¹ Capacity Performance Order, 151 FERC ¶ 61,208 at PP 170-171.

¹⁰² Duke Request for Rehearing at 4-6; NRG/Dynegy Request for Rehearing at 11; P3 Request for Rehearing at 4-5; AEP Request for Rehearing at 3-4; Joint Parties Request for Rehearing at 13-18.

¹⁰³ Duke Request for Rehearing at 9.

resource for parameter limitations reflecting actual constraints conflicts with the Commission's finding that a market seller must be able to reflect a resource's actual constraints in its energy market offer.¹⁰⁴ Dominion and Joint Parties argue that the Commission disregarded the reality that resources face physical and non-physical restrictions beyond the resource owner's control or inherent to a given resource type.¹⁰⁵ Where the resource does not control the constraint, AEP contends, performance incentives are irrelevant. NRG/Dynegy, Joint Parties, and AEP assert that the Commission failed to recognize that its determination will cause suppliers to self-schedule their resources to minimize penalty exposure, to the detriment of system stability and market efficiency.¹⁰⁶ Dominion argues that penalizing resources for their physical parameter limitations will drive valuable and diverse generation out of the capacity market. Dominion further argues that, if certain operating parameters would make a portion of a resource unlikely to meet its Capacity Performance obligation, the resource should be allowed to delist that portion of its capacity.

93. NRG/Dynegy contend that the interpretation of the scheduling exemption in the Capacity Performance Order conflicts with PJM's intent underlying its proposal. NRG/Dynegy argue that language in PJM's transmittal letters in Docket Nos. ER15-623-000 and EL15-29-000 "indicate that PJM only intended for Capacity Performance Resources to perform in accordance with the operating parameters approved by PJM."¹⁰⁷ Further, as part of the rehearing request, they seek to introduce additional evidence of this intent.

94. Other parties argue that the Commission should require PJM to create additional performance exemptions due to certain types of events or parameter limitations beyond a resource's control.¹⁰⁸ The Generator Coalition argues that non-performance should be exempted from penalties when it is due to catastrophic weather conditions or a natural

¹⁰⁴ AEP Request for Rehearing at 8-10 (citing Capacity Performance Order, 151 FERC ¶ 61,208 at P 436); Joint Parties Request for Rehearing at 17.

¹⁰⁵ Dominion Request for Rehearing at 29-31 (citing *PSEG Energy Res. & Trade LLC v. FERC*, 360 F.3d 200, 205-206 (2004)).

¹⁰⁶ NRG/Dynegy Request for Rehearing at 15; Joint Parties Request for Rehearing at 14; AEP Request for Rehearing at 8.

¹⁰⁷ NRG/Dynegy Request for Rehearing at 3.

¹⁰⁸ Joint Parties Request for Rehearing at 17; Dominion Request for Rehearing at 35.

gas supply interruption based on a state commission-approved tariff. Joint Parties assert that capacity resources should be exempted if unavailable during an emergency condition that was not foreseeable. Homer City, Dominion, and the Generator Coalition assert that non-performance should be exempted when a capacity resource is unavailable due to a transmission outage.¹⁰⁹ Homer City argues that, contrary to the Commission's justification in the Capacity Performance Order, suppliers are in no better position than load to evaluate, mitigate, or bear the risk of non-performance due to transmission outages. Transmission owners are in the best position to mitigate such risk, Homer City adds, particularly given that market forces limit a capacity market seller's ability to include such a risk premium in its capacity offer.

95. Dominion contends that the Commission erred by conditionally accepting PJM's proposed limitation on the scheduling exemption for a market seller that submits a market-based energy offer price higher than its cost-based offer price. Dominion argues that the Commission did not adequately support its conclusion that the scheduling exemption limitation is needed because capacity resources may try to mask performance challenges by inflating their market-based offer price to avoid scheduling. Further, Dominion argues, the Commission failed to address the relationship between this aspect of the scheduling exemption and PJM's cost-based energy market offer rules.¹¹⁰

c. Commission Determination

96. We deny rehearing of the Commission's acceptance, subject to condition, of PJM's proposed Non-Performance Charge exemptions.¹¹¹

97. We first address arguments that the Commission misinterpreted PJM's proposal, and that it was PJM's intent to exempt a resource from the Non-Performance Charge if the resource offers with parameter limits consistent with those approved by PJM in the resource's parameter limited schedule. Certain parties maintain that the provision should only exempt resources if they include parameter limits less flexible than those in the parameter schedule.

¹⁰⁹ Dominion Request for Rehearing at 28 (citing *Midwest Indep. Transmission Sys. Operator, Inc.*, 145 FERC ¶ 61,260, at P 36 (2013) and *Cal. Indep. Sys. Operator Corp.*, 109 FERC ¶ 61,006 (2004)).

¹¹⁰ Dominion request for rehearing at 22-25 (citing *Day-Ahead Offers Order*, 151 FERC ¶ 61,206, at P 69).

¹¹¹ Capacity Performance Order, 151 FERC ¶ 61,208 at P 173.

98. Attachment DD, section 10A(d) states that a capacity resource is exempt from Non-Performance Charges for capacity that is not delivered during a Performance Assessment Hour “to the extent such Capacity Resource...was unavailable...solely because the resource...was not scheduled to operate by [PJM] ...for reasons other than...limitations specified by such seller in the resource operating parameters....”¹¹² NRG/Dynegy contends that a correct reading of this section is that the phrase “specified by such seller” does not apply to parameter limited schedules previously approved by PJM, but applies only to less flexible parameters included with the resource’s offer.

99. We disagree. We cannot glean an exception from the phrase “specified by such seller.” All parameter limitations are specified by the seller. A reading of the OATT language to apply to all parameter limitations treats performance by resources equally regardless of the type of parameters associated with each resource type. Further, PJM did not seek rehearing of this interpretation of its language. In the future, if PJM believes NRG/Dynegy’s interpretation is just and reasonable and can justify treating non-performance differently depending on the parameter type used, PJM may propose to revise this provision.

100. Moreover, PJM has included revisions to clarify its OATT language in accordance with the interpretation in the Capacity Performance Order, in its compliance filing, addressed below. We note that, to the extent NRG/Dynegy seek to support their interpretation based on new, post-record evidence submitted on rehearing, relying on such evidence is not appropriate and, therefore, we reject this aspect of NRG/Dynegy’s rehearing request.¹¹³

¹¹² PJM OATT at Attachment DD, section 10A(d).

¹¹³ *PJM Interconnection, L.L.C.*, 121 FERC ¶ 61,173, at P 34 (2007) (“Relying on evidence outside the record is inappropriate, because it denies the other parties the due process rights to address that evidence. As the Commission has made clear, allowing new evidence on rehearing presents a moving target and eliminates the need for finality to proceedings.”); *see also N.Y. Indep. Sys. Operator, Inc.*, 112 FERC ¶ 61,283, at P 35 n.20 (2005) (“[P]arties are not permitted to raise new evidence on rehearing. To allow such evidence would allow impermissible moving targets.”); *Entergy Nuclear Operations, Inc., v. Consolidated Edison Company of New York, Inc.*, 112 FERC ¶ 61,117 at P 39 (2005); *Ocean State Power II*, 69 FERC ¶ 61,146, at 61,548 n.64 (1994) (“The Commission generally will not consider new evidence on rehearing, as we cannot resolve issues finally and with any efficiency if parties attempt to have us chase a moving target.”).

101. In addition, while NRG/Dynegy cite select PJM statements from the transmittal letters in this proceeding, they have not persuaded us that the interpretation of the tariff language in the Capacity Performance Order is incorrect.

102. In particular, NRG/Dynegy point to PJM's statements in its energy markets transmittal letter that "Capacity Resources will be required to meet minimum flexibility requirements" and "Generation Capacity Resources must be made available for scheduling and dispatch by PJM, consistent with the parameter limited schedule requirements of section 6.6 of Schedule 1 of the Operating Agreement Attachment K-Appendix, section 6.6(b), of the OATT."¹¹⁴ NRG/Dynegy then combine PJM's statements in its energy market transmittal letter together with unrelated statements in PJM's capacity market transmittal letter to suggest that PJM's intent in both market rule revisions is the same.¹¹⁵ However, PJM's statements in its energy market transmittal letter do not necessarily inform, much less control, PJM's capacity market revisions, including application of the scheduling exemption. That language pertains only to a distinct aspect of PJM's proposed energy market reforms, the rules governing energy market offers. NRG/Dynegy further point to PJM's statements that the scheduling exemption does not apply if PJM does not schedule the resource, or schedules it down, because of parameter limitations "specified by the seller."¹¹⁶ As discussed above, all parameter limitations are specified by the seller in an energy market offer and we cannot winnow an exception from the phrase "specified by such seller." We find these statements insufficient to warrant granting rehearing, particularly in light of PJM's choice not to seek rehearing on this issue.

103. Finding that the Commission correctly interpreted PJM's proposal, we now address requests for rehearing that argue that PJM's proposal is unjust and unreasonable. We deny these requests. A primary goal of PJM's Capacity Performance construct is to

¹¹⁴ NRG/Dynegy Request for Rehearing at 11 (citing PJM December 12, 2014 Energy Markets Filing at 9, 14).

¹¹⁵ *Id.* ("PJM therefore stated that it, in consultation with the [Market Monitor], 'will make the determination of the unit-specific physically achievable operating parameters for each individual resource on the basis of the resource's operating design characteristics,' and that non-performance would not be excused if a resource is not dispatched due to operating parameter limitations specified by [the] *seller* ...") (citing PJM Energy Markets Transmittal filing at 9 and PJM Capacity Markets Transmittal at 45) (emphasis in original).

¹¹⁶ NRG/Dynegy Request for Rehearing at 11-12 (citing PJM December 12, 2014 Capacity Markets Filing at 39, 45).

incent flexible resources. As PJM stated, “[p]arameter limits should not be viewed as a permanent entitlement to under-perform. Instead, those limits should be exposed to financial and market consequences: if sellers of resources with fewer operating limits earn more from the capacity market (after taking Non-Performance Charge and Performance credits into account) than sellers of resources with more restrictive operating limits, then all sellers will be incented to find ways to minimize those operating limits, which should over time increase overall fleet performance and benefit loads in the region.”¹¹⁷ It is critical that the capacity market rules send the proper long-term investment signals to ensure capacity that can meet the reliability needs of the region. The capacity market reforms in this proceeding modify the capacity obligation to signal to the market the product that will most effectively meet those needs, and we continue to find that the scheduling exemption, as accepted in the Capacity Performance Order, is consistent with that goal and represents a just and reasonable approach to applying Non-Performance Charges.

104. AEP argues that penalizing a market seller for non-performance when its resource is not scheduled solely due to parameter limitations consistent with the resource’s parameter-limited schedule conflicts with the Commission’s finding that PJM’s parameter limit rules must recognize actual constraints. We disagree. In the Capacity Performance Order, the Commission explained how these provisions complement each other. The Commission stated that “when...resources submit offers that reflect their actual constraints into PJM’s energy markets, they should be allowed the opportunity to recover the costs of complying with PJM’s dispatch instructions through compensation in the energy markets.”¹¹⁸ However, the Commission went on to explain that, while resources should be appropriately compensated for their provision of energy in the energy market, that finding is not intended to excuse a resource from failing to fulfill its capacity obligation.¹¹⁹

¹¹⁷ PJM December 12, 2014 Capacity Markets Filing at 46.

¹¹⁸ Capacity Performance Order, 151 FERC ¶ 61,208 at P 436.

¹¹⁹ *Id.* P 441 (“Providing such an exemption from Non-Performance Charges would blunt the incentives for providing energy and reserves during the hours when they are most needed. Additionally, a resource that is unable to produce energy or provide operating reserves during Performance Assessment Hours because of parameter limitations provides less capacity value to customers than a resource that is able to perform during these hours. Accordingly, it is reasonable for a resource that fails to perform because of parameter limitations to receive less net capacity revenue than a performing resource.”).

105. These two sections, therefore, address different issues to encourage flexibility and performance. In the energy market, PJM will honor parameter limits if PJM requires performance by that resource and schedules it to run. If, in following PJM's dispatch instructions, the resource does not cover its costs through energy market revenues, PJM is required to pay that resource uplift for the costs that it actually has incurred to operate and provide reliability. This ensures that resources have an incentive to run when scheduled. If PJM did not cover the costs resulting from the parameter limit, the resource might choose not to run when scheduled, potentially causing reliability problems.

106. However, in the capacity market, if PJM does not schedule that resource due to its parameter limits, then PJM applies a Non-Performance Charge since the resource was not available pursuant to its capacity obligation. Resources therefore run a risk in including parameter limitations in their energy market offers, and are encouraged to maximize their flexibility to perform consistent with the new capacity obligation.

107. We turn next to Dominion's rehearing argument that, due to flaws in the Commission's cost-based offer rules, PJM's proposal to subject a unit to a Non-Performance Charge when PJM does not schedule the unit because its unmitigated, competitive market-based offer is greater than its cost-based offer is unjust and unreasonable. Dominion asserts that the Commission recognized the flaws in the cost-based offer rules in the Day-Ahead Offers Order¹²⁰ and nonetheless failed to address the relationship between those rules and the scheduling exemption. As the Commission stated in the Capacity Performance Order,¹²¹ we find PJM's proposal reasonable. During a system emergency, PJM is concerned that a unit which may be unable to perform may seek to mask non-performance by submitting a high market-based offer so that it will not be selected and subject to the Non-Performance Charge. Dominion claims that the Commission did not support this justification. However, PJM's concern seems well founded given the magnitude of the Non-Performance Charge, and Dominion has not explained why a resource facing such penalties would not avail itself of an option to reduce its exposure to the penalties.¹²² Moreover, PJM's cost-based offer rules are not directly before us in this proceeding; any flaws with those procedures should be addressed in separate proceedings, such as in Docket Nos. EL15-73-000 and ER16-372-

¹²⁰ Day-Ahead Offers Order, 151 FERC ¶ 61,206.

¹²¹ Capacity Performance Order, 151 FERC ¶ 61,208 at P 169.

¹²² See *Associated Gas Distribs. v. FERC*, 824 F. 2d 981, 1008-1009 (D.C. Cir. 1987) ("agencies do not need to conduct experiments in order to rely on the prediction that an unsupported stone will fall").

000 currently before the Commission, but, in any event, any such flaws do not render PJM's proposal in this proceeding unjust and unreasonable.

108. NRG/Dynegy, Joint Parties, and AEP assert that subjecting resources to Non-Performance Charges for failing to perform due to factors beyond their control is not just and reasonable because it will cause suppliers to self-schedule their resources or operate in an unsafe manner to minimize penalty exposure, threatening system stability and market efficiency. To the extent that resources choose to self-schedule, PJM's OATT currently allows them to do so consistent with PJM's market rules. This is valid market behavior, and we are not persuaded that the possibility of resources' self-scheduling renders PJM's proposal unjust and unreasonable. We are also unpersuaded by the argument that resources might sacrifice safety in an attempt to minimize penalty exposure. As the Commission stated in the Capacity Performance Order, market rules cannot be expected to protect against all forms of potential negligent behavior, and we do not hold the instant revisions to that standard.¹²³ We further note that PJM's Operating Agreement describes a resource owner's obligation under the tariff to follow PJM's dispatch instructions: "Market Sellers selling from generation resources and/or Demand Resources within the PJM Region shall...respond to the Office of the Interconnection's directives to start, shutdown or change output levels of generation units[.]"¹²⁴ As such, ignoring PJM's dispatch instructions or operating a resource in a manner contrary to PJM's dispatch instructions may constitute a tariff violation, and the market seller may be subject to any applicable sanctions under PJM's tariff.

109. Joint Parties, Dominion, Homer City, and the Generator Coalition argue that the Commission erred in accepting PJM's proposal to assess Non-Performance Charges when a capacity resource is unavailable due to a factor beyond the control of the resource owner, such as a scheduled resource that cannot perform due to a transmission outage, catastrophic weather conditions, and natural gas supply interruptions based on a state commission-approved tariff. We disagree that PJM's proposal is unjust and unreasonable in not providing such specific exemptions. As the Commission found in the ISO-NE capacity market Pay for Performance proceeding, exemptions within a two-settlement capacity market design, such as Capacity Performance, represent a reallocation of non-performance risk from capacity suppliers to consumers.¹²⁵ We are not persuaded by requesting parties' arguments that such a reallocation of risk is appropriate here given

¹²³ See Capacity Performance Order, 151 FERC ¶ 61,208 at P 499.

¹²⁴ PJM Operating Agreement at section 1.7.20(b).

¹²⁵ ISO-NE Pay for Performance Order, 147 FERC ¶ 61,172 at P 71.

that capacity resource owners are in the best position to assess and price the non-performance risk of their resources into their capacity offers.¹²⁶

110. Homer City argues that transmission owners, rather than capacity resource owners, are in the best position to mitigate the risk of transmission outages by purchasing insurance and to price any residual risk to be recovered through their rate base. As a general matter, a transmission outage will not result in Non-Performance Charges because PJM will not schedule a unit that cannot deliver power, and the primary reason for that scheduling decision will be the transmission outage, not the unit's offered parameter limits, so the scheduling exemption will apply. Homer City does not explain in what circumstances PJM will consider a unit scheduled despite a transmission outage preventing delivery of power. We do not have sufficient facts at this point to address such a hypothetical circumstance. However, to the extent that such a situation occurs, we do not find it unreasonable for capacity sellers to bear the burden of delivering on their capacity obligation, as now defined in PJM's capacity market, to load. A natural gas generator is held responsible for arranging sufficient natural gas deliveries despite pipeline outages and this same principle should apply to all such outages. Creating such categorical exemptions may result in unintended loopholes. Resources need to consider these possibilities in assessing risk and structuring their Capacity Performance offers. In addition, any such penalties are warranted because Non-Performance Charges collected from under-performing capacity resources are redistributed to over-performing resources. That is, if a resource that assumed a capacity commitment cannot perform during a Performance Assessment Hour, load serving entities' payment for that capacity will instead be redirected to those resources that can deliver the required service during the interval. Imposing penalties in these circumstances provides greater certainty that load will receive the service for which it paid through its capacity charge. As the Commission also found in the ISO-NE Pay for Performance Rehearing Order, the increased performance incentive provided by a limited-exemption design can be expected to reduce

¹²⁶ ISO-NE Pay for Performance Rehearing Order, 153 FERC ¶ 61,223 at P 73 (“Capacity Suppliers have knowledge of their resources’ locations on the transmission system, as well as knowledge of the types and probabilities of transmission outages, or dispatch constraints, that might affect their ability to provide energy and reserves to load. Based on that knowledge, resource owners can calculate the likelihood that a particular resource’s performance will be affected by such constraints. Using that information, resource owners can then calculate a risk premium, which they are permitted to include in their capacity supply offers.”).

price spikes in the real-time markets, thereby reducing the rates that load serving entities, and ultimately consumers, pay.¹²⁷

111. Homer City asserts that unlike in the generalized analogy to a classic market for goods, a capacity supplier has a tendency to absorb risk rather than reflect it in cost. However, Homer City describes a capacity supplier's business decision to absorb risk rather than include it in its capacity sell offer, as it is now permitted to do under the Capacity Performance rules, so long as such risk is quantifiable and can be reasonably supported.¹²⁸ We, therefore, do not find convincing Homer City's argument that an exemption is necessary because some capacity sellers will choose not to include a permissible risk premium in their sell offers.

112. Lastly, we do not find persuasive Dominion's argument that an absence of additional Non-Performance Charge exemptions will drive valuable and diverse generation out of the capacity market. The purpose of the capacity market is to ensure PJM has adequate resources during an emergency and a resource that is unable to provide energy during emergencies is not as valuable as one that is. Resources that are unable to provide the requisite level of service should not receive such payments even if that may result in resource retirements. The Capacity Performance design will properly value resources capable of serving the needs of the PJM region and will send the proper long-term investment signals for capacity resources that will support reliability.

4. Demand Resource Issues

a. Capacity Performance Order

113. In the Capacity Performance Order, the Commission accepted PJM's proposed treatment of coupled offers, subject to PJM clarifying that credit for performance will be assigned to a resource's Capacity Performance obligation first with any remaining performance awarded to the resource's Base Capacity obligation.¹²⁹ The Commission also found that PJM's proposal to measure performance of Demand Resource and Energy Efficiency Resources using a different Balancing Ratio than that used for other resource types accurately accounts for differences inherent in these products, and accepted PJM's

¹²⁷ See ISO-NE Pay for Performance Rehearing Order, 153 FERC ¶ 61,223 at P 75.

¹²⁸ See PJM OATT at Attachment DD, section 6.8(a).

¹²⁹ Capacity Performance Order, 151 FERC ¶ 61,208 at P 181.

proposal to use Customer Baseline Load as the measure of a Demand Resource's performance during non-summer Emergency Action hours.¹³⁰

114. Historically, PJM has measured the performance of demand response resources using one of two methods. The Firm Service Level method compares a resource's consumption upon providing demand response with its Peak Load Contribution (PLC). PLC is an adjusted average of how much a resource consumed during system-wide peaks.¹³¹ Alternatively, a resource may opt to be measured under the Guaranteed Load Drop methodology, which is a comparison between a resource's consumption upon providing demand response and the lower of PLC or an estimate of what the resource would have consumed if it had not provided demand response.¹³² To estimate this consumption, PJM developed the Customer Baseline Load method. The standard Customer Baseline Load method looks at a resource's consumption during similar recent hours, as modified by a Symmetric Additive Adjustment that reflects the resource's consumption immediately leading up to when the Demand Resource performed.¹³³

115. In the Capacity Performance Order, the Commission accepted, subject to condition, PJM's proposal to use only one methodology to measure Demand Resource and Energy Efficiency Resource performance. Under PJM's proposal, performance will be measured using the Firm Service Level methodology during the summer period, and the Guaranteed Load Drop methodology during the non-summer period.

¹³⁰ *Id.* PP 179-80.

¹³¹ Firm Service Level is defined as “[l]oad management achieved by an end-use customer reducing its load to a pre-determined level (the Firm Service Level), upon notification from the Curtailment Service Provider's market operations center or its agent.” *See* PJM RAA at Schedule 6.

¹³² Guaranteed Load Drop is defined as “[l]oad management achieved by an end-use customer reducing its load by a pre-determined amount (the Guaranteed Load Drop), upon notification from the Curtailment Service Provider's market operations center or its agent. Typically, the load reduction is achieved through running customer-owned backup generators, or by shutting down process equipment.” *Id.*

¹³³ The standard Customer Baseline Load methodology may only be used when it has been demonstrated to accurately predict a resource's consumption within a certain statistical error. Loads whose consumption is too variable to work with the standard Customer Baseline Load methodology may alternatively propose a different Customer Baseline Load methodology so long as it predicts consumption within the approved statistical error.

b. Requests for Rehearing

116. AEMA/PJMICC challenges the Commission's acceptance of PJM's proposal to measure non-summer load reduction using the same Customer Baseline Load methodology that is employed for measuring load reductions in the energy market.¹³⁴ AEMA/PJMICC argues that PJM should be required to allow Demand Resources to elect either (i) a year-round Peak Load Contribution or capacity-based baseline,¹³⁵ or (ii) a year-round energy-based baseline. AEMA/PJMICC argues that the Commission's acceptance of PJM's proposal is inconsistent with the Commission's authorizations in its 2011 order addressing a related PJM proposal to revise the performance measure standards utilized for load reductions made in the delivery year by demand response resources that have offered and cleared in PJM's capacity market.¹³⁶

117. AEMA/PJMICC further asserts that the Commission erred in accepting PJM's revision to its demand response measurement and verification methodology, by equating Capacity Performance (and the need to incent better performance) with the measurement of that performance. AEMA/PJMICC argues that using the Customer Baseline Load approach to measure performance in non-summer periods will unjustifiably require customers with interruptible capability to pay for capacity that they will not consume. AEMA/PJMICC asserts that under this approach, customers will continue to be assigned responsibility for capacity costs based on their load during relevant peak summer hours, while being prevented from offsetting the portion of these costs assigned to their interruptible load. AEMA/PJMICC argues that a customer should be able to avoid purchasing the full amount of capacity that it is required to buy based on its Peak Load Contribution allocation to the extent the customer is willing to change behavior to avoid using capacity during times of grid stress. AEMA/PJMICC further asserts that the use of Customer Baseline Load discriminates against demand response resources by imposing the least favorable seasonal measurement and verification methodology on these resources, while generators do not face the same restrictive measures.

¹³⁴ See PJM RAA at Schedule 6 (defining Customer Baseline Load as “[l]oad management achieved by an end-use customer as measured by comparing actual metered load to an end-use customer's Customer Baseline Load or alternative [Customer Baseline] determined in accordance with the provisions of Section 3.3A.2 or 3.3A.2.01 of the [PJM] Operating Agreement.”).

¹³⁵ Peak Load Contribution is PJM's estimate of the amount of capacity required to meet a specific load's needs for a given delivery year.

¹³⁶ AEMA/PJMICC Request for Rehearing at 10 (citing *PJM Interconnection, L.L.C.*, 137 FERC ¶ 61,108 (2011) (DR Capacity Values Order)).

118. AEMA/PJMICC argues that there is no need for a non-summer equivalent of Peak Load Contribution because the existing Peak Load Contribution is an accurate measure of a customer's winter capacity obligation. AEMA/PJMICC adds that under either the Guaranteed Load Drop or Firm Service Level approaches, PJM receives the full benefit of the demand response resource. AEMA/PJMICC characterizes as unduly discriminatory PJM's proposal, as accepted by the Commission, requiring more from certain types of demand response resources than is expected from a generation resource. AEMA/PJMICC also characterizes as unsupported PJM's claim that an allowance for aggregated offers will facilitate demand response participation. AEMA/PJMICC argues that aggregation is an unproven concept that may not provide adequate economic incentives for continued demand response participation in PJM's capacity auctions.

119. Finally, the Market Monitor argues that PJM should be required to eliminate the requirement for advance notice of sub-zonal dispatch of demand response resources and add a requirement for five-minute metering. The Market Monitor explains that PJM's rules currently provide for sub-zonal dispatch based on the zip code and zone of the Demand Resource, but that dispatch can occur only if the resources in the sub-zone have been given notice at least one day before that a sub-zone has been defined for dispatch. The Market Monitor asserts that such notice is not possible when unexpected events occur related to locational constraints. The Market Monitor argues that a reasonable approach would be to remove the notice requirement for defining a sub-zone. The Market Monitor adds that a five-minute metering requirement for demand response is necessary to ensure that these resources will perform when called upon.

c. Commission Determination

120. We reject AEMA/PJMICC's request that the Commission direct PJM to allow Demand Resources to elect to use either (i) a Peak Load Contribution or capacity-based baseline year-round, or (ii) an energy-based baseline year-round. PJM's Capacity Performance proposal was put in place, in part, to create the proper incentives for resources to perform all year round, and more specifically in the winter. PJM's revisions to the measurement and verification procedures are designed to both preserve aspects of the Firm Service Level product while amending the rules to help guarantee that Demand Resources are available to be dispatched to help supply meet demand in the winter period. We also note that we are finding PJM's proposed modifications to be just and reasonable, not that PJM's existing measurement system was unjust and unreasonable.¹³⁷

¹³⁷ *City of Bethany v. FERC*, 727 F.2d 1131, 1136 (D.C. Cir. 1984) (the Commission's authority to review rates under the FPA is limited to an inquiry into whether the rates proposed by a utility are reasonable – and not to extend to determining whether a proposed rate schedule is more or less reasonable than alternative rate designs).

121. Under PJM's Guaranteed Load Drop product design, a resource's compliance was measured against its customer baseline, while being capped at its Peak Load Contribution. The Firm Service Level product instead always measured compliance against the resource's Peak Load Contribution. PJM's proposed change to its measurement and verification methodology preserves some of the flexibility of the Firm Service Level while providing incentive for a resource to be available to perform year-round. AEMA/PJMICC states that the measurement and verification methodology should be consistent for both the summer and non-summer periods. While this was the previous practice, we note that the already approved Guaranteed Load Drop measurement is consistent across seasons while being stricter than what PJM proposes here. We find it reasonable that PJM is choosing to tighten up its performance measurement to provide an incentive for year-round dispatchability, and that this proposal is largely consistent with both the previously approved Firm Service Level and Guaranteed Load Drop measurement methodologies.

122. The measurement and verification methodology approved as part of Docket No. ER11-3322-000 pre-dated PJM's development of the Customer Baseline Load methodology approved in *PJM Interconnection, L.L.C.*¹³⁸ PJM's standard baseline is only applied to resources if it predicts a resource's consumption within a certain margin of error. When the standard baseline fails to predict a resource's consumption, a demand response resource may propose an alternative baseline methodology so long as it predicts consumption within the same margin of error. This focus on the margin of error allows resources inadequately served by the standard customer baseline methodology the flexibility to propose any sufficiently accurate baseline methodology, including the methods described in the Docket No. ER11-3322-000 proceeding. We maintain that the customer baseline design reasonably balances the flexibility and accuracy of the baseline.

123. To the extent that the standard customer baseline methodology is not sufficiently accurate for any individual resource, it may be, as AEMA/PJMICC argue, complicated for that resource to generate an alternative, accurate baseline. If any of the five previously established methods mentioned by AEMA/PJMICC are sufficiently accurate, then generating an alternative baseline is not complicated. If these methods are not sufficiently accurate, and the resource cannot develop another sufficiently accurate baseline, then PJM is not able to accurately measure a resource's performance. Thus, it is reasonable for PJM to effectively block that resource from providing demand response. Thus, we disagree with AEMA/PJMICC's assertion that PJM's proposal creates unnecessary complications for demand response resources.

¹³⁸ 137 FERC ¶ 61,216 (2011).

124. We disagree with AEMA/PJMICC that it is improper to use an energy market-based measure, the customer baseline, to determine performance in a capacity demand response program. As we stated above, PJM's Guaranteed Load Drop program already used a version of the customer baseline for its measurement of performance. Furthermore, AEMA/PJMICC mistakenly discuss the Capacity Performance product as if it is identical to PJM's established capacity product. The Capacity Performance product has stronger performance incentives than the preexisting capacity product, with an emphasis on improved resource performance in winter periods. This provides PJM adequate justification to move to a stronger measurement standard than was approved through Docket No. ER11-3322. We acknowledge that this change in measurement may result in demand response resources basing their offered quantities on the lesser of their ability to drop load in the winter or summer. Even so, we maintain our finding that it is reasonable for PJM to expect capacity demand response to be able to respond to dispatch during pre-emergency situations, regardless of whether they occur in winter or in summer.¹³⁹

125. We disagree with AEMA/PJMICC's arguments that PJM's measurement and verification modifications discriminate against Demand Resources. It is our expectation that generators and PJM will account for seasonal performance variations when offering in as Capacity Performance Resources.¹⁴⁰ We see no reason to think that capacity Demand Resources should not be subject to the same decision. To the extent that PJM has two seasonal performance measures for demand response but only one year-round measurement for generation, we maintain that the different treatment is reasonable given differences between the two resource types and PJM's interest in having demand response resources be available to help supply meet demand all year-round. We also note that demand response resources may aggregate seasonal loads in order to be able to be dispatchable year-round.

126. We reject the Market Monitor's request for a five-minute metering requirement for all Demand Resources as well as allowing PJM to define sub-zones up to five minutes before dispatch. The Commission ruled on similar or identical matters in a previous proceeding. In *PJM Interconnection, L.L.C.*, the Commission rejected PJM's proposal to define sub-zones in the operating day in anticipation of a pre-emergency event—a

¹³⁹ As discussed for Guaranteed Load Drop resources in DR Capacity Values Order, 137 FERC ¶ 61,108 at P 72.

¹⁴⁰ For instance, a generator which could produce 20 MWs in three seasons, but only 15 MWs in the fourth, could work with PJM to guarantee that it will only be required to offer in 15 MWs of Capacity Performance.

proposal less burdensome than the one put forth by the Market Monitor.¹⁴¹ In that order, the Commission stated that PJM had not “demonstrated that the demand response resources which comply with day-ahead sub-zonal dispatch are capable of complying with sub-zonal dispatch on the operating day within the default 30-minute signal without imposing prohibitive costs on those resources.”¹⁴² In the same order, the Commission rejected the Market Monitor’s identical protest arguing for five minute metering stating that, “requiring this level of granularity would require customers to invest in significant, costly upgrades, or to exit PJM’s markets” and could be seen as an undue burden.¹⁴³ We find that the Commission’s reasoning similarly applies here.

5. Other Issues

127. Panda argues that a penalty structure in which a single resource can lose in excess of its annual capacity revenues in a single month will unduly discriminate against single-asset entities or companies with few generation resources, given that these entities will be unable to spread the risk of penalties across a broad portfolio.¹⁴⁴ Dominion argues that PJM should be required to calculate Non-Performance Charges and Performance Bonus Payments on a portfolio basis for resources owned and operated as part of a single portfolio in the same Locational Deliverability Area.¹⁴⁵ AEP similarly seeks clarification that a seller may net over- and under-performance of its resources during a Performance Assessment Hour if its resources are located in the same Locational Deliverability Area, in order to mitigate its risk exposure.¹⁴⁶ AEP asserts that Fixed Resource Requirement entities and resources that are permitted to submit aggregated offers are given this allowance.

128. We disagree with Panda, Dominion, and AEP. PJM operates a resource-based capacity market where capacity suppliers are held accountable for meeting their capacity obligations on an individual resource basis, regardless of how large or small their portfolios are. We can find no unduly discriminatory treatment since PJM will assess

¹⁴¹ *PJM Interconnection, L.L.C.*, 147 FERC ¶ 61,103 (2014).

¹⁴² *Id.* P 150.

¹⁴³ *Id.* P 130.

¹⁴⁴ Panda Request for Rehearing at 5.

¹⁴⁵ Dominion Request for Rehearing at 18.

¹⁴⁶ AEP Request for Rehearing at 11-14.

Non-Performance Charges per resource and each market seller must determine how best to meet the risks it faces. For similar reasons, we reject Dominion's and AEP's contention that PJM's proposal is unjust and unreasonable because it does not calculate Non-Performance Charges on a portfolio basis.

129. In addition, because the Non-Performance Charge rate may exceed the Performance Bonus Payment rate during any given Performance Assessment Hour, it is consistent with a resource-specific market design to evaluate resource performance at the resource level, rather than at the portfolio level. By evaluating performance at the resource level, all over-performance is rewarded at the Performance Bonus Payment rate for that Performance Assessment Hour—i.e. total Non-Performance Charge revenues divided by total over-performing megawatts. To instead allow portfolio netting of over- and under-performance could result in some over-performance being rewarded at the Performance Bonus Payment rate, while other—equally beneficial—over-performance is effectively rewarded at a higher Non-Performance Charge rate because it offsets that seller's under-performance from another resource in its portfolio. We therefore continue to find PJM's proposed evaluation of over- and under-performance to be just and reasonable.

130. While AEP suggests that aggregated resources can net Non-Performance Charges, we disagree. PJM proposed that resources could aggregate in order to accommodate resources that cannot, alone, meet the operational requirements and performance obligations of a Capacity Performance Resource. Such resources may combine their capabilities and offer as one resource. Therefore, it is just and reasonable that when PJM evaluates the performance of an aggregated resource, it does not evaluate the performance of each underlying resource individually, but views the aggregated resource as a single entity. The aggregated resource is not permitted to net over- and under-performance with other resources, and the aggregated Capacity Resource is solely responsible for its performance. Likewise, we do not find PJM's treatment of Fixed Resource Requirement entities to be unduly discriminatory. Only Fixed Resource Requirement entities that elect physical penalties (i.e., the Fixed Resource Requirement entity must procure additional resources in the next delivery year to account for any under-performance) may net over- and under-performance within a Performance Assessment Hour. This is just and reasonable because a Fixed Resource Requirement entity that elects physical penalties is ineligible for Performance Bonus Payments. Thus, netting is necessary to recognize any over-performance by resources.

131. Similarly, AEP contends that PJM will allow a seller to replace an under-performing resource only with uncommitted resources that have the same characteristics

as the unit it is replacing.¹⁴⁷ We disagree. AEP fails to point to a relevant section of PJM's OATT which provides for its interpretation. PJM's OATT allows for resources that do not have a capacity commitment to receive Performance Bonus Payments. However, this is not identical to netting out a resource's non-performance.¹⁴⁸ For these reasons, we deny AEP's request for rehearing to allow netting across portfolios.

132. APPA/NRECA object to PJM's proposal to distribute Non-Performance Charge revenues collected to over-performing resources instead of refunding those revenues to load.¹⁴⁹ APPA/NRECA argue that because resources are subject to numerous existing incentives to perform during emergency periods, it is unclear why an additional incentive, in the form of a Performance Bonus Payment, would be necessary.

133. We continue to find PJM's proposal to redistribute capacity revenues from under-performing resources to over-performing resources to be just and reasonable. As explained in the Capacity Performance Order, doing so provides a robust performance incentive during Performance Assessment Hours.¹⁵⁰ In addition, it increases the probability that ratepayers receive the capacity service for which they are paying from one resource or another. While APPA/NRECA's alternative to refund Non-Performance Charge revenues to load could represent a just and reasonable alternative, APPA/NRECA have failed to demonstrate that PJM's proposal is unjust and unreasonable.

134. Talen asserts that subsequent to the issuance of the Capacity Performance Order, PJM represented that it may impose Non-Performance Charges at the sub-regional level rather than the Locational Deliverability Area level.¹⁵¹ Talen objects to this policy as inconsistent with the Capacity Performance Order, and seeks clarification that PJM's charges will only be applied at the Locational Deliverability Area level to avoid the creation of an unhedgeable risk.

135. We deny Talen's requested clarification. Attachment DD, section 10A(c), of PJM's OATT states that Non-Performance Charges and Performance Bonus Payments

¹⁴⁷ AEP Request for Rehearing at 12.

¹⁴⁸ PJM OATT at Attachment DD, section 10(A)(g).

¹⁴⁹ APPA/NRECA Request for Rehearing at 19-21.

¹⁵⁰ Capacity Performance Order, 151 FERC ¶ 61,208 at P 182.

¹⁵¹ Talen Request for Rehearing at 7-9.

will apply to “resources located in the area defined by the Emergency Action.”¹⁵² Attachment DD defines Emergency Action as “any emergency action for locational or system-wide capacity shortages[.]”¹⁵³ PJM Manual 13 provides that “[t]ransmission constraints may result in PJM dispatch implementing emergency procedures...on a Control Zone specific basis or a subset of a Control Zone.”¹⁵⁴ PJM Manual 35 defines Control Zone as “[a] subset of a control area that has a separate regulation and spinning reserve requirement based on NERC criteria.”¹⁵⁵ Based on section 10A(c) and these definitions, PJM retains the discretion to declare a Performance Assessment Hour in any locational boundary as large as the PJM region and as small as a subset of a control area. In the event PJM declares a Performance Assessment Hour with a locational boundary smaller than the entirety of a Locational Deliverability Area, resources will be subject to the Non-Performance Charge applicable to the Locational Deliverability Area in which that boundary is located. We therefore disagree with Talen that there is a mismatch with PJM’s proposed application.

136. Joint Parties state that there remains uncertainty among PJM and its stakeholders as to the timing for notification to capacity resources that they will be assessed Non-Performance Charges.¹⁵⁶ Accordingly, Joint Parties seek clarification that capacity resources will not be assessed a penalty charge, absent a clear communication from PJM.

137. We deny Joint Parties’ requested clarification. Attachment DD, section 10A(j), of PJM’s OATT states that “[PJM] shall bill charges and credits for performance during Performance Assessment Hours within three calendar months after the calendar month that included such Performance Assessment Hours[.]”¹⁵⁷ PJM will therefore notify a capacity seller of any applicable charges and credits for performance no later than this date.

¹⁵² PJM OATT at Attachment DD, section 10A(c).

¹⁵³ PJM OATT at Attachment DD, section 2.23A.

¹⁵⁴ PJM Manual 13, Emergency Operations, at 15 (available at <http://www.pjm.com/documents/manuals.aspx>).

¹⁵⁵ PJM Manual 35, Emergency Operations, at 19 (available at <http://www.pjm.com/documents/manuals.aspx>).

¹⁵⁶ Joint Parties Request for Rehearing at 21.

¹⁵⁷ PJM OATT at Attachment DD, section 10A(j).

F. Fixed Resource Requirement

1. Capacity Performance Order

138. In the Capacity Performance Order, the Commission found it appropriate to apply the increased performance expectations to Fixed Resource Requirement entities.¹⁵⁸

139. The Commission accepted PJM's proposal to allow Fixed Resource Requirement entities to choose between financial or physical satisfaction of the Non-Performance Charge when a resource in the entity's Fixed Resource Requirement plan fails to meet its expected performance during a Performance Assessment Hour. Regarding PJM's proposed physical non-performance assessment option, the Commission agreed with PJM that adding a maximum of 50 percent of the entities' committed MW to its Capacity Plan for the next delivery year is reasonably comparable to the maximum financial penalty of 150 percent of Net CONE. Therefore, the Commission accepted PJM's proposal subject to the condition that PJM add an annual stop-loss limit for Fixed Resource Requirement resources selecting the physical option, consistent with the clarification PJM provided in its answer.¹⁵⁹

140. While the addition of an annual stop-loss limit offered improvement, the Commission did not find PJM's proposed physical option penalty rate to be just and reasonable because, as originally proposed, PJM's physical penalty rate appeared to apply a penalty of procuring 0.5 additional MW per MW of non-performance any time Performance Assessment Hours are triggered, potentially resulting in disproportionate penalties.¹⁶⁰ In its answer, PJM proposed an alternative mechanism that would instead automatically apply the maximum monthly penalty rate, adjusted for the resource's performance, regardless of the duration or number of Emergency Action events that occur in that month. Accordingly, the Commission accepted PJM's proposal subject to the condition that PJM derive and incorporate a comparable Non-Performance Charge rate for the physical payment option in terms of additional capacity per MWh of non-performance.¹⁶¹

¹⁵⁸ Capacity Performance Order, 151 FERC ¶ 61,208 at P 202.

¹⁵⁹ *Id.* P 208.

¹⁶⁰ *Id.* P 209.

¹⁶¹ *Id.*

141. The Commission also conditioned its acceptance on PJM modifying its proposal, consistent with its answer, to allow a Fixed Resource Requirement entity to choose between the financial and physical non-performance assessment option at the start of the relevant delivery year, rather than when the Fixed Resource Requirement entity submits its first Fixed Resource Requirement Capacity Plan.¹⁶²

142. Finally, because Fixed Resource Requirement entities are subject to long planning horizons, multi-year plans, and state commission coordination, the Commission accepted PJM's proposal on the condition that PJM apply the Capacity Performance rules to Fixed Resource Requirement entities only after the conclusion of the Fixed Resource Requirement plans to which these entities are currently obligated as of the date of the Capacity Performance Order.¹⁶³

2. Requests for Rehearing

143. AEP contends that the Capacity Performance rule changes should not apply to Fixed Resource Requirement entities, which must make resource procurement and other decisions that require a long-term commitment of capital and sufficient lead times to secure regulatory approvals.¹⁶⁴ AEP argues that the Commission failed to consider that Fixed Resource Requirement entities reasonably relied on the preexisting Fixed Resource Requirement construct in making their long-term resource planning decisions. AEP disagrees with the Commission that subjecting Fixed Resource Requirement entities to lesser performance standards could undermine the purpose of PJM's Capacity Performance proposal, asserting that this conclusion is speculative and not based upon substantial evidence. AEP argues that it needs additional time to evaluate how the Capacity Performance rules will apply and to coordinate with the appropriate state utility commissions. Therefore, AEP requests that, if the Capacity Performance rules will apply to current Fixed Resource Requirement entities, such rules will not apply to these entities until the 2020-21 delivery year.¹⁶⁵

144. Duke Energy Kentucky and AEP contend that the Commission erred by not requiring PJM to allow Fixed Resource Requirement entities to elect either the physical

¹⁶² *Id.* P 210.

¹⁶³ *Id.* P 212.

¹⁶⁴ AEP Rehearing Request at 22-23 (citing Capacity Performance Order, 151 FERC ¶ 61,208 at P 204).

¹⁶⁵ AEP Rehearing Request at 23.

or the financial Non-Performance Charge at the time non-performance is assessed, rather than the start of the delivery year.¹⁶⁶ They assert that, absent this flexibility, the option to choose will not be meaningful. If a non-performance event occurs late in the delivery year, they explain, uncommitted capacity may be scarce and Fixed Resource Requirement entities have limited time to revise their plans for the upcoming delivery year. In this situation, Duke Energy Kentucky asserts, the only reasonable guard against the potential that a non-performance event could happen late in the delivery year is to select the financial penalty, essentially rendering the physical option non-viable.¹⁶⁷

145. AEP also argues that the Capacity Performance Order is unclear about how a Fixed Resource Requirement unit is treated when it over-performs under the physical non-performance assessment option.¹⁶⁸ AEP argues that such hours should be netted against the hours of under-performance for determining the net shortfall for the year. Absent such netting, AEP argues, there is no incentive for over-performance, even though the PJM system would realize the benefits of any over-performance.

146. RESA and the Illinois Commission argue that the Commission's endorsement of a phase-in of the Capacity Performance rules for Fixed Resource Requirement entities is unduly discriminatory. RESA argues that there are no factual differences that justify "exempting Fixed Resource Requirement entities from the transition mechanism,"¹⁶⁹ which creates an un-level playing field and gives Fixed Resource Requirement entities an anticompetitive advantage. RESA argues that the reliance interests of load serving entities and Fixed Resource Requirement entities are indistinguishable, as load serving entities relied on the long-term nature of the established forward capacity market and capacity auction prices when locking in prices with their residential customers or bidding in state wholesale procurement auctions.¹⁷⁰ Illinois Commission argues that a phase-in for Fixed Resource Requirement entities is unduly preferential to these entities' load, which will not be required to bear the likely increased cost of capacity resulting from the Transitional Incremental Auctions and subsequent Base Residual Auctions.¹⁷¹ The

¹⁶⁶ Duke Energy Kentucky Rehearing Request at 10; AEP Rehearing Request at 24.

¹⁶⁷ Duke Energy Kentucky Rehearing Request at 11.

¹⁶⁸ AEP Rehearing Request at 24.

¹⁶⁹ RESA Rehearing Request at 14.

¹⁷⁰ *Id.* at 15.

¹⁷¹ Illinois Commission Request for Rehearing at 11-14.

Illinois Commission argues that Fixed Resource Requirement entities will “not need to take any actions to upgrade their resource portfolios” for the delivery years subject to the Transition Incremental Auctions “or demonstrate that those portfolios reflect the percentage of Capacity Performance Resources that will be required of resources subject to the capacity auction requirements.”¹⁷²

147. Illinois Municipal Electric Agency requests the Commission clarify that the Capacity Performance rules would not apply to a Fixed Resource Requirement entity until after its current obligation to satisfy its capacity supply obligation through an Fixed Resource Requirement plan ends.¹⁷³ Illinois Municipal Electric Agency argues that the Commission’s directive in the Capacity Performance Order should be read to apply on a case-by-case basis depending on when a Fixed Resource Requirement entity submitted its initial, five-year Capacity Plan.¹⁷⁴

3. Commission Determination

148. We deny rehearing of the application of Capacity Performance requirements to Fixed Resource Requirement entities. These are entities who choose to forgo the RPM capacity auction for procuring capacity and instead agree to provide sufficient capacity to satisfy their resource requirement. For the PJM grid to remain reliable, these resources must be subject to the same performance requirements as all other resources and must make whatever investments are needed to ensure they can respond when required by PJM. Nothing about the preexisting capacity market rules excused a failure to perform. Under PJM’s preexisting capacity market construct, resources in a Fixed Resource Requirement plan and resources participating in the RPM capacity auctions were subject to the same performance-based penalties.¹⁷⁵ AEP points to nothing to demonstrate that resources in an Fixed Resource Requirement plan and RPM resources are no longer similarly situated for purposes of applying Non-Performance Charges. Section 205 of the FPA permits public utilities to propose revisions to tariffs even if those revisions may change a party’s expectation as long as the utility provides a reasonable explanation for

¹⁷² *Id.* at 12.

¹⁷³ Illinois Municipal Electric Agency Clarification Request at 2.

¹⁷⁴ *Id.* at 8.

¹⁷⁵ Capacity Performance Order, 151 FERC ¶ 61,208 at P 207 (citing PJM RAA at Schedule 8.1, section G).

the change.¹⁷⁶ In this case, PJM provided a reasonable explanation of the need to ensure that all capacity resources meet the new Capacity Performance requirements.

149. Moreover, the Commission took a balanced approach by not exempting the Fixed Resource Requirement entities from Non-Performance Charges, but delaying the implementation of these requirements until the Fixed Resource Requirement entity's Fixed Resource Requirement commitment expires. Because Fixed Resource Requirement entities are subject to long planning horizons and multi-year plans and must coordinate with state commissions in developing their Fixed Resource Requirement plans, the Commission found that a phase-in of the Capacity Performance rules for these entities is appropriate. Fixed Resource Requirement entities can therefore choose whether to continue in the Fixed Resource Requirement Alternative subject to the same penalties as all other capacity resources or to move to the RPM capacity auction, which may provide more flexibility.

150. We are also unpersuaded by RESA's and Illinois Commission's claims that providing a phase-in of the Capacity Performance requirements for Fixed Resource Requirement entities is unjust and unreasonable and unduly discriminatory. We disagree with RESA's assertion that Fixed Resource Requirement entities' interests are indistinguishable from those of load serving entities that have locked in prices with their residential customers or bid into state wholesale procurement auctions. As noted above, in the Capacity Performance Order, the Commission endorsed a phase-in of the Capacity Performance requirements for Fixed Resource Requirement entities because such entities are subject to long planning horizons and multi-year plans and they must coordinate with state commissions in developing their Fixed Resource Requirement plans. The Fixed Resource Requirement Alternative, which requires Fixed Resource Requirement entities to commit to a fixed forward capacity level, was developed to provide entities selecting the Fixed Resource Requirement Alternative with greater certainty and stability in its

¹⁷⁶ Courts have repeatedly held that an agency may alter its policies despite the absence of a change in circumstances. See *Motor Vehicle Mfrs. Ass'n of United States, Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 57 (1983) ("An agency's view of what is in the public interest may change, either with or without a change in circumstances.") (quoting *Greater Bos. Television Corp. v. FCC*, 444 F.2d 841, 852 (D.C. Cir.1970)); *N.J. Bd. of Pub. Utils. v. FERC*, 744 F.3d 74, 100 (2014) (rejecting claims that states relied on a past exemption where the Commission under section 206 of the FPA provided sufficient justification for the change); *PJM Interconnection, L.L.C.*, 150 FERC ¶ 61,020, at P 38 (2015) ("the fact that PJM runs a capacity market with three-year commitments does not freeze all changes to PJM's tariff for the three-year period covered by the auction").

forward capacity obligations.¹⁷⁷ A phase-in of the Capacity Performance requirements complements that purpose. Unlike load serving entities that participate in RPM, Fixed Resource Requirement entities are subject to a five-year commitment to fulfill their capacity obligation through the Fixed Resource Requirement Alternative. For each delivery year during this five-year commitment period, Fixed Resource Requirement entities must submit detailed, resource-specific plans that meet PJM's capacity and resource requirements. In addition, Fixed Resource Requirement entities must obtain state regulatory approvals in developing the resource portfolios that make up their Fixed Resource Requirement plans for this five-year period. This unique combination of obligations exists irrespective of any commitments such entities may make with respect to cost recovery at the state level.

151. Illinois Commission contends that a phase-in of the Capacity Performance requirements for Fixed Resource Requirement entities unduly discriminates against customers served through RPM because such customers must bear costs associated with the Capacity Performance requirements earlier. To the extent the phase-in for Fixed Resource Requirement entities leads to some customers temporarily bearing higher prices before others, it is just and reasonable in light of the benefits the phase-in provides.¹⁷⁸

152. In response to Illinois Municipal Electric Agency, we find that it is unnecessary to clarify that the Capacity Performance rules would not apply to a Fixed Resource Requirement entity until after its current obligation to satisfy its capacity supply obligation through an Fixed Resource Requirement plan ends. The Commission's intent was that the new requirements would apply to Fixed Resource Requirement entities after the conclusion of any ongoing five-year election to participate in the Fixed Resource Requirement Alternative, in other words, after the conclusion of any outstanding commitment to submit an annual Fixed Resource Requirement plan. As noted by Illinois Municipal Electric Agency, Fixed Resource Requirement entities select the Fixed Resource Requirement option for a minimum five-year term. The Commission conditioned its acceptance of PJM's proposal on PJM applying the Capacity Performance

¹⁷⁷ *PJM Interconnection, L.L.C.*, 126 FERC ¶ 61,275, at P 90 (2009) (2009 Capacity Auction Order).

¹⁷⁸ *See PJM Interconnection, L.L.C.*, 119 FERC ¶ 61,318, at P 84 (2007) (stating that the use of a transition mechanism is just and reasonable, even assuming *arguendo* that it would lead to price discrimination); *see id.* ("It is the nature of transitional mechanisms . . . that their purpose is to accomplish the transition from one compensation mechanism to another in a measured rather than an immediate manner."); *Cal. Indep. Sys. Operator Corp.*, 91 FERC ¶ 61,205, at 61,725 (2000), *order on reh'g*, 104 FERC ¶ 61,062 (2003).

rules to Fixed Resource Requirement entities only after the conclusion of the Fixed Resource Requirement plans to which these entities were obligated as of the date of the Capacity Performance Order. The Commission intended to allow entities that had elected to participate in the Fixed Resource Requirement Alternative for a five-year period to delay application of the Capacity Performance rules to until the conclusion of any remaining delivery years in that five-year period. While we deny clarification, we note that, in section III.B of this order, we address PJM's proposed compliance with the *Capacity Performance Order's* finding on the phase-in.

153. While AEP notes that Fixed Resource Requirement entities are permitted to net over-and under-performing resources within the same Performance Assessment Hour,¹⁷⁹ AEP requests that PJM allow such netting in determining a Fixed Resource Requirement entity's annual shortfall under the physical non-performance assessment option.¹⁸⁰ We find that it would not be just and reasonable to allow netting on an annual basis. The paramount objective of the Non-Performance Charge, and the physical non-performance assessment option, is to ensure that Capacity Performance Resources face adequate performance incentives. Allowing a Fixed Resource Requirement entity to offset under-performance during an emergency event with over-performance during a separate event would not send the correct signals. During the period in which the Fixed Resource Requirement entity under-performed, PJM would have needed to rely on other capacity resources to ensure that the Fixed Resource Requirement entity's load was served. The just and reasonable outcome in this scenario is for the next Fixed Resource Requirement plan to reflect additional Capacity Performance Resources, to ensure that the Fixed Resource Requirement entity's load will not need to lean on other resources in future emergency events.

154. We also deny AEP's and Duke's requests that the Commission direct PJM to allow Fixed Resource Requirement entities to select the financial or physical non-performance assessment option at the time non-performance is assessed. Allowing resources to choose which option applies to them in every instance of non-performance based on which option is more advantageous to them misses the point of including a physical assessment option, which is to provide a reasonable accommodation to the unique planning process of Fixed Resource Requirement entities. The requirement that those entities commit to one assessment method or the other for an entire delivery year is not rendered unjust and unreasonable simply because an entity may anticipate difficulties in procuring additional capacity and choose the financial over the physical non-performance assessment option to avoid that risk. The option to elect the financial or

¹⁷⁹ AEP Rehearing Request at 12 (citing PJM Manual 18 at 166).

¹⁸⁰ See AEP Request for Rehearing at 24.

physical non-performance assessment option is a choice, which each resource may make based on its own evaluation of the risks and rewards it can expect to face. We continue to find that allowing Fixed Resource Requirement entities to choose between the physical non-performance assessment option and the financial non-performance assessment option at the start of the relevant delivery year will allow a Fixed Resource Requirement entity a reasonable opportunity to make its decision based on the best information available.

G. Transition Mechanisms

1. Capacity Performance Order

155. In the Capacity Performance Order, the Commission accepted PJM's proposed transition mechanisms. The Commission found PJM's proposal to implement the transition to 100 percent Capacity Performance Resources over five years would allow resources to make gradual improvements and reduce the burdens such improvements may impose. The Commission also found that the mechanisms struck an appropriate balance between the costs associated with procuring Capacity Performance Resources throughout the transition period and the needed reliability improvements over that same period.¹⁸¹

156. Under the accepted proposal for delivery years 2016-17 and 2017-18, PJM would allow both resources with existing capacity commitments for the applicable delivery year and uncommitted resources to offer as Capacity Performance Resources in two Transition Incremental Auctions. A previously committed resource that clears in a Transition Incremental Auction will have its previous commitment and all associated payments replaced with the new Capacity Performance commitment and payments based on the Transition Incremental Auction clearing price. A previously committed resource that does not offer into or does not clear a Transition Incremental Auction will retain its previous commitment.

157. The Commission responded to comments from LS Power arguing that PJM should be required to sell back excess capacity in the event previously uncommitted resources are acquired through the Transition Incremental Auctions. The Commission explained that PJM's OATT already required PJM to sell back in the Incremental Auctions excess capacity should the load forecast be adjusted downward.¹⁸²

158. For the 2018-19 and 2019-20 delivery years, the Commission accepted PJM's proposal to limit procurement of Base Capacity Resources and Base Capacity Demand

¹⁸¹ Capacity Performance Order, 151 FERC ¶ 61,208 at P 253.

¹⁸² *Id.* P 254.

Resources—which are only subject to the Non-Performance Charges during summer months—using a Base Capacity Resource Constraint and a Base Capacity Demand Resource Constraint. The two constraints would limit procurement of Base Capacity Demand Resources to a quantity that increased the loss of load expectation by no more than 5 percent, and would limit procurement of Base Capacity Resources to a quantity that increase the loss of load expectation by no more than 10 percent.

2. Requests for Rehearing

159. The Illinois Commission states that, while the Commission was correct to allow previously uncommitted resources to participate in the Transition Incremental Auctions, it did not properly address the scenario where procurement of these resources results in PJM acquiring total capacity in excess of the reliability requirement. They state that the Commission's finding that PJM will sell back excess capacity in case of a reduced load forecast did not sufficiently address this concern. They request that the Commission grant rehearing and find that PJM should put in place a process to de-commit resources should the total amount of capacity acquired exceed the reliability requirement.

160. EMC argues that the Commission acted arbitrarily and capriciously in approving PJM's proposed methodology for determining the Base Capacity Resource Constraint. Specifically, EMC objects to PJM's assumption that Base Capacity generation resources will be available for all but a single week during the year. EMC notes that, in Docket No. ER11-2288, the Commission approved a proposal that assumed demand resources were unavailable when they faced no penalties for non-performance.¹⁸³ EMC asserts that the same methodology should be used to assess the reliability value of Base Capacity generation resources, Demand Resources, and Energy Efficiency resources, given that these resources are identically situated. Additionally, EMC requests that the Commission direct PJM to remove the Base Capacity Demand Resource Constraint for the auctions for the 2018-19 and 2019-20 delivery years and apply the Base Capacity Resource Constraint equally to Base Capacity Demand Resources, Base Capacity Energy Efficiency Resources, and Base Capacity generation resources.¹⁸⁴

161. The Pennsylvania/Delaware Commissions request rehearing arguing that the Commission failed to demonstrate that having 60-70 percent of resources provide Capacity Performance will improve reliability should the remaining resources fail to perform on a cold peak-winter day. They state that the Commission failed to explain why

¹⁸³ EMC Rehearing Request at 7 (referencing *PJM Interconnection, L.L.C.*, 134 FERC ¶ 61,066 (2011) (DR Product Alternatives Order)).

¹⁸⁴ DR Product Alternatives Order, 134 FERC ¶ 61,066.

consumers should risk substantially higher capacity costs without a corresponding guarantee that lower-performing committed generation resources will offer into the Transition Incremental Auctions and thus face a higher risk of Non-Performance Charges. The Pennsylvania/Delaware Commissions argue that the Commission did not fully address related arguments made by the Transition Coalition that capacity revenues from the Transition Incremental Auctions would accrue to resources who had already made performance-enhancing investments, which could result in these resources receiving unwarranted profits in a total range of \$2.5 billion to \$5 billion for the 2018-19 and 2019-20 delivery years. The Pennsylvania/Delaware Commissions also argue that the Commission did not address their alternative proposal to only procure incremental capacity after taking into account forecast updates, including after assessing existing resource performance improvements.

162. The DC/Maryland Commissions agree stating that the Commission did not properly respond to clear evidence that the majority of resources procured through the Transition Incremental Auctions have neither the time nor the need to make additional investments to achieve Capacity Performance capability. They state that these same resources will be largely impervious to the pay-for-performance penalty scheme. They conclude by arguing that the increased capacity costs will upset the certainty of state retail electric supply auctions which have already sought to lock in prices through late 2017 or even through late 2018.

163. RESA reiterates its argument that the Commission has engaged in retroactive ratemaking in accepting the Transition Incremental Auctions asserting that the auctions modify, without adequate notice, the filed rate for a given delivery year. RESA and Joint Consumers also apparently argue on rehearing that the Transition Incremental Auctions violate the filed rate doctrine by allowing PJM to retroactively modify the rules governing a prior auction.¹⁸⁵

3. Commission Determination

164. For the reasons discussed below, we deny rehearing of the Capacity Performance Order, regarding the Commission's acceptance of PJM's proposed transition mechanisms.

165. We disagree with the Illinois Commission that we must grant rehearing in this proceeding and direct PJM to propose market rules providing a process for selling back excess capacity procured through the Transition Incremental Auctions for the 2016-17

¹⁸⁵ RESA Request for Rehearing at 7-13; Joint Consumers Request for Rehearing at 23-24.

and 2017-18 delivery years. Subsequent to the Commission's issuance of the Capacity Performance Order and the Illinois Commission's submission of its rehearing request, PJM filed tariff revisions addressing the sell-back of excess capacity resulting from the Transition Incremental Auctions in Docket No. ER16-532-000. The Commission has already approved those proposed tariff revisions in that proceeding.¹⁸⁶

166. We deny EMC's request to remove the Base Capacity Demand Resource Constraint and apply only the Base Capacity Resource Constraint to all Base Capacity Resources, regardless of technology type. We disagree with EMC's assertion that Base Capacity generation resources and Base Capacity Demand and Energy Efficiency Resources are identically-situated and should therefore be treated identically for purposes of determining Base Capacity Constraints. As PJM explained in its initial filing, Base Capacity generation resources are obligated to respond any time of the year, although experience has shown that these resources may have performance issues during an extreme winter peak.¹⁸⁷ On the other hand, Base Capacity Demand and Energy Efficiency Resources are only expected to perform during summer months. Thus, if PJM commits too large a quantity of Base Capacity Demand and Energy Efficiency Resources, and too small a quantity of year-round resources, PJM could have insufficient year-round resources to manage an emergency arising outside the summer months.¹⁸⁸

167. We also disagree with EMC that PJM's assumption that Base Capacity generation resources will be available for all but the single peak winter week is inconsistent with the DR Product Alternatives Order. In that order, the Commission accepted PJM's proposal to assume, for purposes of calculating Extended Summer Demand Resource targets, that Extended Summer Demand Resources would be 100 percent available from May 1 through October 31 and unavailable from November 1 through April 30.¹⁸⁹ That order, however, did not speak to the appropriate treatment of limited-availability generation resources, which, in fact, are a class of resources that PJM did not introduce until the instant proceeding. PJM has demonstrated that its assumption that Base Capacity

¹⁸⁶ *PJM Interconnection, L.L.C.*, 154 FERC ¶ 61,095 (2016).

¹⁸⁷ PJM December 12, 2014 Capacity Markets Filing, Affidavit of Thomas A. Falin at 5. A generation capacity resource is required to offer into the energy market year-round, a requirement that does not apply to Demand Resources and Energy Efficiency Resources. *See* PJM Operating Agreement at Schedule 1, section 1.10.4(a)-(b).

¹⁸⁸ PJM Operating Agreement at Schedule 1, section 1.10.4(a)-(b).

¹⁸⁹ DR Product Alternatives Order, 134 FERC ¶ 61,066 at PP 59, 74.

generation resources will be available for all but a single peak winter week is appropriate because, as discussed above, such resources are obligated to perform year round, although experience has shown that they may have performance issues during an extreme winter peak.¹⁹⁰ We therefore find no inconsistency with the Commission's finding in this proceeding with respect to Base Capacity Resource Constraints.

168. We next consider the argument made by the Pennsylvania/Delaware Commissions and the DC/Maryland Commissions that the Transition Incremental Auctions, as proposed, will not improve reliability on peak winter days, while increasing costs for ratepayers without a corresponding guarantee that lower-performing resources will risk higher Non-Performance Charges. As the Commission found in the Capacity Performance Order, PJM's proposal is designed to address a concrete problem of resource non-performance through the establishment of performance incentives and a penalty structure that will improve overall reliability. Phasing in these same risks and rewards over the transition period per PJM's proposal is reasonable. Capacity Performance Resources accept greater risks from non-performance in exchange for the ability to better reflect in their capacity sell offers the costs associated with investments to improve their expected performance during critical periods. PJM's transition proposal simply encourages resources to take on these risks earlier, thereby creating benefits to the system earlier than if implementation were delayed until delivery year 2018-19.¹⁹¹

169. We also disagree with the Pennsylvania/Delaware Commissions that the increased payments will largely accrue to resources that have already made performance-enhancing investments, resulting in unwarranted profits. The reforms approved in the Capacity Performance Order will help ensure that resources are compensated for the reliability value that they provide during periods of system stress, a benefit that was not adequately incentivized under the prior capacity construct. In any event, we expect that most of the resources that clear in *any* capacity auction, be it for the preexisting capacity product or for the Capacity Performance product, will profit because these resources require less capacity revenue to provide the relevant capacity product than the marginal resource. We therefore disagree with the Pennsylvania/Delaware Commissions that resources requiring few, if any, upgrades to provide Capacity Performance are unwarranted in profiting from the Transition Incremental Auctions.

170. We also reject the Pennsylvania/Delaware Commissions' argument that factors—such as improved winter performance from gas units—are reasons to delay both PJM's

¹⁹⁰ PJM December 12, 2014 Capacity Markets Filing, Affidavit of Thomas A. Falin at 5.

¹⁹¹ Capacity Performance Order, 151 FERC ¶ 61,208 at P 257.

Capacity Performance reforms and the transition mechanism for a year. As previously stated, we find that the Capacity Performance proposal is a response to legitimate long-term reliability needs. While some resources may have already made certain improvements, we maintain our view that, absent market reforms, resource performance is likely to continue to decline in future delivery years, particularly given the current retirement trends in the region and the region's increasing reliance on natural gas as a fuel source.¹⁹² As to delaying the transition mechanisms, we restate our finding that it is just and reasonable for PJM to phase in the risks and rewards associated with Capacity Performance before full implementation. While resources may have made some improvements, and PJM has some additional programs in place, these mechanisms complement but do not provide a substitute for the transition mechanism at issue here.

171. We deny the DC/Maryland Commissions' request that we reject PJM's transition mechanisms, specifically the Transition Incremental Auctions, because they would upset the certainty of state retail electric auctions that have already sought to lock in prices for the upcoming delivery years. As the Commission found in the Capacity Performance Order, PJM's Incremental Auction process is already authorized to increase (or decrease) the MWs of resources committed to meet reliability needs for any individual delivery year. The last of the regularly scheduled Incremental Auctions is held only a few months before the start of the delivery year. This process already has the potential to result in increased capacity costs for a delivery year.¹⁹³ PJM's Base Residual Auction results therefore do not cap the cost of capacity for any given delivery year. PJM's Transition Incremental Auctions will similarly acquire Capacity Performance Resources to help meet PJM's reliability needs during the transition period.

172. RESA argued in its protest that the Transition Incremental Auctions violate the filed rate doctrine by upsetting load-serving entities' reliance on the results of the Base Residual Auction. On rehearing, RESA renews the filed rate doctrine argument, but no longer relies solely on the reliance argument; RESA argues that, irrespective of reliance, the transition auctions retroactively modify a rate on file by allowing a capacity resource that already cleared a previous RPM capacity auction for a delivery year to unilaterally withdraw from its prior capacity obligation for that delivery year and replace it with a new commitment. Joint Consumers similarly argue that the Transition Incremental Auctions constitute retroactive ratemaking because they allow capacity resources to rescind obligations entered in a prior Base Residual Auction. However, these arguments presuppose, inaccurately, that the Transition Incremental Auctions permit a capacity resource to withdraw its prior capacity obligation when undertaking incremental Capacity

¹⁹² *Id.* P 43.

¹⁹³ *Id.* P 261.

Performance Resource obligations. PJM's OATT revisions specify that "Capacity Resources that already cleared an RPM auction for a given [d]elivery [y]ear, retain the capacity obligations for that [d]elivery [y]ear, and clear in a Capacity Performance Transition Incremental Auction for the same [d]elivery [y]ear shall: (i) receive a payment equal to the Capacity Resource Clearing Price as established in that Capacity Performance Transition Incremental Auction; and (ii) not be eligible to receive a payment for clearing in any prior RPM Auction for that [d]elivery [y]ear."¹⁹⁴ Thus, in contrast to RESA's and Joint Consumers' assertion, the Transition Incremental Auctions do not permit a capacity resource to terminate and replace a prior obligation to supply capacity. Rather, these auctions permit capacity resources with existing obligations to participate in the Transition Incremental Auctions to upgrade their capacity obligations prospectively and, in turn, become eligible for a higher price.

173. As the Commission found in the Capacity Performance Order, the Transition Incremental Auctions do not "retroactively revise the rules upon which it conducted the original 2016-17 and 2017-18 [Base Residual Auctions]," but, rather, are prospective changes to PJM's OATT that "allow PJM to adjust the type and amount of resources needed to ensure reliability in the appropriate delivery year and to ensure that those resources are fairly compensated."¹⁹⁵ We continue to find that the Transition Incremental Auctions are prospective changes that allow capacity market sellers to assume additional Capacity Performance requirements for which the instant proceeding provided ratepayers sufficient notice.¹⁹⁶ As the Commission explained, "under RESA's view of the filed rate doctrine, the three-year forward nature of the capacity market would bar PJM from making any prospective improvements or adjustments affecting an already-conducted [Base Residual Auction], an outcome that is not consistent with Commission precedent and not mandated by the filed rate doctrine."¹⁹⁷

¹⁹⁴ PJM OATT at Attachment DD section 5.14D(4).

¹⁹⁵ Capacity Performance Order, 151 FERC ¶ 61,208 at P 261.

¹⁹⁶ *Id.* P 261 & nn. 214-15 (citing *Pub. Utils. Comm'n of Cal. v. FERC*, 988 F.2d 154, 160-61, 164 (D.C. Cir. 1993); *Natural Gas Clearinghouse v. FERC*, 965 F.2d 1066, 1075 (D.C. Cir. 1992); *Columbia Gas Transmission Corp. v. FERC*, 895 F.2d 791, 795, 797 (1990); *PJM Interconnection, L.L.C.*, 149 FERC ¶ 61,059, at P 18 (2014); *ISO New England Inc.*, 145 FERC ¶ 61,095, at P 28 (2013)).

¹⁹⁷ *Id.*

H. Market Power Mitigation

1. Default Offer Cap

a. Capacity Performance Order

174. In the Capacity Performance Order, the Commission accepted, subject to condition, PJM's proposal to set a default Capacity Performance Resource offer cap at the product of Net CONE and the average expected Balancing Ratio, B,¹⁹⁸ and to allow a resource with a higher avoidable cost rate to submit data supporting a unit-specific offer cap that details all Avoidable Cost Rate components, including a quantifiable risk premium.¹⁹⁹ The Commission explained that the default offer cap is just and reasonable because it reflects the amount that a competitive resource would accept in the capacity market.²⁰⁰

175. The Capacity Performance Order explained that the default offer cap is intended to reflect the opportunity cost that a resource faces when choosing whether to become a capacity resource. Specifically, a non-capacity resource earns Performance Bonus Payments on all energy and operating reserves it provides during Performance Assessment Hours. In contrast, a capacity resource only earns Performance Bonus Payments on any energy and operating reserves it provides during Performance Assessment Hours in excess of the Balancing Ratio times its committed capacity, and that bonus revenue is netted against any applicable Non-Performance Charges. Thus, the opportunity cost that the resource faces under PJM's Capacity Performance construct is the expected reduction in Performance Bonus Payments and/or increased Non-Performance Charges that a resource would experience by becoming a capacity resource rather than remaining a non-capacity resource. Assuming that the Performance Bonus Payment rate and the Non-Performance Charge rate (Net CONE divided by the number of Performance Assessment Hours in a delivery year) are equal, a resource's opportunity cost is therefore the product of the number of Performance Assessment Hours in a

¹⁹⁸ The Balancing Ratio, B, for a Performance Assessment Hour is the ratio of (i) the total amount of energy and ancillary services that PJM dispatches in the hour, to (ii) the total amount of capacity that PJM has procured for the corresponding delivery year.

¹⁹⁹ See Capacity Performance Order, 151 FERC ¶ 61,208 at PP 334-341.

²⁰⁰ *Id.* P 336.

delivery year, the Balancing Ratio, and the Non-Performance Charge rate. This product equals Net CONE times the Balancing Ratio.²⁰¹

b. Requests for Rehearing

176. Multiple parties argue that the default offer cap will allow market sellers improperly to exercise market power in the capacity market by permitting sellers to raise their offers to prices exceeding their marginal costs, likely leading to higher auction clearing prices.²⁰² They contend that, because only offers above the cap are subject to mitigation, the revised default offer cap will create a strong incentive for market sellers to offer at the default value. For example, Ohio Consumers' Counsel argues that PJM's revised default offer cap will "establish a safe harbor" for all offers below the offer cap. Public Citizen argues that the default offer cap is effectively deregulation of any rate at or below Net CONE times the Balancing Ratio and, as such, fails to protect ratepayers from excessive rates.

177. Some parties object to the Commission's use of the opportunity cost of an energy-only resource in determining the default offer cap for market sellers in the capacity market. Ohio Consumers' Counsel and Joint Consumers assert that the Commission's approval of PJM's offer cap proposal is an unwarranted and unexplained departure from the precedent of basing market power mitigation on the marginal cost of a resource. Ohio Consumers' Counsel argues that the Commission does not explain why it is appropriate to base the default offer cap on the foregone opportunity to earn Performance Bonus Payments as an energy-only resource "when the evidence indicates that resources will suffer little risk for the capacity auction penalty."²⁰³ Joint Consumers argues that PJM's capacity market must-offer rule renders any "opportunity cost conundrum" illusory.²⁰⁴

²⁰¹ Mathematically, the number of Performance Assessment Hours in a delivery year times the Balancing Ratio times the Non-Performance Charge rate is equal to the number of Performance Assessment Hours in a delivery year times the Balancing Ratio times [Net CONE divided by the number of Performance Assessment Hours in a delivery year], which is equal to the Balancing Ratio times Net CONE.

²⁰² APPA/NRECA Request for Rehearing at 22-23; Illinois Commission Request for Rehearing at 6-8; Ohio Consumers' Counsel Request for Rehearing at 25-26, 30; the DC/Maryland Commissions; Joint Parties Request for Rehearing at 19; the Pennsylvania/Delaware Commissions Request for Rehearing at 10-11; and Joint Consumers Request for Rehearing at 14-17.

²⁰³ Ohio Consumers' Counsel Request for Rehearing at 27-28.

²⁰⁴ Joint Consumers Request for Rehearing at 20.

The DC/Maryland Commissions also appear to question the opportunity cost assumption embedded in the default offer cap logic, contending that “[t]he assumption that [p]erformance [r]ewards will be sufficient to pay-out large payments to energy market participants is clearly false.”²⁰⁵

178. Parties also seek rehearing on the grounds that the inputs to the offer cap formula are flawed. Pennsylvania and Delaware Commissions and Joint Consumers object to the use of Net CONE in the formula, arguing that certain assumptions rooted in Net CONE, including the use of a combustion turbine as the reference unit, bear no proven relationship to actual market costs of capacity.²⁰⁶ The Pennsylvania/Delaware Commissions argue that the estimated number of Performance Assessment Hours used in the offer cap methodology is vastly overstated and that the default offer cap should be adjusted downward by assuming fewer Performance Assessment Hours.²⁰⁷ The Illinois Commission similarly argues that inconsistencies between the data and the time horizons used to determine the Non-Performance Charge rate and the Balancing Ratio used to calculate the default offer cap undermine the Commission’s finding that the default offer cap reflects an expected competitive offer from a Low ACR Resource.²⁰⁸

179. Some parties assert that PJM wrongly adopted a default offer cap primarily for administrative convenience, arguing that a default offer cap is unnecessary to achieve PJM’s goal of improved resource performance and grid reliability.²⁰⁹ APPA/NRECA objects that the Commission did not specifically analyze the costs and benefits of using a default offer cap. The Pennsylvania/Delaware Commissions request that all capacity market sellers be required to provide cost-based sell offer information to PJM and the Market Monitor, so that the Commission and state commissions can evaluate the cost-effectiveness of the approved changes.²¹⁰ Public Citizen similarly argues that the actual

²⁰⁵ DC/ Maryland Commissions Request for Rehearing at 10-11.

²⁰⁶ Pennsylvania/Delaware Commissions Request for Rehearing at 9.

²⁰⁷ *Id.*

²⁰⁸ Illinois Commission Request for Rehearing at 9-11 (objecting that the Commission erred by basing the number of Performance Assessment Hours for purposes of calculating the Non-Performance Charge on a “single-year possible outlier” while calculating the Balancing Ratio on a “rolling three-year average”).

²⁰⁹ APPA/NRECA Request for Rehearing at 22; Ohio Consumers’ Counsel Request for Rehearing at 29; and Joint Consumers.

²¹⁰ Pennsylvania/Delaware Commissions Request for Rehearing at 23-24.

rates resulting from PJM's capacity auction must be filed for Commission and public review.²¹¹ Ohio Consumers' Counsel argues that the Commission failed to explain how it can continue to enforce the anti-manipulation provisions in section 222 of the FPA for such offers.²¹²

180. AEP requests rehearing on the grounds that the Commission should require PJM to revise the default offer cap to include a new minimum offer price rule for Capacity Performance Resources, below which an offer would be subject to unit-specific review and the seller would have to provide assumptions and cost data to support the requested offer price. Similarly, Dayton/East Kentucky argues that the Commission should require a "safe harbor zone of reasonableness" bounded by a lower and upper threshold. AEP and Dayton/East Kentucky argue that, without such a rule, the competitive pressures of the capacity market encourage sellers to submit offers below the level necessary for resources to recover the investment costs of meeting the Capacity Performance requirements, resulting in artificially depressed prices.

181. Joint Parties contend that the Commission failed to address their specific concern that a market seller with a portfolio of resources in a Locational Deliverability Area with high supplier concentration may engage in economic withholding to artificially raise the market clearing price. Joint Parties argue that the Commission did not consider their proposed solution to permit only resources that must make substantial investment to qualify as Capacity Performance to submit coupled offers.²¹³

c. Commission Determination

182. For the reasons discussed below, we deny rehearing of the Capacity Performance Order regarding the Commission's conditional acceptance of PJM's default offer cap proposal.

183. Multiple parties argue that PJM's default offer cap will allow market sellers to submit offers above their marginal costs and thereby exercise market power to raise the market clearing price. We disagree. The goal of mitigation is to ensure that capacity

²¹¹ Public Citizen Request for Rehearing at 4-5 (citing *MCI Telecommunications Corp. v. AT&T*, 512 U.S. 218 (1994); *Maislin Industries U.S., Inc. v. Primary Steel, Inc.*, 497 U.S. 116 (1990); and *California ex rel. Harris v. FERC*, 784 F.3d 1267 (9th Cir. 2015)).

²¹² Ohio Consumers' Counsel Request for Rehearing at 30-31.

²¹³ Joint Parties Request for Rehearing at 20-21.

prices do not reflect the improper exercise of market power. Mitigation does not, and should not, protect consumers from actual capacity cost increases that are attributable to necessary investments that allow a capacity resource to participate in the capacity market, including relevant opportunity costs faced by said resource, or risks associated with that resource's participation.²¹⁴

184. In the Capacity Performance Order, the Commission accepted PJM's proposed Capacity Performance default offer cap on the grounds that it is based on a reasonable estimate of a low-end competitive offer, after accounting for all marginal costs, opportunity costs, and risks associated with assuming a Capacity Performance commitment.²¹⁵ The Commission therefore reasoned that "[a]ny Capacity Performance offer below the default offer cap can properly be deemed competitive[.]"²¹⁶ We affirm that finding. The default offer cap is derived from the competitive offer equation presented by PJM in its deficiency letter response. That equation properly accounts for all unit-specific costs and risks and all relevant system parameters that a rational seller would consider in determining a competitive offer as a Capacity Performance Resource. To arrive at the default offer cap value, PJM then set all unit-specific parameters in that equation to their lowest possible value of zero. The result is a reasonable estimate of a low-end competitive offer as a Capacity Performance Resource, and we continue to find that using that value as a default offer cap adequately protects against the exercise of supply-side market power in PJM's capacity market. We note that our acceptance of PJM's offer cap rule changes does not indicate that we expect every sell offer made into the revised capacity market to be at or above the default offer cap. Capacity sellers may incorporate differing assumptions or other, non-market considerations in formulating their offers. We also note that the Market Monitor originally proposed, and supports, this default offer cap methodology in this proceeding.

185. We disagree with those parties asserting that the Commission erred by accepting a default offer cap and offer review methodology that accounts for the opportunity cost of a resource's participating in PJM as an energy-only resource. As explained above, an appropriate competitive offer includes all of the marginal and opportunity costs a resource faces to participate in the capacity market. A market seller's opportunity cost of participating as an energy-only resource reflects the seller's point of indifference between

²¹⁴ See *PJM Interconnection, L.L.C.*, 119 FERC ¶ 61,318 (2007).

²¹⁵ Capacity Performance Order, 151 FERC ¶ 61,208 at P 336 ("The default offer cap that PJM proposes as part of its Revised Offer Cap reflects the amount that a competitive resource with low avoidable costs... would accept in the capacity market.).

²¹⁶ *Id.* P 340.

offering in the capacity market and participating as an energy-only resource. The opportunity cost facing a resource that would be profitable even absent capacity auction revenues (referred to as a Low ACR Resource in the Capacity Performance Order) is significant because it reflects the economic trade-off a rational market seller considers when formulating its capacity market offer. In order to accept a capacity obligation, a competitive resource would require that the capacity payment exceed the opportunity cost of participating in the energy market only. Under PJM's Capacity Performance construct, this capacity payment is reasonably represented by the Performance Bonus Payment rate times the Balancing Ratio times the expected number of Performance Assessment Hours, as the Commission explained in the Capacity Performance Order.²¹⁷ We therefore continue to find that consideration of opportunity cost in deriving a default offer cap and in reviewing sell offers above the default offer cap is just and reasonable because it is a legitimate consideration in formulating a competitive offer within the Capacity Performance design.

186. Some parties argue that the Commission erred by limiting unit-specific review to offers above the default offer cap. We disagree. Applying PJM's competitive offer equation to any resource whose expected Performance Bonus Payments exceed their expected going-forward costs (a Low ACR Resource) will yield an offer cap equal to the default offer cap. It would therefore be redundant and unnecessary for PJM and the Market Monitor to conduct a unit-specific review of sell offers at or below the default offer cap.

187. Ohio Consumers' Counsel and Joint Consumers argue that the Commission failed to justify its acceptance of modified mitigation rules in light of precedent basing market power mitigation on the marginal cost of a resource. We disagree. As discussed above, the Commission determined in the Capacity Performance Order that PJM's proposed default offer cap based on the competitive offer equation is just and reasonable because it represents a reasonable approximation of a competitive offer in PJM's capacity market under the new Capacity Performance market rules.²¹⁸ This is consistent with Commission precedent in PJM, where the Commission has stated that a proper default offer should reflect what a competitive seller would offer.²¹⁹ Further, it is reasonable for

²¹⁷ This applies only under a simplifying assumption that the Non-Performance Charge rate and Performance Bonus Payment rate are equal, but, as discussed below, we find that assumption to be reasonable.

²¹⁸ Capacity Performance Order, 151 FERC ¶ 61,208 at PP 336-338. *See also* ISO-NE Pay for Performance Rehearing Order, 153 FERC ¶ 61,223 at P 102.

²¹⁹ *PJM Interconnection, L.L.C.*, 119 FERC ¶ 61,318 at P 151.

PJM to revise its preexisting unit-specific Avoidable Cost Rate based offer cap in light of the fact that market sellers offering capacity possess varying risk-profiles and face different trade-offs under PJM's revised Capacity Performance market rules. As the Commission explained in the Capacity Performance Order, "given the redefined capacity product PJM proposes, it is reasonable to allow capacity sellers to factor[]into their offers the costs and risks associated with assuming the redefined capacity obligation."²²⁰ Under PJM's Capacity Performance market rules, market sellers take on new obligations and risks and obtain additional sources of revenue through Performance Bonus Payments, all of which must be considered in fashioning appropriate mitigation rules. PJM's default offer cap affords market sellers flexibility to evaluate the additional costs and risks they face from offering into the revised capacity market, consistent with the principle that market sellers bear responsibility for resource performance.

188. Similarly, we reject the Ohio Consumer Counsel's argument that the market mitigation rules will not allow the Commission to fulfill section 222 of the FPA's anti-manipulation requirement. As stated before, the unit-specific offer cap approximates how a competitive offer may be made. Under PJM's old rules, the opportunity cost a resource faced was based on its net going-forward costs. The Capacity Performance design with its increased Non-Performance Charges and Performance Bonus Payments has changed the opportunity costs facing supply inside PJM. This means that some resources will require capacity revenues above their net going-forward costs to take on a Capacity Performance commitment. Accounting for these resources' opportunity costs in calculating the default offer cap does not necessarily provide an opportunity for market manipulation, but is instead consistent with other Commission-approved methods of calculating cost-based offers. For example, Section 6.7(d) of Attachment DD of PJM's OATT states that a resource may seek to increase its offer cap should it be able to document the price it may receive as a generation resource in a market external to PJM. However, we note that nothing in this order limits the authority of the Commission to pursue specific instances of potential manipulation within Commission-jurisdictional markets.

189. The Commission's finding is also consistent with the Commission's findings in ISO-NE Pay for Performance Order, where the Commission accepted a similar mitigation proposal and explained that "ISO-NE's proposal allows each company to evaluate its risks using its own methodology, rather than following a single methodology dictated by the Internal Market Monitor, because calculating risk is more complex under ISO-NE's proposal than under the existing [Forward Capacity Market] rules."²²¹ There, the

²²⁰ Capacity Performance Order, 151 FERC ¶ 61,208 at P 344.

²²¹ ISO-NE Pay for Performance Order, 147 FERC ¶ 61,172 at P 96.

Commission reiterated that such an approach “is appropriate given the complexity and company-specific nature of valuing performance risk.”²²²

190. Rehearing requesters also challenge the inputs into the formula for determining the default offer cap. The Illinois Commission, Pennsylvania/Delaware Commissions, and Joint Consumers contend that the inputs to the offer cap formula are flawed. Pennsylvania/Delaware Commissions’ and Joint Consumers’ argue that Net CONE has no proven relationship to actual market costs of capacity. As explained earlier, the Commission has consistently found Net CONE to be a just and reasonable method of determining capacity costs since Net CONE represents the long term cost of capacity.²²³ Moreover, as long as Net CONE is used to determine the formula for determining Non-Performance Charges, it needs to be included in the calculation of the default offer cap.

191. We similarly disagree with the Illinois Commission and the Pennsylvania/Delaware Commissions that perceived flaws in the Non-Performance Charge rate, which is an input to the default offer cap, render the default offer cap unjust and unreasonable. The Commission explained in the Capacity Performance Order how the simplifying assumptions used to calculate the default offer cap are reasonable.²²⁴

192. We do not see a benefit in requiring PJM to have an ongoing reporting requirement as requested by Public Citizen. The PJM IMM provides information on the performance of all markets in its state of the market report and we do not find that additional on-going reports are necessary to render the proposal to be just and reasonable.

193. We deny the Pennsylvania/Delaware Commissions’ rehearing request that capacity sellers provide cost-based information to PJM and the Market Monitor even if their offers are below the default offer cap. As indicated earlier, the default offer cap is based on a reasonable approximation of forgone Performance Bonus Payments by a resource deciding to participate in the capacity market. Having found it just and reasonable for PJM to establish that default offer cap, below which it will not review sell offers, we find it unnecessary to require PJM to collect data for offers below that cap. PJM and the Market Monitor can consider based on future market conditions whether elements of this calculation should be revised.

²²² *Id.*

²²³ Capacity Performance Order, 151 FERC ¶ 61,208 at PP 159-161. *See also* ISO-NE Pay for Performance Order, 147 FERC ¶ 61,172 at P 74.

²²⁴ Capacity Performance Order, 151 FERC ¶ 61,208 at PP 342-343.

194. We disagree with AEP and Dayton/East Kentucky that PJM's revised default offer cap rules will discourage resources from undertaking performance-improving investments absent a minimum offer price rule and, therefore, deny rehearing on this issue. To the contrary, the market forces underlying PJM's revised capacity market construct create incentives for a resource to make investments to further improve its availability, because doing so will reduce the risk of incurring substantial Non-Performance Charges. As the Commission explained in the *Capacity Performance Order*, a Low ACR Resource would have strong incentives to further improve availability because it could increase its profits without reducing its offer price. This similarly may be the case for High ACR Resources, even where investing results in a lower net cost and a lower offer cap, because the benefits to the resource resulting from its cost reductions may outweigh any reduction in the revenues received by its fleet resulting from lower capacity market prices. As the Commission explained and we continue to find, if a marginal High ACR Resource is located on a flat portion of the supply curve, the resulting cost reductions may remove it from its marginal position on the supply curve and its costs and its offer price could fall by more than the fall in the capacity clearing price.²²⁵

195. AEP and Dayton/East Kentucky reiterate their proposal for an alternative minimum offer price rule (MOPR). But this issue is beyond the scope of this filing. PJM's MOPR establishes offer price floors for certain new resources that enter the market, in order to mitigate buyer-side market power. PJM does not propose to change its MOPR rules in this FPA section 205 proceeding and, therefore, we will not address this issue.

196. We deny Joint Parties' argument that capacity market sellers with a large portfolio of resources inside a Locational Deliverability Area with high supplier concentration may engage in economic withholding through coupled offers. Through the transition period, all resources which are Capacity Performance capable are required to offer in as Capacity Performance Resources, and their offers as Capacity Performance Resources are subject to an offer cap. Joint Parties' concern is that a seller could potentially offer in a resource using a coupled offer with a very low price attached to the Base Capacity portion of its offer in the hopes that this would result in the resource being selected as a Base Capacity resource, creating a higher Capacity Performance clearing price for its other resources. We do not share this concern. PJM's auction clearing algorithm has demonstrated its ability to acquire multiple products at the lowest overall cost. A resource seeking to "withhold" by making a coupled offer with a low Base Capacity price would only be

²²⁵ *Id.* P 347.

selected as Base Capacity if doing so would reduce the overall cost of capacity in the region.

2. **Risk Premium**

a. **Capacity Performance Order**

197. In the Capacity Performance Order, the Commission accepted PJM's proposed revisions to the Avoidable Cost Rate formula to include Capacity Performance Quantifiable Risk, subject to condition.²²⁶ The Commission explained that the revised Avoidable Cost Rate methodology will properly allow capacity resources to reflect their estimates of physical and capital costs needed to remain in service or improve peak-hour availability or operating flexibility to ensure performance during emergency operations, some of which were not reflected in the preexisting Avoidable Cost Rate calculation. However, the Commission found that PJM's proposed definition of Capacity Performance Quantifiable Risk was too narrow and directed PJM to revise this definition to permit resources to include quantifiable and reasonably-supported risks in their Avoidable Cost Rate.

198. The Commission also found that Base Capacity Resources may include in their offers quantifiable and reasonably-supported risks of taking on a Base Capacity commitment.²²⁷ The Commission explained that, within the new market design, Base Capacity Resources face enhanced performance requirements, and it is reasonable to afford such resources an opportunity to reflect the risks associated with the new compliance obligations in their sell offers.

b. **Requests for Rehearing**

199. Some parties argue that the Capacity Performance Quantifiable Risk component of the Avoidable Cost Rate should be expanded to include additional risks while others assert that the risk component should be more circumscribed. P3 argues that the provision governing Capacity Performance Quantifiable Risk should enumerate specific energy-market related risks, for example, unit outage risk, volatility risk, and liquidity risk. Exelon agrees, contending that the forward nature of the capacity market exposes capacity market sellers to numerous risks related to energy market participation that should be permissible in the Capacity Performance Quantifiable Risk – in particular, the risk that market sellers may not, in actuality, recover the energy and ancillary services

²²⁶ *Id.* P 353; *see* PJM OATT at Attachment DD, section 6.8.

²²⁷ Capacity Performance Order, 151 FERC ¶ 61,208 at P 353.

revenues they assumed when developing capacity sell offers. For example, Exelon states, volatile energy prices present a significant commercial risk to resources that expect to recover a substantial percentage of their going-forward costs from the energy markets.²²⁸

200. Ohio Consumers' Counsel, on the other hand, argues that the Commission erred by allowing market sellers to include a "risk premium for incurrence of Non-Performance Charges," because this allowance "will simply transfer to load the risk of under-performing resources."²²⁹ The Market Monitor asserts that the Capacity Performance Quantifiable Risk is only intended to cover the risk that a resource may lose more than its capacity auction revenue through application of the Non-Performance Charge.²³⁰ The Market Monitor also argues that the Commission erred by finding that the risk premium a market seller includes in its capacity market offer may be reasonably supported and quantifiable rather than documented and quantifiable and, thus, removing the requirement that capacity sellers provide documentation to support a risk premium in their offers.²³¹

201. The Market Monitor and Ohio Consumers' Counsel further assert that Base Capacity Resources should not be permitted to include a risk premium in their sell offers. The Market Monitor argues that the purpose of the risk premium is to cover the risk that a resource may be required to pay Non-Performance Charges exceeding its annual capacity market revenue. In contrast to Capacity Performance Resources, Base Capacity Resources can never be penalized more than their total capacity auction revenue for a given year, the Market Monitor states.²³² Ohio Consumers' Counsel reasons that allowing Base Capacity Resources to include a risk premium is unwarranted, because "[t]here is no guarantee that such resource will invest in the improvements needed to qualify for Capacity Performance."²³³

²²⁸ See P3 Request for Rehearing at 5-7; Exelon Request for Rehearing at 16-19.

²²⁹ Ohio Consumers' Counsel Request for Rehearing at 29-30.

²³⁰ Market Monitor Request for Rehearing at 7.

²³¹ *Id.* at 7-8.

²³² *Id.* at 6-7.

²³³ Ohio Consumers' Counsel Request for Rehearing at 30.

c. Commission Determination

202. For the reasons discussed below, we deny rehearing of the Capacity Performance Order, regarding the Commission's conditional acceptance of PJM's Capacity Performance Quantifiable Risk premium proposal.

203. Exelon and P3 assert that the Capacity Performance Quantifiable Risk component of the Avoidable Cost Rate should be expanded to include specific energy-market related risks. While we agree that capacity suppliers face other risks, such as those associated with volatile energy prices, these risks should not be an element of a cost-justified offer under PJM's revised Capacity Performance market rules. As the Commission found in the Capacity Performance Order, the Capacity Performance Quantifiable Risk component allows capacity market sellers to include in their capacity offers "the cost of becoming a capacity resource under the new capacity market construct," namely their expected risk associated with the submission of a capacity offer in the revised capacity market construct. It was not intended to permit market sellers to include all market risks a capacity resource faces from participating in PJM's markets, for example energy market-related risks that are not new to the Capacity Performance construct.

204. Nevertheless, we disagree with the Market Monitor's assertion that such a risk component is intended solely to cover the risk that a resource may lose more than its capacity auction revenues. We reiterate that the Capacity Performance Quantifiable Risk was intended to allow market sellers to include in their offers the risks associated with offering as a capacity resource under the new capacity market construct, and we continue to find this approach just and reasonable. The risk that market sellers face from offering capacity resources under the new capacity market construct requires a complex calculation that depends on the company-specific nature of valuing performance risk and may expand beyond the risk that a resource is subject to Non-Performance Charges in excess of its capacity auction revenue. For that reason, we are unpersuaded by the Market Monitor's assertion that the Commission erred by allowing such risk to be included if quantifiable and reasonably-supported, rather than documented, and deny rehearing of this issue. Further, Base Capacity Resources, like Capacity Performance Resources, may face these additional risks, because they, too, are subject to enhanced performance requirements under the revised capacity market construct. We therefore deny rehearing of the Commission's decision to allow resources that offer as Base Capacity to include the Capacity Performance Quantifiable Risk component in their offers.

3. Must-Offer Requirement

a. Capacity Performance Order

205. In the Capacity Performance Order, the Commission accepted PJM's proposal to apply the must-offer requirement to prospective and established Capacity Performance

Resources, subject to condition. The Commission explained that the use of a must-offer requirement is both consistent with established capacity market practice and necessary to safeguard against manipulation in the PJM capacity market.

206. The Commission also accepted PJM's proposal to provide two mechanisms through which a resource would not be subject to the Capacity Performance must-offer requirement. The Commission found that, in the context of the PJM market, PJM's proposed mechanisms are reasonable and sufficiently narrow to prevent withholding. Specifically, the Commission accepted PJM's proposal to provide a categorical exemption from the must-offer requirements for Intermittent Resources, Capacity Storage Resources, Demand Resources, and Energy Efficiency Resources. The Commission also accepted PJM's proposal to adopt a must-offer exception process, through which an individual resource may seek an exception if it demonstrates that it is reasonably expected to be physically incapable of satisfying the requirements of a Capacity Performance Resource for the delivery year.

207. The Commission explained that a resource may seek an exception under the must-offer exception process to the extent the resource cannot make the physical adjustments necessary to become a Capacity Performance Resource. Further, the Commission explained, if a resource finds it too expensive to invest in necessary changes, it can submit a coupled offer with the costs of any necessary investments reflected in the resource's Capacity Performance offer. Given that allowing a resource to split its offer creates an opportunity for economic withholding, the Commission continued to find that it is appropriate that PJM have the opportunity to approve such requests.

b. Requests for Rehearing

208. Joint Parties contend that the Commission did not address their concern that PJM's proposed exception to the Capacity Performance Resource must-offer requirement for resources that are physically incapable of satisfying the Capacity Performance requirements is unreasonably vague.²³⁴ Joint Parties request that the Commission direct PJM to clarify that "physically incapable" includes actual Commission-approved pipeline tariff restrictions that affect unit availability in conjunction with a recent history of

²³⁴ Joint Parties Request for Rehearing at 21-23 & n.50; *see also* PJM OATT at Attachment DD, section 6.6A(a) (providing that, beginning with the 2018-19 delivery year, "the installed capacity of every Generation Capacity Resource located in the PJM Region that is capable (or that reasonably can become capable) of qualifying as a Capacity Performance Resource shall be offered as a Capacity Performance Resource," subject to applicable EFORd and Unforced Capacity determinations and an exceptions process).

restricted operation. Joint Parties argue that PJM should consider whether further changes to the exceptions process are warranted, given that a market seller has “no choice” but to obligate itself to meeting “the very requirements of [Capacity Performance] Resources which it already will have determined are unachievable,” if PJM denies the seller’s exception request.²³⁵

c. Commission Determination

209. Joint Parties request that the Commission clarify PJM’s must-offer exception, specifically with respect to the exception available to resources which demonstrate that they are reasonably expected to be physically incapable of satisfying the requirements of a Capacity Performance Resource. We deny rehearing of the Capacity Performance Order, and affirm the Commission’s acceptance of PJM’s proposal to apply the must-offer requirement to prospective and established Capacity Performance Resources, subject to condition. We find that that this exceptions process is reasonable because it provides PJM an ability to require resources to participate in the capacity auction while allowing a reasonable exception for resources that are physically unable to participate. We find that these exceptions provide reasonable protection from physical withholding of resources with the capability to meet the region’s needs for resources that are capable of performing during emergencies.

210. While Joint Parties suggest that this exception is too vague and may lead to limited exemptions, we find such concerns to be speculative. Under this standard, the term “physically incapable,” should not be construed to operate as an economic feasibility test, but rather will be limited to a resource that requires capital improvements, or new fuel delivery infrastructure, that cannot be arranged, permitted, and completed in advance of the relevant delivery year.²³⁶ To the extent a market participant disagrees with PJM’s determination, it may follow the procedures within PJM’s tariff to resolve the dispute.

I. Credit Requirements

1. Capacity Performance Order

211. The Commission accepted PJM’s proposal to increase its credit requirements, as reflected in the Auction Credit Rate,²³⁷ commensurate with a Capacity Performance

²³⁵ Joint Parties Request for Rehearing at 22.

²³⁶ Capacity Performance Order, 151 FERC ¶ 61,208 at P 268.

²³⁷ See PJM OATT at Attachment Q, section IV.D.

Resources' increased cost exposure.²³⁸ The Commission also accepted PJM's revised proposal, as set forth in its answer, to (i) utilize Net CONE in its credit calculations for the relevant Locational Deliverability Area, where applicable, rather than the Net CONE for the PJM Region as a whole;²³⁹ and (ii) reduce its credit requirements for planned resources and financed resources, as these projects near a timely in-service date.²⁴⁰ The Commission found that PJM's Auction Rate Credit, as revised, reasonably balances the interests of market participants, by not raising costs to an unreasonable level, while protecting market participants from the risks attributable to a project default.²⁴¹

212. The Commission also rejected EMC's argument that PJM's revised credit requirements would unduly discriminate against Energy Efficiency Resources relative to other resource types, to the extent that PJM treats an Energy Efficiency Resource as a planned resource. The Commission agreed with PJM that PJM's proposed credit requirements will apply equally to all resource types, including all planned resources, and that planned resources, as a class, represent a materially greater risk of non-performance than an existing resource.²⁴²

²³⁸ Capacity Performance Order, 151 FERC ¶ 61,208 at PP 378-379.

²³⁹ *Id.* P 383.

²⁴⁰ *Id.* P 382. As conditionally accepted by the Commission, the Auction Credit Rate for sellers seeking to submit offers for a Capacity Performance Resource will be based on the greater of (i) 0.5 times the Net CONE for the relevant Locational Deliverability Area for relevant delivery year; or (ii) \$20/MW-day times the number of days in that delivery year. With respect to the period following the posting of the Base Residual Auction results, the Auction Credit Rate for Capacity Performance Resources will be the number of days in the delivery year times the greater of (i) \$20/MW-day; or (ii) 0.2 times the capacity resource clearing price, in MW-day; or (iii) the lesser of 0.5 times Net CONE, or 1.5 times Net CONE (stated on an installed capacity basis) minus the applicable capacity resource clearing price for the resource, in MW-day. With respect to a Capacity Performance Resource that has not previously been committed for a delivery year and that a seller seeks to offer in an Incremental Auction, the Auction Credit Rate will be greater of (i) 0.5 times Net CONE or (ii) \$20/MW-day, times the number of days in such delivery year. *Id.*

²⁴¹ *Id.* P 379.

²⁴² *Id.* P 380.

2. Requests for Rehearing

213. EMC renews its argument on rehearing that PJM's credit requirements will unduly discriminate against Energy Efficiency Resources to the extent these resources are treated as a planned resource. EMC argues that the Commission's finding assumes that one credit requirement will apply to existing resources and another higher credit requirement will apply to planned resources. EMC asserts, however, that the Auction Credit Rate applies only to planned resources.²⁴³ EMC also characterizes as unsupported the Commission's finding that the risk of non-performance is higher for a planned resource relative to existing resources.²⁴⁴

214. The Pennsylvania/Delaware Commissions argue that PJM failed to support its proposed increase in its previously-effective credit requirements.²⁴⁵ The Pennsylvania/Delaware Commissions assert that this increase will be significant and could operate as a barrier to entry, based on the following example: (i) an inflation rate of 3 percent, as applied to a Base Residual Auction region-wide clearing price of \$120; and (ii) 0.5 times the Net CONE for the relevant Locational Deliverability Area, or here, \$276.60, as represented by the 2018-19 Pennsylvania Locational Deliverability Area. The Pennsylvania/Delaware Commissions assert that, using these variables, PJM's Auction Credit Rate would be \$138.30 per MW/d times the days in the delivery year, versus a previously effective rate of \$24.70 per MW/d times the days in the delivery year, representing a 459 percent increase.

3. Commission Determination

215. For the reasons discussed below, we deny rehearing of the Capacity Performance Order, regarding the Commission's conditional acceptance of PJM's proposed credit requirements, as applicable to a planned resource.

216. We reject EMC's renewed undue discrimination claim for the reasons discussed in the Capacity Performance Order. As summarized above, PJM's revised credit requirements apply to a planned resource, i.e., to a resource that does not yet exist as of the date it clears in PJM's Base Residual Auction. As the Commission found in the Capacity Performance Order, and we reaffirm here, PJM's revised credit requirements do not unduly discriminate against Energy Efficiency Resources given that PJM's

²⁴³ EMC Request for Rehearing at 3-5.

²⁴⁴ *Id.* at 5-6.

²⁴⁵ Pennsylvania/Delaware Commissions Request for Rehearing at 11-12.

requirements apply equally to all planned resources, including planned Energy Efficiency Resources, and given that planned resources, as a class, are distinguishable from an existing resource. Specifically, because there is an inherent risk that a planned resource will not achieve commercial operation by the delivery year, we continue to find it just and reasonable for PJM to assume a higher risk of non-performance for planned resources versus existing resources. A given seller's prior history could also be a relevant consideration, as EMC suggests, but we disagree that it is a necessary consideration.

217. We also reject the Pennsylvania/Delaware Commissions' argument that PJM's increased credit requirements have not been supported and may operate as a barrier to entry for planned resources. We acknowledge that, under PJM's tariff revisions, credit requirements for a planned resource will rise on a scaled basis based on the Locational Deliverability Area at issue and project milestones. Petitioners, however, do not suggest that these credit requirements are not reasonably tied to the underlying risk of non-performance, or otherwise address the funding PJM will require in the event it must procure replacement capacity on short notice to maintain system reliability. Nor have petitioners demonstrated that these requirements will impose unreasonable cost burdens on a planned resource, as balanced against the countervailing needs cited by PJM. In fact, as a planned resource transitions through the various stages of development, its credit obligations—under PJM's revised mechanism—will decline. Finally, petitioners' claims that these credit requirements will operate as a barrier to entry are speculative and unsupported.

J. Short-Term Resource Procurement

1. Capacity Performance Order

218. In the Capacity Performance Order, the Commission accepted PJM's proposal to eliminate an existing OATT provision (Holdback Requirement), requiring PJM to (i) reduce by 2.5 percent (or "hold back") the amount of capacity procured in its Base Residual Auction, and (ii) increase, by a corresponding amount, the amount of capacity procured closer in time to the relevant delivery year in PJM's Incremental Auctions.²⁴⁶ The Commission found that, given the three-year forward design of PJM's capacity market, it was not unjust and unreasonable to apply a single set of rules to all resources.²⁴⁷ The Commission also agreed with PJM that the elimination of the Holdback

²⁴⁶ See PJM OATT at Attachment DD, sections 2.69A, 5.4(c)(2)(i), 5.10(a), and 5.12(a) and (b).

²⁴⁷ Capacity Performance Order, 151 FERC ¶ 61,208 at P 394.

Requirement will promote enhanced reliability by ensuring that PJM has obtained committed capacity and is not reliant on short-term procurement.²⁴⁸

219. The Commission also agreed that the three-year lead time element associated with PJM's annual Base Residual Auctions has not impeded the ability of most resources (including Demand Resources, Energy Efficiency Resources, generation uprates, or external resources) to participate in these auctions.²⁴⁹ The Commission also found that the Holdback Requirement was not necessary to address load forecast errors. The Commission noted that stakeholders have discussed these issues, including proposed modeling changes, with PJM's recently adopted load forecast adjustments.²⁵⁰ Finally, with respect to Demand Resources, the Commission found that any added participation levels attributable to retaining the Holdback Requirement will not outweigh the economic efficiency benefit of no longer withholding demand from the Base Residual Auction, an action that can suppress market clearing prices.²⁵¹

2. Requests for Rehearing

220. Joint Parties argue that a settlement agreement bars elimination of the Holdback Requirement without a public interest finding.²⁵² Specifically, Joint Parties assert that the 2009 Capacity Auction Order approved the Holdback Requirement as part of a settlement, barring the Commission from abrogating the terms of that approval absent a public interest showing.²⁵³

²⁴⁸ *Id.*

²⁴⁹ *Id.* P 395.

²⁵⁰ *Id.* P 396.

²⁵¹ *Id.* P 397.

²⁵² Joint Parties Request for Rehearing at 27 (citing 2009 Capacity Auction Order, 126 FERC ¶ 61,275 at P 83 (2009)).

²⁵³ See *United Gas Pipe Line Co. v. Mobile Gas Serv. Corp.*, 350 U.S. 332 (1956) and *Federal Power Commission v. Sierra Pacific Power Co.*, 350 U.S. 348 (1956), as clarified in *Morgan Stanley Capital Group, Inc. v. Public Util. Dist. No. 1 of Snohomish County, Washington*, 554 U.S. 527 (2008) and refined in *NRG Power Mktg. v. Maine Pub. Utils. Comm'n*, 130 S. Ct. 693, 700 (2010).

221. Joint Parties, the Illinois Commission, and the Pennsylvania/Delaware Commissions challenge the Commission's finding that the elimination of the Holdback Requirement will help promote reliability by ensuring that PJM will obtain the committed capacity it requires in its Base Residual Auction.²⁵⁴ The Illinois Commission argues that reliability can be equally threatened when PJM procures capacity in its Base Residual Auction, i.e., when the interval between commitment and delivery is extended to a three-year period, thus expanding the range of things that can go wrong. The Pennsylvania/Delaware Commissions argue that neither PJM nor the Commission relied on any evidence that Demand Resources have ever failed to meet their in-service obligations, or that PJM has ever been short in meeting its reliability requirement. Joint Parties add that eliminating the Holdback Requirement will not contribute to an improvement in the operational performance of the resources PJM procures, but will put an undue upward pressure on capacity auction clearing prices, providing a windfall to resources that already have the ability to perform.

222. The Pennsylvania/Delaware Commissions challenge the Commission's finding that, given the three-year forward design of PJM's capacity market, "we do not find unjust and unreasonable the application of the same rules to all resources."²⁵⁵ The Pennsylvania/Delaware Commissions assert that resources are and must be treated differently, based on their operating parameters, start-up windows, and other considerations. Petitioners add that requiring Demand Resources to bid three years in advance is both costly and unnecessary because Demand Resources can be developed within a shorter time frame and certain commercial and industrial customers may otherwise be unable to commit three years in advance. Petitioners assert that eliminating the Holdback Requirement unduly favors generation resources at the expense of Demand Resources.

223. The Pennsylvania/Delaware Commissions also challenge, as inconsistent, the Commission's findings that (i) most resources (including Demand Resources, Energy Efficiency Resources, generator uprates, and external resources) have not been impeded from participating in PJM's Base Residual Auctions; and (ii) a Holdback Requirement, by withholding demand from the Base Residual Auction, operates to suppress market clearing prices.²⁵⁶ Petitioners assert that if that if the first assumption holds—if there are

²⁵⁴ Joint Parties Request for Rehearing at 28-32; Illinois Commission Request for Rehearing at 14-18; Pennsylvania/Delaware Commissions Request for Rehearing 20-22.

²⁵⁵ Pennsylvania/Delaware Commissions Request for Rehearing at 20-22 (citing Capacity Performance Order, 151 FERC ¶ 61,208 at P 397).

²⁵⁶ Capacity Performance Order, 151 FERC ¶ 61,208 at P 395.

no barriers to Demand Resource participation in the Base Residual Auction—Demand Resource prices will structurally separate from Capacity Performance or Base Capacity Resource prices given that the amount of Demand Resources allowed to participate is capped. Petitioners add that, in this instance, Demand Resources will not affect the market clearing price. Petitioners assert that if, on the other hand, elimination of the Holdback Requirement reduces Demand Resource participation, it cannot be claimed that Demand Resources face no barriers to participation in the Base Residual Auctions.

224. With respect to the Commission’s finding that the Holdback Requirement is not necessary to address load forecast errors, Joint Parties, the Illinois Commission, and Joint Consumers argue that there is no evidence to suggest that the recent, modest change in PJM’s load forecasting technique applicable to the 2015 Load Forecast Report (a binary variable to adjust the starting point of the forecast downward by the approximate amount that has been forecasted over the last two summers) has corrected for the tendency in PJM’s load forecasting model to over-procure. Joint Consumers assert that the historical average load over-forecasting level in the years for which a comparison is possible, 6.25 percent, is more than double the level of the Holdback Requirement. The Illinois Commission adds that the fact that PJM’s load forecasting process has routinely over-forecasted demand over the last seven years is irrefutable.

225. Joint Parties, the Illinois Commission, and the Pennsylvania/Delaware Commissions challenge the Commission’s finding that the Holdback Requirement suppresses clearing prices. Joint Parties argue that PJM has previously argued otherwise. The Illinois Commission adds that the Commission’s finding was unsupported. The Illinois Commission further asserts that, while the Holdback is likely to produce lower clearing prices in the Base Residual Auction, the demand variable at issue must be considered relative to both the Base Residual and Incremental Auctions, with the latter auctions likely to produce higher clearing prices. The Pennsylvania/Delaware Commissions challenge, as unsupported, the Commission’s finding “that the benefit of any incremental demand response participation resulting from retaining the [Holdback Requirement] will [not] necessarily outweigh the economic efficiency benefit of no longer withholding demand from the Base Residual Auction, an action that can suppress market clearing prices.”²⁵⁷

226. Finally, the Illinois Commission argues that eliminating the Holdback Requirement increases the likelihood that the Incremental Auctions will clear at prices lower than the Base Residual Auction, and will thus encourage speculative behavior.

²⁵⁷ Pennsylvania/Delaware Commissions request for rehearing at 22 (citing Capacity Performance Order, 151 FERC ¶ 61,208 at P 397).

3. Commission Determination

227. For the reasons discussed below, we deny rehearing of the Capacity Performance Order regarding the Commission's acceptance of PJM's proposal to eliminate its Holdback Requirement.

228. We reject Joint Parties' argument that the Holdback Requirement is entitled to *Mobile-Sierra* protection. In conditionally accepting the Holdback Requirement in the 2009 Capacity Auction Order, the Commission reviewed PJM's proposed tariff changes under section 205 of the FPA and was not required to address—and did not rule on or approve—the proposed partial settlement to which Joint Parties refer.²⁵⁸ Regardless, that settlement agreement provided that “[t]he Commission’s review of any proposed modifications to this [settlement] shall be based on the just and reasonable standard and not the public interest standard.”²⁵⁹

229. Contrary to the Pennsylvania/Delaware Commissions' argument that PJM failed to show that the Holdback Requirement impeded its ability to meet its reliability requirement, the FPA does not require PJM to demonstrate that its existing tariff was unjust and unreasonable, only that its proposal is just and reasonable. Commission policy does not require that PJM have a Holdback Requirement, and PJM has provided a reasonable basis for eliminating it.

230. As the Commission found, PJM's proposal to eliminate its Holdback Requirement was just and reasonable, based on PJM's demonstration that its proposal will (i) promote greater reliability and market efficiency by procuring more of PJM's demand needs in the Base Residual Auction; and (ii) not unduly impede the ability of most resources (including Demand Resources, Energy Efficiency Resources, generation uprates, or external resources) to participate in PJM's capacity auctions. The Holdback Requirement

²⁵⁸ 2009 Capacity Auction Order, 126 FERC ¶ 61,275 at P 20 (“PJM’s filing of the February 9 Settlement Agreement constitutes an amendment by PJM of its original December 12 filing. Therefore, in this order, we will be evaluating under section 205 the proposals contained in the February 9 filing that supersede equivalent provisions in the December 12 filing. . . .”).

²⁵⁹ *Id.* P 83; *see* Settlement Agreement and Offer of Settlement, Docket Nos. ER05-1410-000, *et al.* at section V.B (Feb. 9, 2009) (Just and Reasonable Standard) (“The Commission’s review of any proposed modifications to this Offer of Settlement shall be based on the just and reasonable standard and not the public interest standard”); *see also id.* at section II.G (providing for subsequent review of Short-Term Resource Procurement Target).

originally was designed to assist short-term resources, like demand response, under the assumption they would be unable to submit offers three-years in advance. However, PJM has showed that such resources are able to compete in the Base Residual auction, and therefore PJM has made a reasonable showing that the distorting effects of the Hold-Back on the Base Residual auction are no longer warranted.

231. With respect to this first showing, PJM's proposal is consistent with the three-year forward design of its capacity market—a market design that the Commission has approved as a just and reasonable means of obtaining sufficient capacity to reliably meet the needs of consumers.²⁶⁰ The Holdback Requirement undoubtedly reduces prices in the Base Residual auction, which sends incorrect price signals regarding the need for forward capacity. The Holdback Requirement also does not permit resources with longer lead times to compete for the holdback quantity. Accordingly, we reject the Illinois Commission's argument that there is no reliability rationale supporting the elimination of the Holdback Requirement because the ability of a resource to perform in the relevant delivery year is rendered more, not less, risky under a three-year forward procurement model. This assertion—that a short-lead resource is more reliable than the resources PJM procures in the Base Residual Auction—is speculative, unsupported, and otherwise inconsistent with our prior authorizations relative to PJM's capacity market design. We similarly reject Joint Parties' argument that eliminating the Holdback Requirement will raise market clearing prices. Joint Parties do not suggest that any price rise, in this regard, would be an inaccurate reflection of supply and demand.

232. PJM also demonstrated that a diverse range of resource types, including Demand Resources, Energy Efficiency Resources, generation uprates, and external resources, currently participate in its Base Residual Auctions. On rehearing, no party has challenged this finding.

233. Nor was PJM's proposal to eliminate the Holdback Requirement rendered unjust and unreasonable because it did not satisfy certain additional alleged criteria. Accordingly, we deny the Joint Parties' rehearing argument that eliminating the Holdback Requirement fails to address, or guarantee, operational performance. In fact, other aspects of PJM's Capacity Performance construct are designed to address this issue, including PJM's Non-Performance Charges, as discussed above.

234. We also reject petitioners' argument that PJM's proposal fails to address certain load forecasting errors that, in the past, the Holdback Requirement may have served to partly mitigate. Joint Parties and the Illinois Commission acknowledge that PJM's revised load forecasting technique, as reflected in its 2015 Load Forecast Report,

²⁶⁰ *PJM Interconnection L.L.C.*, 117 FERC ¶ 61,331 at P 1.

addresses this issue but then fail to identify any alleged residual forecasting errors that justify retaining the Holdback Requirement. In a separate complaint proceeding addressing this issue, the Commission found that no showing had been made that PJM's 2015 Load Forecast will over-procure capacity to the extent it renders the resulting rates unjust and unreasonable.²⁶¹

235. We also deny the Pennsylvania/Delaware Commissions' argument that eliminating the Holdback Requirement unfairly benefits generators at the expense of resources unable or willing to offer into the Base Residual Auction. As the Commission found, the three-year forward period associated with the Base Residual Auction has not impeded the ability of most resources (including Demand Resources, Energy Efficiency Resources, generation uprates, or external resources) to participate in these auctions. As such, we are not persuaded that the Base Residual Auction represents an unduly discriminatory barrier to entry or improperly favors generators over other resource types. We note that short-term resources willing to accept some risk may offer into the Base Residual Auction with an understanding that, should they be unable to meet their commitments in the delivery year, they can buy out their position in one of the Incremental Auctions.

236. Finally, we reject the Illinois Commission's argument that eliminating the Holdback Requirement will exacerbate price differences between the Base Residual Auction and Incremental Auctions. As the Illinois Commission notes, PJM has raised concerns about these price spreads and the submission of speculative sell offers in its capacity auctions in a separate proceeding in which the Commission has instituted a section 206 proceeding.²⁶² We are not persuaded, however, that retaining the Holdback Requirement is necessary to help resolve these concerns, and we will not otherwise prejudge these issues here.

²⁶¹ *PJM Interconnection L.L.C.*, 153 FERC ¶ 61,187, at P 32 (2015) (finding that while there will inevitably be some difference between PJM's load forecast and the amount of capacity that PJM ultimately needs in a given delivery year, PJM has taken steps to ensure the reasonableness of its forecast).

²⁶² *PJM Interconnection L.L.C.*, 147 FERC ¶ 61,108 (2014) (order rejecting proposed tariff changes and instituting a section 206 proceeding, including the establishment of a technical conference). In a submittal dated August 18, 2014, PJM requested that the Commission defer action, pending the Commission's consideration of PJM's Capacity Performance construct in this proceeding.

K. Allocation Issues**1. Capacity Performance Order**

237. In the Capacity Performance Order, the Commission accepted PJM's request, as submitted in its answer,²⁶³ to withdraw PJM's proposed revisions to its existing allocation of capacity obligations among load serving entities, under Schedule 8 of the RAA.²⁶⁴

2. Requests for Rehearing

238. The Market Monitor argues that PJM should be required to revise its existing RAA provision to expand the data set used to determine the allocation of market participants' capacity obligations.²⁶⁵ The Market Monitor asserts that PJM's current approach to allocating capacity obligations to zones results in a mismatch between the hours which result in the demand for a defined level of capacity, performance obligations for that capacity, and payments by loads for that capacity. The Market Monitor argues that PJM's initial proposal appropriately addressed this issue by utilizing the four highest summer region-wide coincident peak hours, the single highest region-wide winter coincident peak hour, and the highest region-wide load occurring during any contiguous Performance Assessment Hour. The Market Monitor adds that PJM's initial proposed approach allocates the cost of capacity on the same basis that the cost of capacity is incurred and on the same basis that capacity resources are required to perform. The Market Monitor asserts that allocating costs based on a single summer coincident peak load provides inefficient incentives to those who use capacity.

3. Commission Determination

239. The Market Monitor acknowledges that PJM, in its answer, withdrew its proposal regarding the allocation of market participants' capacity obligations, but requests, in effect, that the Commission take action on this issue under section 206 by finding that PJM's existing allocation, under Schedule 8 of the RAA, is unjust and unreasonable. However, we are not persuaded that this showing has been made here, even assuming that the Market Monitor's proposed revision may also be regarded as just and reasonable. Among other things, the Market Monitor has not identified any actual adverse market impacts attributable to PJM's currently effective allocation methodology.

²⁶³ See PJM February 13, 2015 Answer at 91-92.

²⁶⁴ Capacity Performance Order, 151 FERC ¶ 61,208 at P 23, n.27.

²⁶⁵ Market Monitor Request for Rehearing at 11-13.

L. Operating Parameters

1. Capacity Performance Order

240. In the Capacity Performance Order, the Commission addressed PJM's claim that PJM's then-existing tariff was unjust and unreasonable because it allowed a capacity resource to condition its day-ahead energy market offers on acceptance of parameter limitations that extend beyond the unit's operating design, or physical, characteristics. The Commission agreed with PJM that PJM's existing tariff provisions are unjust and unreasonable because they allowed capacity resources to submit energy market offers with inflexible operating parameters that did not reflect their current, actual operating capabilities.²⁶⁶ The Commission, however, rejected PJM's proposal that these parameters be limited to unit-specific, physical constraints. Instead, the Commission required PJM to recognize a resource's actual constraints, be they physical, contractual, or other, related considerations.²⁶⁷

2. Requests for Rehearing

241. The Market Monitor, Exelon, and FirstEnergy assert that the Commission erred in rejecting PJM's proposal limiting the parameters included in a capacity resource sell offer to those representing unit-specific physical constraints.²⁶⁸

242. The Market Monitor argues that contractual limits, unlike generating unit operational limits, are a function of the interests and incentives of the parties to the contract. The Market Monitor adds that, if a generation owner can expect to be compensated through uplift payments for running on a 24-hour basis, regardless of whether its energy output is economic, or needed, such an entity will have no incentive to pay more for the flexible gas service that would allow its unit to operate on a more efficient basis.

²⁶⁶ Capacity Performance Order, 151 FERC ¶ 61,208 at P 433.

²⁶⁷ *Id.* P 437; *see also id.* P 440 (requiring PJM to permit resources to recover, through make-whole payments, the costs incurred if a resource operates within its actual constraints and directing PJM to establish a process by which a resource that operates outside of its unit-specific parameter limits can seek to justify such operation as the result of an actual constraint that does not pose a market power concern).

²⁶⁸ Market Monitor Request for Rehearing at 2-4; Exelon Request for Rehearing at 12-14; FirstEnergy Request for Rehearing at 12-13.

243. Exelon makes a similar argument, noting that such an allowance undermines the incentive to invest in long-term firm fuel arrangements, including contracts for dual-fuel capability. Exelon adds that resources that make these investments should be required to recover their costs, not through uplift, but through market revenues, by increasing their offer prices. Exelon adds that uplift payments, by contrast, obscure the price signals needed to encourage economically efficient demand reductions. Exelon asserts that if a resource is physically able to source gas through a short-term last-minute contract, even at a high price, the Commission's allowance gives that resource no incentive to enter into a long-term firm-supply arrangement, given that it will be permitted to recover its fuel costs through out-of-market make-whole payments. Exelon further argues that the Commission's endorsement of make-whole payments, in this context, conflicts with its longstanding precedent in favor of market-based solutions.²⁶⁹

244. FirstEnergy argues that the Commission's finding on operating parameters will unfairly advantage units with inflexible operating parameters and impede the ability of more flexible resources to compete against such entities. FirstEnergy further argues that allowing an inflexible resource to be compensated on comparable terms to that of a flexible resource is inconsistent with the broader design of PJM's Capacity Performance construct, as conditionally accepted in the Capacity Performance Order. FirstEnergy points to PJM's goal of aligning resource compensation with resource performance.²⁷⁰

3. Commission Determination

245. For the reasons discussed below, we deny rehearing of the Capacity Performance Order's directive that PJM's tariff allow day-ahead energy market sell offers to reflect the relevant resource's actual parameter limitations, as based on its physical constraints, contractual limits, or related considerations.

²⁶⁹ Exelon request for rehearing at 14-16 (citing *Cal. Indep. Sys. Operator Corp.*, 142 FERC ¶ 61,248 at PP 2, 64 (2013)).

²⁷⁰ See also *id.* at 12 (noting PJM's objective of providing greater market incentives to encourage generators to enter into firmer fuel arrangements, including natural gas firm transportation arrangements or priority fuel procurement contracts, and citing *Centralized Capacity Markets in Regional Transmission Organizations and Independent System Operators*, 149 FERC ¶ 61,145, at P 5 (2014), and Capacity Performance Order, 151 FERC ¶ 61,208 at PP 42-43); Market Monitor request for rehearing at 5 (arguing that the parameters which determine the amount of uplift payments should reflect the flexibility goals of the Capacity Performance construct).

246. The Market Monitor, Exelon, and FirstEnergy argue that, as PJM proposed, the existence of a physical constraint should be the sole basis for an operating parameter limit included in a sell offer and that, as such, a physical constraint alone warrants an uplift payment. Petitioners assert that allowing any additional, non-physical operating parameter limits to be included in a sell offer would remove any incentive the seller might have to incur costs to acquire more flexibility for its resource.

247. We disagree that the parameter limitation represents a non-physical constraint. These types of constraints do involve physical considerations, for example, a pipeline constraint that requires a unit to observe uniform hourly flows. That resource can honor its capacity obligation as long as PJM recognizes that parameter limitation just as it recognizes other physical limitations due to equipment and other parameters of the resource. Paying uplift to that unit enhances PJM's reliability, because if PJM fails to pay uplift, that resource has an incentive not to observe PJM's dispatch instructions.²⁷¹ Moreover, the requirement to pay uplift in the energy market does not remove the incentive for that resource to procure as flexible a fuel arrangement as possible. As discussed earlier, if that resource is not scheduled due to its parameter limitation, it is subject to Non-Performance Charges. Moreover, a make-whole payment received by a seller because its resource lacks flexibility (e.g., because the resource was required to run on a uniform hourly flow over 24 -hours due to the supply or transportation requirements), merely compensates the seller for its costs. As such, the make-whole payment provides no profit margin to the seller. In the absence of a profit, the seller will be incented to acquire greater flexibility, because a more flexible resource will tend to be more profitable than one that is less flexible.

248. We note, for example, that a gas-fired generation resource with a marginal running cost less than the LMP, over consecutive Performance Assessment Hours, will incur a profit covering those hours, but will then experience a loss if it is inflexible, i.e., if it is required to run during subsequent hours when the LMP is less than its marginal running cost due to an extended minimum run time requirement. In this instance, it will receive a make-whole payment if its profit during the Performance Assessment Hours is less than

²⁷¹ For instance, suppose PJM dispatches a gas-fired generator to run for a only three hours and that unit is subject to a pipeline operational flow order requiring it to observe uniform hourly flow requirements. In order to honor that dispatch instruction, the generator will have to contract for 21 additional hours of natural gas and, in the absence of uplift for losses, may not have the financial incentive to follow PJM's dispatch instruction.

(i) its losses during the non-Performance Assessment Hours; and (ii) its start-up costs.²⁷² But this make-whole payment will represent only the difference between its market revenues and operating costs, such that its net profit will be zero.²⁷³ By contrast, a generator that does not have an extended minimum run time requirement will generally receive a net profit. Thus, there is an incentive for a resource to be flexible.

249. We also reject FirstEnergy's argument that the Commission's required allowance covering actual constraints will unfairly advantage resources with inflexible operating parameters and impede the ability of more flexible resources to compete against such entities. We affirm the Commission's finding in the Capacity Performance Order that a make-whole payment, in the circumstances provided for under PJM's tariff, is appropriately available to any resource that lacks the required operating flexibility, regardless of whether constraint at issue is physical, contractual, or due to some other related circumstance.²⁷⁴ FirstEnergy provides no support for treating a physical constraint differently than a non-physical constraint in this context or for conferring a competitive advantage on a sub-set of resources on this basis. We note, moreover, that in the absence of a make-whole allowance, resources will have a reduced financial incentive to follow dispatch instructions during a non-Performance Assessment Hour, given that the inflexible resource will earn less (and could incur a loss) during these hours by

²⁷² To state this concept in another way, any profits over the course of a commitment period will be used first to reduce any make-whole payments that would otherwise be paid due to non-profitable hours over the same commitment period.

²⁷³ Consider: (i) a dispatched generation resource with marginal running costs of \$1,800/MWh (and a minimum-load cost equivalent of \$1,800/MWh) and—due to a fuel contract ratable-take constraint—a 24-hour minimum run time, and minimum and maximum economic outputs of 200 MW; (ii) an LMP of \$2,000/MWh during six consecutive Performance Assessment Hours (PAH-6 run); and (iii) an LMP of \$100/MWh during the remaining 18 non-Performance Assessment Hours (non-PAH-18 run). In this example, the generator will receive a profit of \$200 per MWh for 1,200 MWh delivered (200 MW times 6 hours) for its PAH-6 run, or \$240,000. However, because this generator lacks flexibility (i.e., it has a 24-hour minimum run time), it will also be required to produce 3,600 MWh (200 MW times 18 hours) at a \$1,700/MWh loss over its non-PAH-18 run, with the LMP (\$100/MWh) falling below its minimum-load cost equivalent (\$1,800/MWh). Its total loss will be \$6,120,000, with the make-whole payment it receives equal to \$5,880,000 (\$6,120,000 minus \$240,000), yielding a net profit of zero.

²⁷⁴ Capacity Performance Order, 151 FERC ¶ 61,208 at P 439.

following PJM's dispatch instructions. As such, we are not persuaded, as FirstEnergy suggests, that a distinction must be drawn between inflexibilities created by physical constraints versus contractual limitations, or other related limitations.

250. Finally, we reject petitioners' argument that allowing a resource to be compensated based on its actual constraints is inconsistent with the broader design of PJM's Capacity Performance construct and/or inconsistent with the Commission's policy regarding out-of-market payments. As the Commission found, the Commission's authorizations with respect to operating parameters and the right of a seller to set those limits based on its actual constraints, will ensure that these resources are appropriately compensated, but will not excuse a resource from failing to fulfill its capacity obligation.²⁷⁵ Specifically, a seller that fails to perform during a Performance Assessment Hour will be subject to a Non-Performance Charge. An allowance for a make-whole payment in the case of an operating constraint is consistent with PJM's prior tariff which we have found just and reasonable. Petitioners provide no basis for judging these provisions unjust and unreasonable here.

M. Force Majeure

1. Capacity Performance Order

251. In the Capacity Performance Order, the Commission agreed with PJM that PJM's existing definition of *force majeure* was unjust and unreasonable, as it applies to market participants' performance obligations under PJM's tariff in matters other than those involving non-market bilateral arrangements.²⁷⁶ The Commission also accepted PJM's proposed replacement term (Catastrophic Force Majeure), defining force majeure as an action or event resulting in a systematic failure affecting all, or substantially all, of PJM's transmission system, or its more extended fuel delivery network.²⁷⁷

252. The Commission also accepted PJM's proposal authorizing PJM to determine, subject to Commission oversight, whether an event of force majeure had occurred, finding that the PJM was the appropriate entity to assess infrastructure impairment and related operational facts occurring within its system.²⁷⁸ Finally, the Commission

²⁷⁵ *Id.*

²⁷⁶ *Id.* P 441.

²⁷⁷ *Id.* P 448.

²⁷⁸ *Id.* P 467.

accepted PJM's proposal to revise its existing OATT provisions addressing Auction Revenue Rights (ARR) and Financial Transmission Rights (FTR), by replacing PJM's prior force majeure allowance with an excuse of performance standard tied to an "unanticipated event outside the control of PJM."²⁷⁹ The Commission agreed that this revision was generally consistent with PJM's revised force majeure provision and that it was appropriate, subject to Commission oversight, that PJM retain some discretion in determining when to relax a binding constraint in allocating FTRs.²⁸⁰

2. Requests for Rehearing

253. Joint Parties assert as error the Commission's acceptance of PJM's force majeure proposal as applicable to ARRs and FTRs, including the allocation of Stage 1A ARRs.²⁸¹ Joint Parties argue that PJM's rationale for its force majeure revisions – to address the reasonable expectations of performance by market participants – does not apply in the case of PJM's own obligations to load serving entities with respect to ARRs and FTRs. Joint Parties add that, while PJM's revision will impact load serving entities' Stage 1A ARR guarantees and the rights of load serving entities to hedge against transmission costs, PJM failed to explain, or justify, its change, and failed to demonstrate that its existing force majeure provision was unjust and unreasonable. Joint Parties further assert that PJM's revised measure is unaccompanied by any standard that would govern PJM's exercise of its discretion. Joint Parties add that, in most instances, the allocation of FTRs will have already been made, or at least be underway, before load serving entities will be able to discern whether PJM has abused its discretion, thus subjecting these entities to the prospect of an unlikely post-settlement remedy.

254. PSEG and FirstEnergy assert that PJM failed to demonstrate that its existing force majeure provision is unjust and unreasonable. PSEG and FirstEnergy argue that this showing was not made, given the fact that, to date, no entity has invoked force majeure.

²⁷⁹ See PJM OATT at section 5.2.2(f) (addressing measures to be taken by PJM to ensure an allocation of FTRs to load serving entities in the event an allocation is not feasible due to system conditions). An FTR, which can be purchased in an annual auction or obtained through the conversion of an ARR, entitles its holder to a stream of revenues based on the locational price differences in the day-ahead energy market when the transmission grid is congested. ARRs are allocated to PJM's transmission customers in consideration of their payment of the embedded cost of the system. See PJM Operating Agreement at Schedule 1, section 7.4.2(b).

²⁸⁰ Capacity Performance Order, 151 FERC ¶ 61,208 at P 470.

²⁸¹ *Id.* (accepting proposed OATT at Attachment DD, section 5.2.2(f)(ii)).

PSEG adds that PJM failed to demonstrate that its current force majeure provisions were incompatible with its Capacity Performance construct. PSEG asserts that, in fact, PJM's revised force majeure clause is inconsistent with PJM's Capacity Performance construct, which is intended to incent resource investments, as required to ensure performance during peak periods.

255. AEP and PSEG challenge the Commission's finding that, in the case of PJM's force majeure protections, risk should be borne by the party that is best able to assess and price it. AEP argues that the Commission failed to explain why conditions beyond the reasonable control of a resource owner, including acts of nature and transmission outages, are risks that a resource would be able to assess and price.²⁸² AEP asserts that, in fact, PJM would be better able to assess and price many of these risks. AEP notes, for example, that a resource owner cannot make the investments that would be required to mitigate the possibility of a forced transmission outage. PSEG adds that market participants can neither predict nor hedge the likelihood of a significant natural disaster. Specifically, PSEG argues that because the occurrence of certain extreme weather events, including hurricanes and tornados, affecting localized areas are difficult to predict, it is no possible for market participants to accurately incorporate the risks of such events in their capacity offers in the form of an appropriate risk premium.

256. AEP and PSEG also object to the Commission's acceptance of PJM's force majeure revisions on the grounds that PJM's narrowed allowance for force majeure is inconsistent with authorizations previously issued by the Commission. AEP points to a gas pipeline precedent,²⁸³ as does PSEG.²⁸⁴ PSEG also cites the Commission's finding, in addressing another gas pipeline case, that in the case of force majeure, "[s]ince no blame can be ascribed to either party, the Commission's policy is that both the pipeline and its customers should share the risk equitably."²⁸⁵

²⁸² See also PSEG Request for Rehearing at 5 (arguing that even under PJM's Capacity Performance construct it would not be reasonable to expect market participants to bear the risks of events that are outside their control).

²⁸³ See AEP Request for Rehearing at 21 (citing *Equitrans, L.P.*, 148 FERC ¶ 61,250, at P 3 (2014) (defining force majeure in the natural gas context as events that are both unexpected and uncontrollable).

²⁸⁴ See PSEG Request for Rehearing at 7 (citing *Millennium Pipeline Co.*, 149 FERC ¶ 61,290 (2014), in support of the proposition that force majeure provisions are appropriate when they provide protections for unexpected and uncontrollable events).

²⁸⁵ *Id.* (citing *Natural Gas Supply Ass'n*, 135 FERC ¶ 61,055, at P 3 (2011)).

257. FirstEnergy characterizes the Commission's acceptance of PJM's revised force majeure provision as unduly discriminatory. FirstEnergy argues that a standard that excuses region-wide disruptions, but fails to excuse a comparable disruption that may be limited to a specific sub-region within PJM, is unduly discriminatory. FirstEnergy adds that a number of natural disasters have affected the PJM region in recent years, but that due to the localized nature of these incidents, they would not have qualified as a force majeure event under PJM's revised standard.

258. Finally, FirstEnergy and PSEG asserts as error the Commission's acceptance of PJM's proposed provision giving PJM the authority to determine, subject to Commission oversight, whether an event of force majeure had occurred. FirstEnergy asserts that PJM is not a financially disinterested market administrator, as it claims, given that PJM is NERC-designated entity subject to significant financial exposure (up to \$1 million per day per violation) for failure to satisfy mandatory reliability standards.²⁸⁶ PSEG argues that it is not appropriate to give PJM complete discretion over this issue, absent the development of objective review criteria.

3. Commission Determination

259. For the reasons discussed below, we grant, in part, and deny, in part, rehearing of the Capacity Performance Order, regarding PJM's proposed force majeure revisions and related tariff changes.

260. We first address Joint Parties' claim that the Commission erred in accepting one of PJM's proposed force majeure revisions that may impact load serving entities' allocation of Stage 1A ARR. While in the Capacity Performance Order the Commission found this revision generally consistent with PJM's other proposed force majeure changes, Joint Parties assert that this revision is distinct because it applies to PJM's own obligations to load serving entities with respect to ARRs and FTRs, rather than to market participants' performance obligations, and that PJM has failed to adequately justify its inclusion among the force majeure changes. We grant rehearing on this issue. Upon further consideration, we agree that PJM has not adequately explained why its existing rules are unjust and unreasonable regarding its duties to load serving entities as they relate to the allocation of ARRs and FTRs. We further find that PJM's proposed OATT revisions, at sections 5.2.2(f)(ii) and 7.4.2(i), are distinguishable from the force majeure revisions that will apply to market participants' performance obligations, given that the former proposed allowances concern the excusal of PJM's own performance obligations. Accordingly, we reject, without prejudice, PJM's proposed tariff changes addressing this matter and require PJM to include, in its compliance filing, revised tariff language

²⁸⁶ See FirstEnergy Request for Rehearing at 8 (citing 16 U.S.C. § 825o-1).

reinstating its prior just and reasonable OATT language, at sections 5.2.2(f)(ii) and 7.4.2(i).

261. We next address the assertions of error raised by PSEG, AEP, and FirstEnergy regarding the Commission's findings that (i) PJM's existing force majeure allowance is unjust and unreasonable by excusing market participants' performance in instances that will not be compatible with PJM's Capacity Performance construct; and (ii) PJM's proposed force majeure revisions appropriately address this concern by allocating the risk of non-performance to the entity best able to assess and price it.

262. PSEG and FirstEnergy argue that, with respect to this first finding, PJM failed to demonstrate that its existing force majeure provision is unjust and unreasonable, given that no entity, to date, has attempted to invoke force majeure as a means of excusing its performance. We disagree, however, that the Commission's consideration of force majeure, in this context, required an analysis of a past record under PJM's prior rules (i.e., the extent to which force majeure had, or had not, been invoked), or prevented the Commission from finding, based on economic principles, that prospectively, under PJM's Capacity Performance construct, PJM's previously-effective force majeure provision was unjust and unreasonable.

263. PSEG argues, to the contrary, that PJM failed to demonstrate that its existing, more expansive force majeure allowance was incompatible with its Capacity Performance construct. However, as the Commission held, citing the ISO-NE Pay for Performance Order, exemptions for non-performance should be limited.²⁸⁷ As the Commission further found, allocating this risk to suppliers will incent investments – in maintenance, in dual or firm fuel, in weatherization modifications – and thus assist in meeting the goals of PJM's Capacity Performance construct.²⁸⁸ Because PJM's prior force majeure provision failed to provide sufficient assurances, in this regard, it was appropriate for the Commission to find this more expansive allowance for excused performance unjust and unreasonable.

²⁸⁷ Capacity Performance Order, 151 FERC ¶ 61,208 at P 463 (citing ISO-NE Pay for Performance Order, 147 FERC ¶ 61,172 at P 62).

²⁸⁸ *Id.* P 466 (finding that “[i]n fact, it is this expectation, and the likely higher clearing price for the Capacity Performance product that will result, that will help incent investments in maintenance, dual or firm fuel, or weatherization to improve capacity resource performance, particularly during summer and winter peak periods” and that “[i]f capacity resources price their performance risk into their capacity offers and obtain a capacity commitment, they will, in fact, be assured of compensation commensurate with the performance risk that they assume.”).

264. We also disagree with AEP and PSEG that conditions beyond the reasonable control of a resource owner, including extreme weather events and transmission outages, are risks that a resource owner would be unable to either assess or price. With respect to risk assessments, we are not persuaded that market participants lack the means to make these evaluations in the form of a risk premium offer as applicable to their own resources, or that PJM, or any other entity participating in PJM's markets, would be better able to do so. With respect to the allocation of this risk, we reaffirm the finding in the Capacity Performance Order that the risks at issue must be borne either by the supplier or the consumer, with the supplier in the better position to assess and price this risk.²⁸⁹ AEP and PSEG cite to no evidence suggesting otherwise.

265. We also reject AEP's and PSEG's argument that the Commission erred in its acceptance of PJM's proposed force majeure revisions, given the Commission's prior authorizations in certain gas pipeline cases. First, petitioners make no claim that the facts and circumstances at issue in those cases are comparable to PJM's wholesale electricity grid, to the operations at issue in an organized market, and/or other relevant market considerations at issue here. Nor have petitioners demonstrated that PJM's prior force majeure provision was similar to, or the functional equivalent, of the clauses to which they refer. Regardless, PJM's burden of proof in this case was limited to a showing that its existing force majeure provision was unjust and unreasonable and that its proposed replacement mechanism was just and reasonable. For the reasons summarized above, we reaffirm here that PJM has made this showing.

266. We also reject FirstEnergy's argument that PJM's revised force majeure provision will operate in a manner that is unduly discriminatory as between (i) resources that may experience a localized disruption (and thus will not be eligible to invoke force majeure); and resources permitted to invoke force majeure based on a region-wide disruption. For the reasons set forth in the Capacity Performance Order, we find that there is a rational basis for making this distinction, consistent with PJM's Capacity Performance construct, and that resources participating in PJM's markets will be treated fairly and equally, based on actions and events to which their resources are subject.

267. Finally, we consider FirstEnergy's and PSEG's assertions of error regarding the Commission's acceptance of PJM's proposed provision giving PJM the authority to determine, subject to Commission oversight, whether an event of force majeure has occurred. FirstEnergy alleges that a conflict of interest will exist in this matter, given PJM's NERC-related reliability obligations, while PSEG argues that objective review criteria is lacking. However, as the Commission found, it is appropriate that PJM be given the authority, subject to Commission oversight, to determine whether a force

²⁸⁹ *Id.* PP 463, 466.

majeure event has occurred, given that this determination will require an assessment of infrastructure impairment and specific operational facts over which PJM will have knowledge and/or expertise.²⁹⁰ While FirstEnergy suggests that PJM's determinations may be biased given PJM's reliability obligations, we find this allegation of ill-intent speculative and otherwise unsupported. Finally, we decline to adopt additional criteria framing, i.e., limiting, PJM's required determinations. PSEG proposes no such criteria, nor are we persuaded that any such limitations would be feasible, or useful, in anticipating every possible action or event of force majeure when those actions and events, by definition, are unanticipated and rare.

N. Maximum Emergency Offers

1. Capacity Performance Order

268. In the Capacity Performance Order, the Commission addressed PJM's proposal to limit the right of a generation capacity resource to submit a Maximum Emergency Offer into PJM's day-ahead energy market.²⁹¹ PJM proposed to prohibit, on a phased-in basis, a generation capacity resource from designating its offer as a Maximum Emergency Offer, except in the case of certain extreme weather alerts, or other more severe emergencies. The Commission found that, while PJM's existing designation may be inappropriately used in certain circumstances – allowing a capacity resource to avoid honoring its must-offer commitment – the operation of PJM's Non-Performance Charges will sufficiently address this concern.²⁹² Accordingly, the Commission found that PJM

²⁹⁰ *Id.* P 467.

²⁹¹ Under PJM's tariff, a Maximum Emergency Offer is only available to PJM on a limited basis when PJM requests that the resource run in response to a Maximum Generation Emergency. A Maximum Emergency Offer may be submitted based on certain prescribed limitations and/or temporary emergency conditions. *See* PJM Operating Agreement at Schedule 1, section 1.10.1A(d) (allowing a seller to submit a Maximum Emergency Offer when its resource is subject to one or more of the following conditions: (i) environmental limitations (*e.g.*, run limits due to an air quality permit); (ii) fuel limitations (*e.g.*, temporary interruption in fuel supply); (iii) temporary emergency conditions; or (iv) the ability to provide certain of its capacity on a temporary basis only). Resource offers submitted into the day-ahead energy market are otherwise subject to PJM's must-offer requirement.

²⁹² *See* Capacity Performance Order, 151 FERC ¶ 61,208 at P 478 (finding that capacity that has been designated by a generation capacity resource as a Maximum Emergency Offer and not scheduled by PJM during a Performance Assessment Hour would be subject to a Non-Performance Charge).

had not demonstrated that its existing tariff, addressing Maximum Emergency Offers, was unjust and unreasonable.

2. Requests for Rehearing

269. The Market Monitor seeks rehearing regarding the Commission's rejection of PJM's proposal. The Market Monitor argues that a Capacity Performance Resource should not be allowed to withhold any portion of its capacity commitment as a Maximum Emergency Offer, i.e., that PJM's proposal, while preferable to its prior allowance in curbing the misuse of Maximum Emergency Offers, didn't go far enough. The Market Monitor asserts that the entirety of the seller's capacity commitment should be offered into the day-ahead energy market on an economic basis for the purpose of developing better pricing and reducing the amount of manual overrides that might otherwise be required during emergency conditions.

270. The Market Monitor adds that, while the Commission rejected PJM's proposal based on the finding that the operation of PJM's Non-Performance Charges would be sufficient to ensure that sellers honor their must-offer obligations, it is unclear whether a Non-Performance Charge will be assessed when that resource has submitted a Maximum Emergency Offer but has not been asked by PJM to run in response to a Maximum Emergency Generation alert.

3. Commission Determination

271. For the reasons discussed below, we deny rehearing of the Commission's finding that PJM failed to demonstrate that its OATT and Operating Agreement with respect to Maximum Emergency Offers are unjust and unreasonable.

272. The Market Monitor suggests that PJM's allowance for a Maximum Emergency Offer is unjust and unreasonable, because it distorts price signals and requires PJM to engage in manual overrides during emergency conditions. On rehearing, the Market Monitor offers no evidence of changed circumstances and no evidence regarding its claim that a Maximum Emergency Offer, operating in conjunction with PJM's Non-Performance Charge, will distort price signals to an extent that might be rendered unjust and unreasonable. Nor has the Market Monitor offered any evidence suggesting that the extent to which PJM may be required to effectuate a manual override is unjust and unreasonable, or that any such market harm would not be outweighed by the benefits afforded by PJM's limited allowance, permitting a seller to submit a Maximum Emergency Offer in certain prescribed circumstances and/or temporary emergency conditions.

273. When a seller submits a Maximum Emergency Offer, it is functionally offering its capacity at a higher price, albeit with a modified operating parameter. In this instance, however, the seller is adhering to its must-offer obligation. Submitting a Maximum

Emergency Offer, moreover, is akin to an operating parameter limitation, such that the resource will remain subject to the risk of a Non-Performance Charge during a Performance Assessment Hour, regardless of whether PJM has called a Maximum Emergency event.

274. Finally, the Market Monitor asks that the Commission clarify whether a resource that has submitted a Maximum Emergency Offer will be exempt from a Non-Performance Charge if it is not explicitly called by PJM. The Commission addressed this issue in the Capacity Performance Order, finding that any capacity that is designated by a generation capacity resource as a Maximum Emergency Offer and not scheduled by PJM during a Performance Assessment Hour will be subject to a Non-Performance Charge.²⁹³

O. Generator Outages

1. Capacity Performance Order

275. In the Capacity Performance Order, the Commission found that PJM's existing tariff provisions, addressing Generator Maintenance Outages, were unjust and unreasonable, by impeding PJM's ability to ensure reliability and maintain adequate reserves at a reasonable cost. Specifically, the Commission found that PJM's existing mechanism gave PJM no authority to rescind a Generator Maintenance Outage should the unit be required to address an emergency.²⁹⁴ The Commission also accepted PJM's proposed replacement mechanism, to address PJM's authority to withhold approval, or withdraw a prior approval, of a Generator Maintenance Outage, "to ensure adequacy of reserves or the reliability of the PJM Region in connection with anticipated implementation or avoidance of Emergency procedures."²⁹⁵ Specifically, the Commission accepted PJM's proposal requiring a generator, upon notice from PJM, to return to service from a maintenance outage within 72 hours, or accept classification as a Generator Forced Outage for the remaining hours it continues on the outage.²⁹⁶

²⁹³ *Id.*

²⁹⁴ *Id.* PP 493-494.

²⁹⁵ *Id.* P 483 (quoting proposed Operating Agreement at Schedule 1, section 1.9.3(b)).

²⁹⁶ *Id.* P 495.

2. Requests for Rehearing

276. FirstEnergy argues that PJM's 72-hour notice requirement unduly discriminates against certain types of resources with extensive safety procedures and long start-up times, including nuclear power plants. FirstEnergy asserts that, for a nuclear power plant, the shortest time for a simple repair is approximately ninety hours (from disconnection from the grid to reconnection), with an additional 48 hours required after reconnection to escalate back to full power.

277. Dominion agrees that the Commission erred in its acceptance of PJM's 72-hour notice requirement. Dominion asserts that the Commission failed to sufficiently consider the safety and reliability risks presented by encouraging a generator to rush back into service. Dominion adds that there are justifiable maintenance outages that can take longer than 72 hours to resolve.

3. Commission Determination

278. For the reasons discussed below, we deny rehearing regarding the Commission's acceptance of PJM's proposal requiring a generator, upon notice (and when needed by PJM during an emergency), to return to service from a Generator Maintenance Outage within 72 hours.

279. We disagree with FirstEnergy that requiring generators to return to service from a Generator Maintenance Outage within a 72-hour window unduly discriminates against a nuclear power plant, given that this resource type may not always be capable of completing its repair within this time-frame. Any resource required to undertake a repair, conduct inspection, or perform maintenance on its unit is entitled to schedule a Generator Planned Outage—on an annual basis, or more frequently, if it chooses (e.g., twice a year).²⁹⁷ We are not persuaded that a nuclear unit that seeks approval for a Generator Maintenance Outage, in lieu of a Generator Planned Outage, will not be able to comply with a 72-hour return-to-service directive, even assuming, as FirstEnergy claims, that a repair may require 90 hours of work to complete, with an additional time allowance required to return to full power.

280. While we acknowledge the risk factor presented, a resource required to take a maintenance outage for a prolonged interval provides less reliability value than a resource requiring less maintenance. Under these circumstances, the more valuable resource should be permitted to reflect this higher value in its capacity offer, in the form of a lower

²⁹⁷ See PJM Manual 10 at section 2.2. A Generator Planned Outage may also be scheduled to undertake a nuclear refueling. *Id.*

offer price that will be more likely to clear in PJM's capacity auction. Conversely, and as the Commission found in the *Capacity Performance Order*, a rule that eliminates the distinction—by excusing a resource's inability to return from a maintenance outage when required—would inappropriately distort the market-clearing price.²⁹⁸

281. Moreover, under the fundamental precept of PJM's outage allowance, which PJM's new rescission authorization does not alter, a Generator Maintenance Outage will not be approved for any duration if it threatens the adequacy of reserves in, or the reliability of, the PJM region.²⁹⁹ As viewed in this context, PJM's 72-hour rescission standard does not unduly discriminate against any resource type, given the rational basis—a reliability need—for establishing a fully transparent, bright-line classification applicable to any resources with a capacity obligation. PJM's return-to-service notice, in this instance, is a known, required contingency applicable to all outage approvals. A resource able to comply with this standard, then, is not similarly-situated to a non-complying resource.

282. Finally, we reject Dominion's renewed argument that the Commission failed to sufficiently consider the safety and/or reliability risks presented by a market rule that encourages a generator to rush back into service. We find no basis for concluding that a resource owner would be willing to jeopardize the larger, long-term operation of its own assets in return for an immediate short-term financial gain. Nor are we persuaded that PJM's tariff is ill-equipped to address any system reliability issues, in this context. Moreover, in addressing this issue in the *Capacity Performance Order*, the Commission found that market rules cannot be expected to anticipate, or protect against, each and every theoretical instance of potential negligent behavior on the part of a resource owner intent on placing its own financial gain over safety.³⁰⁰ We reaffirm that finding here.

III. Capacity Performance Order Compliance

283. Notice of PJM's compliance filing in Docket No. ER15-623-004 was published in the *Federal Register*, 80 Fed. Reg. 41,493 (2015), with interventions and protests due on or before July 20, 2015.³⁰¹ Notice of PJM's compliance filing in Docket No. EL15-29-

²⁹⁸ *Capacity Performance Order*, 151 FERC ¶ 61,208 at P 500.

²⁹⁹ *See* Operating Agreement at Schedule 1, section 1.9.3.

³⁰⁰ *Capacity Performance Order*, 151 FERC ¶ 61,208 at P 499.

³⁰¹ *See* Errata Notice Shortening Comment Period, Docket No. ER15-623-004 (issued July 10, 2015).

003 was published in the *Federal Register*, 80 Fed. Reg. 42,095 (2015), with interventions and protests due on or before July 20, 2015. Timely-filed motions to intervene were submitted, in Docket No. ER15-623-004, by P3 and Public Citizen, Inc. (Public Citizen), and in Docket No. EL15-29-003, by P3 and Illinois Municipal Electric Agency. Protests and/or comments were submitted by Illinois Municipal Electric Agency, NRG/Dynegy, the Generator Coalition, the Ohio Consumers' Counsel, P3, Exelon, and Calpine. Answers were filed on August 6, 2015, by PJM, and on August 12, 2015, by Illinois Municipal Electric Agency.

284. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2015), the timely, unopposed motions to intervene serve to make the entities that filed them parties to the proceedings in which these pleadings were filed. Rule 213(a)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2) (2015), prohibits an answer to a protest unless otherwise ordered by the decisional authority. We will accept the answers submitted by PJM and Illinois Municipal Electric Agency because they have provided information that assisted us in our decision-making process.

285. As discussed below, we accept, subject to condition, PJM's compliance filings to the Capacity Performance Order. We direct PJM to submit a further compliance filing within 30 days of the date of this order.

A. Non-Performance Charges

1. Compliance Requirement

286. In the Capacity Performance Order, the Commission accepted PJM's proposed Non-Performance Charge mechanics, subject to condition.³⁰² The Commission agreed with PJM that the monthly stop-loss provision limiting a resource's Non-Performance Charge exposure to 0.5 times annual Net CONE significantly weakens the incentives generated by the Non-Performance Charge.³⁰³ The Commission found that the "likely high concentration of Performance Assessment Hours in a few peak months in PJM" warrants removal of the monthly stop-loss limit and accepted PJM's commitment, set forth in its response to Staff's Deficiency Letter, to withdraw this aspect of its proposal.

³⁰² Capacity Performance Order, 151 FERC ¶ 61,208 at P 158.

³⁰³ *Id.* P 165.

Accordingly, the Commission conditioned acceptance on PJM removing this provision on compliance.³⁰⁴

287. The Commission also accepted, subject to condition, PJM's proposal to recognize two exemptions from the Non-Performance Charge.³⁰⁵ In particular, the Commission conditioned acceptance on PJM clarifying the proposed scheduling exemption in two ways, consistent with the understanding that a resource is exempt only if it was not needed to alleviate the capacity shortage.³⁰⁶ First, with respect to seller-specified limitations on resource operating parameters, the Commission requested clarification that any undelivered megawatts will be counted as a performance shortfall if PJM does not schedule a capacity resource due to any operating parameter limitations submitted in the resource's offer. Second, the Commission requested clarification that, if a capacity resource is not scheduled by PJM after submitting a market-based offer higher than its cost-based offer but would have been scheduled if its market-based offer had been equal to its cost-based offer, any undelivered megawatts will be counted as a performance shortfall.

288. With respect to PJM's proposed performance evaluation criteria, the Commission also accepted PJM's proposal subject to condition. Specifically, the Commission conditioned acceptance on PJM proposing tariff language that clarifies (i) the definition of Net Energy Imports, to eliminate a likely distortion in the Balancing Ratio for a zonal or sub-zonal-only Emergency Action; (ii) the performance calculation for resources outside an Emergency Action area; and (iii) the performance calculation for external resources with and without a capacity obligation when an Emergency Action is triggered

³⁰⁴ *Id.*

³⁰⁵ Specifically, the performance assessment made during a Performance Assessment Hour will not account for resource non-performance that occurs solely because (i) the resource was on a PJM-approved planned or maintenance outage, or (ii) PJM directed the resource not to run, or to run at a reduced level. *See* PJM OATT at Attachment DD, section 10A(d).

³⁰⁶ Capacity Performance Order, 151 FERC ¶ 61,208 at P 171. The Capacity Performance Order therefore directed PJM to clarify that "if a capacity resource is not scheduled by PJM due to any operating parameter limitations submitted in the resource's offer, any undelivered [MWs] will be counted as a performance shortfall." *Id.* P 173. The Capacity Performance Order also required PJM to clarify that "if a capacity resource is not scheduled by PJM after submitting a market-based offer higher than its cost-based offer but would have been scheduled if its market-based offer had been equal to its cost-based offer, any undelivered [MWs] will be counted as a performance shortfall." *Id.*

PJM-wide.³⁰⁷ The Commission also conditioned acceptance on PJM clarifying that “a capacity resource’s performance for any Performance Assessment Hour shall not exceed 100 percent of its cleared [Unforced Capacity] quantity, or explain[] why the absence of such a statement is just and reasonable.”³⁰⁸

289. Regarding the penalty assessment calculation for resources that submit coupled offers, the Commission found that PJM’s proposal was just and reasonable, recognizing PJM’s clarification that credit for performance will be assigned to a resource’s Capacity Performance obligation first with any remaining performance awarded to the resource’s Base Capacity obligation. The Commission therefore accepted PJM’s proposed treatment of coupled offers, subject to the condition that PJM clarify the relevant tariff provisions on compliance.

290. Finally, the Commission found that PJM’s proposed tariff revisions contained an apparent drafting error that suggested, contrary to PJM’s stated intent, that a Capacity Performance Resource can face both Non-Performance Charges and Peak Season Maintenance Compliance penalties or Peak Hour Period Availability penalties. Accordingly, the Commission accepted PJM’s proposal subject to PJM correcting this apparent oversight, or otherwise clarifying how its proposed tariff provisions achieve the stated intent.

2. Compliance Proposal

291. In accordance with the Capacity Performance Order, PJM proposes tariff revisions removing the monthly stop-loss limit on the total Non-Performance Charge a Capacity Performance Resource or Base Capacity Resource may be assessed for non-performance in a single calendar month.³⁰⁹

292. With respect to Non-Performance Charge exemptions, PJM proposes tariff revisions explicating PJM’s role in determining that a resource qualifies for the scheduling exemption. Specifically, PJM proposes language clarifying that a resource

³⁰⁷ *Id.* PP 175-177. Specifically, the Commission found that PJM’s proposed calculation of the Balancing Ratio may incorrectly include energy imports when the Emergency Action is on a zonal or sub-zonal basis, where by definition imports into the affected region would be restricted. The Commission also observed that the proposed performance evaluation appeared to exclude external resources. *Id.* P 175.

³⁰⁸ *Id.* P 178.

³⁰⁹ *See* proposed PJM OATT at Attachment DD, sections 10A(f), (h), and (i).

will be exempt from Non-Performance Charges if it was not scheduled by PJM or was online but scheduled down “based on a determination by [PJM] that such scheduling action was appropriate to the security-constrained economic dispatch of the PJM Region.”³¹⁰ Regarding the limited exceptions to this scheduling exemption, PJM’s proposes the following additional language:

Subject to the foregoing, such resource shall be considered in the calculation of a Performance Shortfall if it would otherwise have been scheduled by [PJM] to perform, but was not scheduled to operate, or was scheduled down, solely due to: (i) any operating parameter limitations submitted in the resource’s offer, or (ii) the seller’s submission of a market-based offer higher than its cost-based offer.³¹¹

293. Concerning PJM’s evaluation of resource performance, PJM proposes revisions clarifying that imports and deliveries from external capacity resources will be considered in performance calculations for Emergency Actions that involve the entire PJM Region. Further, during PJM-wide Emergency Actions, external resources that have been committed as Capacity Performance Resources will be subject to Non-Performance Charges and eligible for Bonus Performance Payments and external resources that have been committed as Base Capacity will be eligible for Bonus Performance Payments (and Non-Performance Charges but only on a seasonal basis).³¹² Regarding how PJM determines the Balancing Ratio for Emergency Action hours that only occur within individual zones or sub-zones, PJM proposes to clarify that Net Energy Imports will not be considered in the performance calculations. In addition, PJM proposes to establish that the Balancing Ratio may not exceed a value of 1.0 to ensure that a capacity resource’s expected performance for any Performance Assessment Hour will not exceed 100 percent of its cleared Unforced Capacity quantity.

³¹⁰ See proposed PJM OATT at Attachment DD, section 10A(d).

³¹¹ See proposed PJM OATT at Attachment DD, section 10A(d).

³¹² See proposed PJM OATT at Attachment DD, section 10A(c). PJM proposes to measure performance by external resources providing imports without a capacity commitment as the net import under all interchange transactions scheduled by such market participant.

3. Protests and Comments

294. NRG/Dynegy objects to PJM's proposed revisions regarding the scheduling exemption from the Non-Performance Charge. NRG/Dynegy points to its request for rehearing of the Capacity Performance Order, adding that the proposed tariff language "appears highly problematic" to the extent capacity resources will be subject to penalties if they are not scheduled due to PJM-approved operating parameter limitations submitted in their energy market offers. In the event rehearing on this issue is not granted, NRG/Dynegy argues, PJM must clarify how the scheduling exemption comports with the rules governing operating parameters in energy market offers. Calpine, on the other hand, seeks clarification that a capacity resource will be assessed Non-Performance Charges if PJM chooses to not schedule that resource due to its inflexible operating parameters. Calpine asserts that, absent this clarification, PJM's proposal could perversely subject more-flexible resources to higher penalty risk than less-flexible resources.³¹³

295. The Market Monitor requests clarification that PJM's tariff language defining the annual stop-loss limit sets forth the correct measure, namely "1.5 times the Net CONE times the megawatts of Unforced Capacity committed by the resource times 365."³¹⁴ The Market Monitor also argues that the Commission must clarify that the annual stop-loss limit applies to the net of all Non-Performance Charges in a delivery year, arguing that PJM's language could be misinterpreted to place a limit only on Non-Performance Charges assessed for under-performance without accounting for any Bonus Performance Payments a resource may have received during other performance assessment hours.

296. The Market Monitor contends that PJM must further revise the Balancing Ratio definition in its performance evaluation criteria by removing the Demand Response Bonus Performance component. The Market Monitor argues that such revision is necessary because this component cannot be calculated until 75 days after the fact.³¹⁵

³¹³ Calpine Protest at 3 (citing Capacity Performance Order, 151 FERC ¶ 61,208 at P 171).

³¹⁴ Market Monitor Comments at 7 (citing PJM OATT at Attachment DD, section 10A(d)).

³¹⁵ *Id.* at 6-7.

4. PJM's Answer

297. PJM responds to the Market Monitor's requests seeking to revise the annual stop-loss provision and to remove Demand Response Bonus Performance from the Balancing Ratio calculation. PJM argues that because the Commission accepted and did not revise the annual stop-loss provision the Market Monitor's request for clarification is outside the scope of the compliance filing and should be dismissed. PJM similarly responds that the Commission did not modify any provisions underlying the Balancing Ratio and that the Market Monitor's request is beyond the scope of the compliance filing. Further, regarding the Balancing Ratio calculation, PJM argues that the expected performance calculation should include Demand Response Bonus Performance because it is needed to accurately calculate the PJM Region's need for capacity during an emergency. PJM also points out that it waits at least three months from the last day of the month in which the Performance Assessment Hour occurred to bill charges and credits. PJM suggests that the 75-day winding for Demand Resources to report their performance does not create or present administrative or timing problems.

298. Responding to Calpine's comments on the scheduling exemption, PJM asserts that the Commission should not establish a rule that invites debate about the relative degree to which scheduling decisions were based on the need for a resource versus the degree to which they were based on the dispatcher's cognizance of the inherent limitations on a resource. PJM asserts that its scheduling and dispatch decisions are complex, and often require the exercise of judgment based on multiple factors and considerations. PJM argues that dispatchers should be permitted to make those decisions without concern for the Non-Performance Charge implications. PJM explains that its proposed compliance language removes these concerns by setting a bright-line test which asks whether the decision to schedule the resource down (or not schedule it) was "solely due" to the operating parameter limitations or the submission of a market-based offer higher than the cost-based offer.

5. Commission Determination

299. For the reasons discussed below, we find that PJM's compliance proposal, regarding PJM's Non-Performance Charges, partially complies with the Commission's conditions in the Capacity Performance Order. We therefore accept PJM's proposed revisions, subject to condition, and direct a further compliance filing to be submitted within 30 days of the date of this order.

300. In the Capacity Performance Order, the Commission accepted PJM's proposed scheduling exemption, subject to PJM clarifying that "if PJM does not schedule a resource during a Performance Assessment Hour due to *any* operating parameter

limitation specified in a market seller's energy offer, the resource will be subject to Non-Performance Charges."³¹⁶ We find that PJM's proposed revisions are unclear with regard to whether capacity resources will be subject to Non-Performance Charges if PJM does not schedule a capacity resource solely due to any operating parameter limitations submitted in the resource's offer. According to PJM's tariff revisions, a capacity resource's undelivered megawatts will be considered a performance shortfall if "it would otherwise have been scheduled by [PJM] to perform, but was not scheduled to operate, or was scheduled down, solely due to. . . any operating parameter limitations submitted in the resource's offer" However, this non-performance assessment is "[s]ubject to the foregoing" language that exempts resources "based on a determination by [PJM] that such scheduling action was appropriate to the security-constrained economic dispatch of the PJM Region."³¹⁷ A literal reading of the phrase "subject to the foregoing" suggests that the provision exempting resources from the Non-Performance Charge if the resource is not scheduled, or scheduled down, through PJM's security-constrained economic dispatch governs. Under such interpretation, a resource's undelivered megawatts may not be counted as a performance shortfall, even if a resource would otherwise be needed but for an inflexible operating parameter. This outcome is inconsistent with the Commission's finding in the Capacity Performance Order. We therefore accept PJM's proposed tariff revisions, subject to the condition that PJM must submit a further compliance filing within 30 days of the date of this order to revise section 10A(d) of the OATT to make clear that, notwithstanding PJM's determination that a scheduling action was appropriate to the security-constrained economic dispatch of the PJM Region, any undelivered megawatts will be counted as a performance shortfall if such megawatts otherwise would be needed but for an operating parameter limitation specified in the market seller's energy offer.³¹⁸

³¹⁶ Capacity Performance Order, 151 FERC ¶ 61,208 at P 171 (emphasis in original) (internal footnotes omitted); *see id.* P 173.

³¹⁷ *See* proposed PJM OATT at Attachment DD, section 10A(d).

³¹⁸ To the extent PJM's proposed compliance—and reference to its security-constrained economic dispatch—seeks to address an issue related to resources' following dispatch instructions, that issue is independent of the Commission's finding on the scheduling exemption in the Capacity Performance Order and goes beyond compliance. However, PJM is free to propose tariff revisions under FPA section 205 if it is concerned about the interaction between the scheduling exemption and the resource performance evaluation mechanics in section 10A of Attachment DD of the OATT.

301. Calpine argues that a capacity resource must be assessed a Non-Performance Charge whenever PJM chooses not to schedule that resource due to its inflexible operating parameters. We disagree, because this would potentially penalize a resource even though PJM determines the resource is not needed to alleviate the capacity shortage. Nevertheless, we agree that PJM's proposed "bright line" test could potentially subject more-flexible resources to higher penalty risk than less-flexible resources. We find that our above condition reasonably addresses Calpine's concern, by ensuring that a capacity resource is subject to Non-Performance Charges, unless PJM determines the resource would not be needed irrespective of any operating parameter limitation specified in the energy offer for that resource.

302. We disagree with the Market Monitor that PJM must remove Demand Response Bonus Performance from the definition of the Balancing Ratio. In the Capacity Performance Order, the Commission conditionally accepted PJM's proposed Balancing Ratio, including PJM's propose to include Demand Response Bonus Performance in the calculation. Further, PJM does not propose any revisions with respect to this aspect of its proposal as part of the instant compliance filing. Rather, in its compliance proposal, the components of the Balancing Ratio, including Demand Response Bonus Performance, are as proposed in the original filing. Therefore, as this provision is not substantively changed in the compliance filing, we find no basis for rejecting PJM's compliance filing on this issue.

303. The Market Monitor suggests that the stop-loss limit definition be revised so that the limit applies to the net of all Non-Performance Charges and any Performance Bonus Payments received. We reject the Market Monitor's argument as beyond the scope of this compliance filing, which is limited to whether PJM complied with the directives in the Capacity Performance Order. We further note that the tariff provision at issue is unambiguous, specifying that a resource's Non-Performance Charge for a delivery year shall not exceed the annual stop-loss limit. The tariff does not suggest that PJM intended to set the annual stop-loss limit based on the net of Non-Performance Charges and Performance Bonus Payments. We therefore reject the Market Monitor's assertion that this provision is ambiguous and could be interpreted contrary to its intent.

304. We further reject the Market Monitor's request that the Commission clarify the correct measure of the annual stop-loss limit as unnecessary, because the OATT unambiguously addresses the matter at hand and the language of the OATT is controlling. We note that the Commission accepted, subject to condition, PJM's proposed tariff language, which correctly defines the annual stop-loss limit as "1.5 times the Net CONE times the megawatts of Unforced Capacity committed by the resource times 365."³¹⁹

³¹⁹ PJM OATT at Attachment DD, section 10A(d).

305. Finally, we note that NRG/Dynegy's comments are, in effect, reiterations of arguments raised in its request for rehearing and we address them in the rehearing section above.

B. Fixed Resource Requirement

1. Compliance Requirement

306. In the Capacity Performance Order, the Commission generally accepted PJM's proposal to provide Fixed Resource Requirement entities a choice between a financial and physical non-performance assessment option for under-performance by Capacity Performance Resources and Base Capacity Resources identified in an Fixed Resource Requirement capacity plan. Nevertheless, the Commission found that a phase-in of PJM's proposal was appropriate, such that the revised Capacity Performance would apply to a Fixed Resource Requirement entity after the conclusion of any plan to which such entity was subject as of the date of the Commission's order.³²⁰

307. The Commission also required revisions to the physical non-performance assessment option to ensure it is comparable to the financial option. PJM had proposed, as its physical option, that the under-performing entity add to its capacity plan for the next delivery year 0.5 MW for each MW of under-performance. The Commission found that the physical option could unduly penalize Fixed Resource Requirement entities, because it lacks an hourly charge rate relative to the additional capacity per MW of non-performance.³²¹ Accordingly, the Commission directed PJM to derive and incorporate an hourly charge rate for the physical non-performance assessment option that is comparable to the hourly charge rate in the financial non-performance assessment option, i.e., the hourly Non-Performance Charge rate.³²²

308. The Commission also conditioned acceptance on PJM revising its proposal to allow Fixed Resource Requirement entities to elect between the financial and the physical non-performance assessment options at the start of the relevant delivery year.³²³

³²⁰ Capacity Performance Order, 151 FERC ¶ 61,208 at P 212.

³²¹ *Id.* P 209.

³²² *Id.*

³²³ *Id.* P 210.

2. Compliance Proposal

309. PJM proposes to revise the Fixed Resource Requirement physical non-performance assessment rules to establish an hourly charge rate.³²⁴ Further, because Fixed Resource Requirement entities rely on a portfolio of capacity resources in their Fixed Resource Requirement capacity plans, PJM proposes conforming revisions to clarify that the physical non-performance assessment option would apply to under-performance by both Capacity Performance Resources and Base Capacity Resources.³²⁵ PJM explains that a Fixed Resource Requirement entity whose resources under-perform will need to add to its Fixed Resource Requirement plan for the next delivery year an amount of megawatts equal to or greater than the net performance shortfall amount times the hourly charge rate.³²⁶ PJM states that for each Performance Assessment Hour, the performance shortfall will be determined on a net basis separately for all Capacity Performance Resources and all Base Capacity Resources in the plan.³²⁷ PJM explains that any net over-performance by one class of resources will be netted against any net under-performance, on a class basis, by the other class of resources.

310. To establish the hourly charge rate for Capacity Performance Resources, PJM proposes to derive the hourly charge rate from the penalty component of the Non-Performance Charge annual stop-loss. Specifically, for Capacity Performance Resources, PJM proposes to divide the penalty component (0.5 times Net CONE) by 30 Performance Assessment Hours, resulting in an hourly rate of 0.01667 MW.³²⁸ For Base Capacity Resources, PJM proposes an hourly charge rate that is a scaled-down version of the hourly charge for Capacity Performance Resources equal to the product of 0.01667 MW per Performance Assessment Hour times the ratio of the relevant weighted average clearing price to the Net CONE established for the Locational Deliverability Area for that delivery year.³²⁹

³²⁴ PJM Capacity Market Compliance Filing at 12.

³²⁵ *Id.*

³²⁶ PJM Capacity Market Compliance Filing at 13; *see* proposed PJM RAA at Schedule 8.1, section G.2.

³²⁷ PJM Capacity Market Compliance Filing at 13.

³²⁸ *Id.*; *see* Tariff, Attachment DD, section 10A(e).

³²⁹ PJM Capacity Market Compliance Filing at 14; *see* proposed PJM RAA at Schedule 8.1, section G.2. PJM explains that as Fixed Resource Requirement resources

(continued...)

311. PJM also proposes to cap the maximum additional physical capacity commitment for the following delivery year separately for Capacity Performance Resources and Base Capacity Resources. For Capacity Performance Resources, the total additional MWs required as a result of non-performance by the Fixed Resource Requirement entity in any delivery year shall not exceed a MW quantity equal to 0.5 times the committed MW quantity for that year.³³⁰ For Base Capacity Resources, the annual limit is scaled down consistent with the lower hourly charge rates, such that the cap is the applicable weighted-average clearing price times 0.5 MW per megawatt of committed capacity.³³¹

312. PJM also proposes that, prior to the start of each delivery year in which Capacity Performance requirements apply to a Fixed Resource Requirement entity, such entities must elect either the financial or physical option for satisfying under-performance charges.³³² PJM proposes conforming revisions to remove language that limited a Fixed Resource Requirement entity's ability to make such election to a one-time choice.

313. In response to the Commission's finding that the Capacity Performance market rules should apply to Fixed Resource Requirement entities only after the conclusion of the Fixed Resource Requirement plans to which these entities are currently obligated as of the date of the order, PJM proposes that the Capacity Performance rules do not apply to Fixed Resource Requirement entities until the 2019-20 delivery year.³³³ PJM states that Fixed Resource Requirement entities submitted their plans for the 2018-19 delivery year in April 2015, shortly before issuance of the *Capacity Performance Order*, and therefore reflect the only Fixed Resource Requirement plans to which these entities are currently obligated as of the Capacity Performance Order. PJM proposes a number of conforming changes in other tariff provisions to preserve – solely for Fixed Resource

do not participate in the RPM Auctions and thus are not associated with any clearing price, the clearing price used to determine the applicable charge rate is that for the Locational Deliverability Area encompassing the Zone in which the resource is located.

³³⁰ PJM Capacity Market Compliance Filing at 14; *see* proposed PJM RAA at Schedule 8.1, section G.2.

³³¹ PJM Capacity Market Compliance Filing at 14-15; *see* PJM RAA at Schedule 8.1, section G.2.

³³² PJM Capacity Market Compliance Filing at 15; *see* proposed PJM RAA at Schedule 8.1, section C.1.

³³³ *See* proposed PJM RAA at Schedule 8.1, sections D.2, D.4, D.5 and G.1.

Requirement and solely for one additional delivery year – existing capacity market rules that would otherwise be superseded as of June 1, 2018.

3. Protests and Comments

314. Illinois Municipal Electric Agency contends that PJM’s proposed revisions governing the phase-in of the revised Capacity Performance rules to Fixed Resource Requirement entities do not comply with the Capacity Performance Order. Illinois Municipal Electric Agency argues that PJM’s proposed language contradicts the Commission’s compliance directive, which provides for a case-by-case determination based on a Fixed Resource Requirement entity’s particular circumstances and obligation.³³⁴ Illinois Municipal Electric Agency argues that PJM’s requirement should refer to either the initial five-year capacity plan (as would apply for Illinois Municipal Electric Agency) or, for those entities that have already fulfilled their five-year commitment obligations, the 2019-20 delivery year, allowing Fixed Resource Requirement entities to complete their existing commitment before being made subject to PJM’s payment election requirement.

4. Answers

315. PJM responds that Illinois Municipal Electric Agency’s interpretation of the Capacity Performance Order and the underlying Fixed Resource Requirement rules is incorrect. PJM suggests that Illinois Municipal Electric Agency has confused the time period of its election of the Fixed Resource Requirement Alternative with the time period of its resource plans submitted under that alternative. PJM argues that its approach ensures that Fixed Resource Requirement entities can comply with the new enhanced performance requirements without upsetting any resource plan to which the Fixed Resource Requirement entity is “currently obligated.”

316. Illinois Municipal Electric Agency argues that PJM’s answer ignores the express compliance directive at issue here, requiring “that PJM apply the Capacity Performance rules to Fixed Resource Requirement entities only after the conclusion of the Fixed Resource Requirement plans to which these entities are currently obligated as of the date of the [*Capacity Performance Order*].”³³⁵ Illinois Municipal Electric Agency adds that the obligation, in this regard, is undertaken not on a yearly basis, with the submission of

³³⁴ Illinois Municipal Electric Agency Protest at 7.

³³⁵ Illinois Municipal Electric Agency Answer at 5 (citing Capacity Performance Order, 151 FERC ¶ 61,208 at P 212).

the capacity plan, but – as the RAA makes clear, at Schedule 8.1.C.1 -- at the time that the underlying five-year commitment is made.³³⁶

5. Commission Determination

317. For the reasons discussed below, we conditionally accept PJM’s proposed revisions, subject to condition. PJM must submit further revisions in an additional compliance filing, within 30 days of the date of this order.

318. Regarding a phase-in of the Capacity Performance rules for Fixed Resource Requirement entities, we find that PJM’s proposal to apply the Capacity Performance rules to Fixed Resource Requirement entities with no ongoing five-year election commitment beginning with delivery year 2020-21 is reasonable in concept. However, PJM’s proposal to apply the Capacity Performance rules to all Fixed Resource Requirement entities beginning with the 2019-20 delivery year does not comply with the Capacity Performance Order.

319. In the Capacity Performance Order, the Commission endorsed a phase-in of the Capacity Performance requirements for Fixed Resource Requirement entities in light of the initial five-year commitment entities must make to elect the Fixed Resource Requirement Alternative and the long planning horizons to which they are subject.³³⁷ The Commission’s intent was that the Capacity Performance rules would not apply to an entity that is currently—as of the date of the Capacity Performance Order—within its

³³⁶ PJM RAA Schedule 8.1.C.1 provides as follows:

No less than two months before the conduct of the Base Residual Auction for the first delivery year for which such election is to be effective, any Party seeking to elect the [Fixed Resource Requirement] Alternative shall notify [PJM] in writing of such election. Such election shall be for a minimum term of five consecutive delivery years. No later than one month before such Base Residual Auction, such Party shall submit its [Fixed Resource Requirement] Capacity Plan demonstrating its commitment of Capacity Resources for the term of such election sufficient to meet such Party’s Daily Unforced Capacity Obligation (and all other applicable obligations under this Schedule) for the load identified in such plan.

³³⁷ Capacity Performance Order, 151 FERC ¶ 61,208 at P 212; *see* PJM RAA at Schedule 8.1, sections C.1 (Any party electing the Fixed Resource Requirement Alternative must commit to a minimum term of five consecutive delivery years and may terminate its election “effective with the commencement of any [delivery year] following the minimum five [delivery year] commitment.”).

initial five-year Fixed Resource Requirement commitment period until the expiration of that period. For example, an entity that first elected the Fixed Resource Requirement option for delivery year 2015-16 would become subject to the new Capacity Performance requirements beginning with delivery year 2020-21. PJM's proposed compliance to apply the Capacity Performance requirements to all Fixed Resource Requirement entities beginning with the 2019-20 delivery year is therefore not consistent with the Commission's intent in the Capacity Performance Order. Accordingly, we accept PJM's proposed compliance, subject to PJM submitting additional revised tariff language within 30 days of the date of this order to clarify that the Capacity Performance rules will apply to a Fixed Resource Requirement entity only after the conclusion of any remaining delivery years in its initial five-year Fixed Resource Requirement commitment period, if such entity was so committed as of the date of the Capacity Performance Order.

C. Market Power Mitigation

1. Compliance Requirement

320. In the Capacity Performance Order, the Commission accepted PJM's revised market power mitigation rules, subject to condition. The Commission found that PJM's proposal to define a default Capacity Performance Resource offer cap for resources with low avoidable costs as the product of Net CONE times the Balancing Ratio was just and reasonable.³³⁸ The Commission also accepted, subject to condition, PJM's proposal to allow resources with high avoidable costs (High ACR Resource) to submit unit-specific offer caps that detail all Avoidable Cost Rate components including a quantifiable risk premium, the Capacity Performance Quantifiable Risk. The Commission conditioned acceptance on PJM revising the definition of Capacity Performance Quantifiable Risk to permit resources to include "quantifiable and reasonably-supported risks" and clarifying that both Capacity Performance Resources and Base Capacity Resources will be permitted to include such risks in their offers.³³⁹

³³⁸ Capacity Performance Order, 151 FERC ¶ 61,208 at P 336. The Balancing Ratio, as proposed by PJM, is calculated to determine the Expected Performance of Generation Capacity Resources and Capacity Storage Resources and reflects the historical three-year average of the ratio observed in the three calendar years preceding the Base Residual Auction in which a Capacity Performance Resource offer is being submitted. *See* proposed PJM OATT at Attachment DD, section 10A(c).

³³⁹ Capacity Performance Order, 151 FERC ¶ 61,208 at P 353. The Capacity Performance Order also required PJM to reflect in its compliance filing, the Commission's rejection of PJM's proposal to exempt Planned Generation Capacity Resources from the capacity market must-offer requirement until such time as those

(continued...)

2. Compliance Proposal

321. PJM proposes tariff revisions specifying that the costs included in Capacity Performance Quantifiable Risk must be “quantifiable and reasonably-supported” (rather than “documented and quantifiable”).³⁴⁰ To clarify what constitutes reasonable support, PJM proposes language providing that Capacity Performance Quantifiable Risk will be considered reasonably supported

if it is based on actuarial practices generally used by the industry to model or value risk and if it is based on actuarial practices used by the Capacity Market Seller to model or value risk in other aspects of the Capacity Market Seller’s business. Such reasonable support shall also include an officer certification that the modeling and valuation of the [Capacity Performance Quantifiable Risk] was developed in accord with such practices. Provision of such reasonable support shall be sufficient to establish the [Capacity Performance Quantifiable Risk].³⁴¹

322. PJM also proposes language providing that the types of risks for which costs may be included in the Capacity Performance Quantifiable Risk are “risks of non-performance associated with submission of a Capacity Performance Resource offer (or of a Base Capacity Resource offer for the 2018-19 or 2019-20 delivery years).”³⁴²

3. Protests and Comments

323. Multiple parties protest that PJM’s compliance proposal inappropriately narrows sellers’ ability to include quantifiable and reasonably-supported risks in their offers and goes beyond compliance with the Capacity Performance Order, in particular, by requiring

resources go into service. *Id.* P 356. In rejecting that proposal, the Commission noted that a seller of a Planned Generation Capacity Resource could effectively withhold capacity by deterring a new entrant from taking its place, and then not entering service as of the date contemplated at the time of PJM’s Base Residual Auction. *Id.*

³⁴⁰ See PJM Capacity Market Compliance Filing at 19-20; proposed Operating Agreement at section 6.8(a).

³⁴¹ Proposed Operating Agreement at section 6.8(a).

³⁴² *Id.*

consistency with actuarial practices or requiring that sellers provide an officer's certification.³⁴³ NRG/Dynegy, P3, and PSEG argue, for example, that the term "actuarial practice" is ambiguous and inappropriate. PSEG proposes that Capacity Performance Quantifiable Risk should be considered reasonably supported if it is consistent with the Capacity Market Seller's corporate risk management practices and supported by an officer certification that it was developed in accord with such practices. NRG/Dynegy asserts that PJM must permit any quantifiable and reasonably-supported risks, whether supported by an officer's certificate or other reasonable documentation.³⁴⁴ In addition, Exelon argues that PJM's revisions to the Capacity Performance Quantifiable Risk are too limited and should be clarified to include risks related to the calculation of future energy and ancillary services revenue, in particular the unit outage risk, volatility risk, and liquidity risk that Exelon proposed in its comments to PJM's Capacity Performance proposal.

324. The Market Monitor, on the other hand, protests that PJM should be required to narrow the scope of Capacity Performance Quantifiable Risk and that the additional language PJM proposes should be rejected. The Market Monitor asserts that the only sources of risk for a Capacity Performance Resource offer are the uncertainties in the components of the competitive offer, specifically actual unit availability, Balancing Ratio, and number of performance assessment hours. The Market Monitor argues that PJM's revised language creates a significant loophole because PJM's revised language is vague and impossible to enforce. The Market Monitor suggests that market participants can submit documented, reasonably supported risk premiums that include the cost of covering these risks, but the tariff should be clear there is no other source of risk.

4. PJM's Answer

325. PJM disagrees with the Market Monitor that the revised language expands the types of risks that may be included in Capacity Performance Quantifiable Risk. PJM argues that the language in no way affects the types of risks for which costs may be included and instead informs Capacity Market Sellers of one way to ensure PJM will accept a Capacity Performance Quantifiable Risk as reasonably supported. Further, PJM responds, the proposed compliance language explicitly limits includable costs to the "risks of non-performance," which are the costs specifically associated with becoming committed as a Capacity Performance or Base Capacity Resource and any penalties resulting from non-performance, consistent with the Commission's finding in the

³⁴³ NRG/Dynegy Protest at 3; PSEG Protest at 4; Exelon Protest at 5-6; P3 Protest at 4-5.

³⁴⁴ NRG/Dynegy Protest at 5.

Capacity Performance Order.³⁴⁵ PJM maintains that PSEG and others also misinterpret the compliance language on using actuarial practices to support costs, reiterating that it merely provides a seller confidence that a Capacity Performance Quantifiable Risk based on its general actuarial practices, as certified by an officer, would be acceptable to PJM.

326. In response to Exelon, PJM argues that it is appropriate to exclude costs related to a resource's business risks, such as failing to earn the anticipated energy and ancillary services revenues, from Capacity Performance Quantifiable Risk, because such risks are not new risks associated with submitting an offer under the revised Capacity Performance market rules.

5. Commission Determination

327. For the reasons discussed below, we find that PJM's proposed revisions comply, in part, with the Capacity Performance Order. Accordingly, we accept PJM's revisions, subject to the condition. PJM must submit additional revisions in a further compliance filing, within 30 days of the date of this order.

328. We find that PJM's revisions appropriately broaden the definition of Capacity Performance Quantifiable Risk to include the quantifiable and reasonably-supported risks of becoming a capacity resource under the new capacity market construct. Further, we find that PJM's revisions clarify that both Capacity Performance Resources and Base Capacity Resources are permitted to include quantifiable and reasonably-supported risks in their Avoidable Cost Rate. We disagree with the protests that PJM's revised language inappropriately narrows sellers' ability to include quantifiable and reasonably-supported risks in their offers and goes beyond compliance with the Capacity Performance Order. As PJM explains in its answer, the revised language describes and informs how a capacity market seller may seek to justify a risk premium as reasonably supported.³⁴⁶ However, we agree with NRG/Dynegy, PSEG, P3, and the Market Monitor that PJM's proposed language merits further clarification consistent with this statement in PJM's answer.

329. We therefore condition our acceptance on PJM further revising the proposed language to clarify that it describes just one method for a capacity market seller to justify including quantifiable and reasonably-supported risks associated with becoming a capacity resource under the new capacity market construct in Capacity Performance

³⁴⁵ PJM August 6, 2015 Answer at 4 (citing Capacity Performance Order, 151 FERC ¶ 61,208 at P 353).

³⁴⁶ PJM August 6, 2015 Answer at 4.

Quantifiable Risk and that a capacity market seller may use other methods or forms of support for a risk premium to meet the “reasonably supported” threshold.

330. We reject Exelon’s request that Capacity Performance Quantifiable Risk should include risks related to future energy and ancillary service revenue, in particular the unit outage, volatility, and liquidity risks that Exelon describes. In the Capacity Performance Order, the Commission conditionally accepted PJM’s proposal to include a new component in the Avoidable Cost Rate calculation, the Capacity Performance Quantifiable Risk, to allow capacity market sellers to include in their capacity offers “the cost of becoming a capacity resource under the new capacity market construct.”³⁴⁷ As discussed in the rehearing section above, the Capacity Performance Quantifiable Risk does not permit market sellers to include risks resources faced prior to the Capacity Performance construct, such as the energy market-related risks Exelon suggests. Nevertheless, the risk that market sellers face from becoming capacity resources under the new capacity market construct requires a complex calculation that depends on the company-specific nature of valuing performance risk. For this reason, we also reject the Market Monitor’s assertion that PJM must further clarify or expressly limit the specific types of risks that may fall within the Capacity Performance Quantifiable Risk.

D. Operating Parameters

1. Compliance Requirement

331. In the Capacity Performance Order, the Commission generally agreed with PJM that its then-existing energy market rules inappropriately allowed a capacity resource to submit an energy offer with inflexible operating parameters that do not reflect its actual operating capabilities. However, the Commission rejected PJM’s proposal to limit the operating parameters that a capacity resource may submit in an energy market offer, finding that PJM’s proposal was overly restrictive and, therefore, unjust and unreasonable.³⁴⁸ The Commission explained that PJM’s proposed revisions may prevent a resource from reflecting actual parameter limits caused by legitimate, non-physical constraints in its energy market offer.³⁴⁹ For example, the Commission stated, a natural gas pipeline may impose, due to physical constraints during peak periods, a requirement that all shippers take uniform delivery throughout the day.³⁵⁰ Accordingly, the

³⁴⁷ Capacity Performance Order, 151 FERC ¶ 61,208 at P 353.

³⁴⁸ *Id.* P 434.

³⁴⁹ *Id.* PP 435-437.

³⁵⁰ *Id.* P 437 & n.322.

Commission directed PJM to revise its Operating Agreement, at Schedule 1, section 6.6(b), to state that “[PJM] shall determine the unit-specific achievable operating parameters for each individual resource on the basis of its operating design characteristics and other constraints ...” and that “[t]hese unit-specific values shall apply for the generation resource unless it is operating pursuant to an exception from those values under subsection (h) hereof due to operational limitations that prevent a resource from meeting the minimum parameters.”

332. The Commission also addressed PJM’s proposal to cap the minimum start-up and notification times applicable during normal operations, Hot Weather Alerts, or Cold Weather Alerts, for Capacity Performance Resources and Base Capacity Resources, finding that PJM’s proposal failed to take into account unit-specific physical constraints. Accordingly, the Commission required PJM to modify its Operating Agreement, at Schedule 1, sections 6.6(f)(iv) and (g)(iii) to provide that “parameters shall be based on the actual operational limitations of the relevant resource type.”³⁵¹

333. In the Capacity Performance Order, the Commission also directed PJM to modify its Operating Agreement, at Schedule 1, section 3.2.3(e), to permit resources to recover, through make-whole payments, the costs incurred if a resource operates within its actual constraints and not only within its unit-specific parameter limits based on its physical characteristics.³⁵² In addition, to accommodate resources with parameter constraints that may change quickly and may not be reviewable in advance of the day-ahead or real-time market, the Commission directed PJM to establish a process through which a resource that operates outside of its unit-specific parameter limits can seek to justify such operation as the result of actual constraints, rather than the exercise of market power.³⁵³

334. In the Capacity Performance Order, the Commission declined to require PJM to publish standard values for operating parameter limits, finding that PJM’s proposal to evaluate all physical parameter limits submitted to it based on manufacturer’s specifications, as well as other factors, is a just and reasonable method of evaluating such limits. The Commission explained that, given the diverse nature of physical parameter limits, PJM must evaluate these considerations on a “case-specific basis” and determine, with the Market Monitor’s input, whether to allow a parameter limit.³⁵⁴ However, the

³⁵¹ *Id.* P 436.

³⁵² *Id.* P 440.

³⁵³ *Id.*

³⁵⁴ *Id.* P 444.

Commission directed PJM to specify “the timelines and other details as to how this provision will be implemented.”³⁵⁵

2. Compliance Proposal

335. PJM proposes to revise Schedule 1, section 6.6(b) of its Operating Agreement to provide that PJM will determine the unit-specific achievable operating parameters for each individual resource based on “its operating design characteristics and other constraints.”³⁵⁶ Such operational limitations “shall be (a) physical operational limitations based on the operating design characteristics of the resource, or (b) other actual physical constraints, including those based on contractual limits, that are not based on the characteristics of the resource.” According to PJM’s proposed revisions, the unit-specific values that PJM defines will apply for the resource unless it is operating pursuant to an exception from those values that PJM grants “due to operating limitations that prevent the resource from meeting the minimum parameters.”³⁵⁷

336. PJM also proposes that, should a capacity market seller believe that its capacity resource cannot “meet the unit-specific values determined by [PJM] due to actual operating constraints,” it can request adjusted unit-specific parameter limitations. Further, PJM proposes, “[i]n considering whether a contractual or other actual constraint is a physical constraint which the [capacity market seller] should be permitted to reflect in its unit-specific parameter limits for that resource, [PJM] will base its determination on whether the [seller] obtained the most flexible gas pipeline transportation contract terms available for the resource.”³⁵⁸ PJM argues that this new language is necessary to distinguish between a contractual limit that should be permissible and an economic constraint which should not be taken into consideration. PJM further asserts that the contractual limit is appropriately based on a natural gas pipeline contract representing the best available service offered by the pipeline.³⁵⁹ In addition, PJM proposes to incorporate

³⁵⁵ *Id.* P 443.

³⁵⁶ Proposed Operating Agreement at Schedule 1, section 6.6(b).

³⁵⁷ Proposed Operating Agreement at Schedule 1, section 6.6(b).

³⁵⁸ Proposed Operating Agreement at Schedule 1, section 6.6(b).

³⁵⁹ PJM Energy Markets Filing at 8.

timelines and details specifying how PJM will implement the unit-specific parameter limited schedule review process.³⁶⁰

337. With respect to start-up and notification times, PJM states that it proposes revisions that allow market sellers to establish unit-specific times for a resource, based on the resource's actual operational limitations, if it is unable to satisfy the default times.³⁶¹ Specifically, PJM proposes to maintain the default caps on minimum start-up and notification times applicable during normal operations, Hot Weather Alerts, or Cold Weather Alerts for Capacity Performance Resources and Base Capacity Resources, with additional proposed language specifying that such operating parameter limits apply "unless the [capacity market seller] has requested for its [resource] and [PJM] had granted, an adjusted unit-specific start-up and/or notification time due to actual operating constraints pursuant to the process described [in section 6/6(b).]"³⁶² Further, PJM proposes revisions providing that when a Hot Weather Alert or Cold Weather Alert has been issued, "parameters shall be based on the actual operational limitations" of the resource for both its market-based and cost-based schedules.³⁶³

338. With respect to make-whole payments, PJM proposes to revisions to make clear that a resource will only be deemed ineligible to receive make-whole payments if it operates outside any actual constraints the resource faces. PJM also proposes to incorporate a process for a market seller to justify to PJM that its resource's operation outside of its unit-specific parameter limits was the result of actual constraints, rather than the exercise of market power. As to the role the Market Monitor plays in such a review, PJM proposes that the Market Monitor "shall evaluate such request for compensation and provide its determination of whether there was an exercise of market power to [PJM] by no later than twenty-five calendar days after receiving the . . . request."³⁶⁴

³⁶⁰ Proposed Operating Agreement at Schedule 1, section 6.6(b).

³⁶¹ PJM Energy Markets Filing at 10.

³⁶² Proposed Operating Agreement at Schedule 1, section 6.6(f) and (g).

³⁶³ Proposed Operating Agreement at Schedule 1, section 6.6(f)(iv) and (g)(iii).

³⁶⁴ See proposed Operating Agreement at Schedule 1, section 3.2.3(e).

3. Protests and Comments

339. Multiple parties protest PJM's proposed language describing the standard PJM will use in considering whether a contractual or other actual constraint is permissible in a resource's unit-specific parameter limits. P3 argues that PJM's proposed language goes beyond the Commission's directive in the Capacity Performance Order by qualifying other actual constraints as "other actual *physical* constraints, including those based on contractual limits, that are not based on the characteristics of the resource."³⁶⁵

NRG/Dynegy agrees, reasoning that PJM is prohibited from utilizing a standard that limits a resource's parameters to actual physical constraints.³⁶⁶ P3 further objects to PJM's language specifying that PJM will consider "whether the [capacity market seller] obtained the most flexible gas pipeline transportation contract terms available for the resource."³⁶⁷ Illinois Municipal Electric Agency, NRG/Dynegy, and the Generator Coalition argue that PJM's proposed standard fails to recognize other fuel-based constraints, including constraints attributable to coal generation.

340. The Generator Coalition and NRG/Dynegy argue that PJM's proposal conflicts with the broader structure of PJM's capacity market reforms, under which sellers are not required to have any one particular fuel supply arrangement to offer and clear as a Capacity Performance Resource. The Generator Coalition contends that PJM's proposed standard for unit-specific parameter limits would effectively impose an additional fuel requirement – the obligation to obtain "the most flexible gas pipeline transportation contract terms available."

341. The Market Monitor contends that allowing generation owners to have operating parameters based on contractual limits results in circular logic under which the generating unit's fuel procurement risk is determined by the contract entered into in order to manage the fuel procurement risk that results from the performance obligation. Therefore, the Market Monitor concludes, generation owners are in the best position to enter into the best contractual terms to meet their performance obligations, not PJM.

342. NRG/Dynegy, P3 and the Generator Coalition protest that PJM's proposed language regarding whether a generation owner obtained the most flexible gas pipeline

³⁶⁵ P3 Protest at 3-4 (citing Proposed Operating Agreement at Schedule 1, section 6.6(b)) (emphasis added).

³⁶⁶ NRG/Dynegy protest at 4 (citing Capacity Performance Order, 151 FERC ¶ 61,208 at P 437).

³⁶⁷ P3 Protest at 3.

transportation contract terms available is too vague. They request that PJM be required to clarify how PJM and the Market Monitor will determine what the most flexible contract terms are, while taking into consideration third parties or services that are not yet developed from existing or proposed pipelines. The Market Monitor agrees that PJM's language is vague and unworkable, arguing that in order for PJM, or the Market Monitor, to make a proper determination, generation owners would have had to request from their current pipeline and from other existing or proposed pipelines if no-notice service could be made available to them.

343. Illinois Municipal Electric Agency argues that PJM's proposed revisions do not adequately include "a specification of the timelines and other details as to how this provision [regarding the operating parameters] will be implemented."³⁶⁸ Illinois Municipal Electric Agency asserts that PJM should be required to specify, in its tariff, that operating parameters will be set on a case-specific basis, not generically. Illinois Municipal Electric Agency argues that without this clarification, PJM will be free to pursue almost any mechanism for imposing parameters.

344. NRG/Dynegy requests that PJM be required to clarify that it will consult with sellers in the process of initially setting or resetting their parameter limits, and that sellers will also have the ability to request that PJM reevaluate their parameter limits, based on a change to the resource's operational capabilities.

345. Illinois Municipal Electric Agency and NRG/Dynegy contend that PJM's proposed process for a seller to petition for adjusted unit-specific parameters, under section 6.6, fails to require PJM to provide a reason for denying the request, or the basis on which its determination was made.³⁶⁹ Illinois Municipal Electric Agency and NRG/Dynegy request that the Commission require PJM provide the seller detailed grounds for any denial as well as the information, including that from the Market Monitor, that informed the denial.

346. Finally, with respect to the Market Monitor's role, under proposed section 3.2.3(e), the Market Monitor argues that PJM's proposal inappropriately assigns to PJM the role of determining whether an exercise of market power has occurred.

³⁶⁸ Illinois Municipal Electric Agency Protest at 7 (citing Capacity Performance Order, 151 FERC ¶ 61,208 at P 443).

³⁶⁹ *Id.*

4. PJM's Answer

347. PJM responds to intervenors' arguments regarding PJM's proposed revisions, at Schedule 1, section 6.6(b), addressing PJM's unit-specific evaluation of contractual or other constraints, that are not physical limits, including PJM's proposal to consider "the most flexible gas pipeline transportation contract terms available" to the resource. First, PJM responds to the argument made by NRG/Dynegy and the Generator Coalition that, to comply with the Capacity Performance Order, PJM was required to submit tariff language providing that, in the unit-specific review process, any constraint that is an actual constraint should be approved. PJM argues that the Capacity Performance Order held only that PJM must allow contract-based parameter limitations to be considered in the unit-specific review process, without requiring that PJM accept *every* contract-based parameter limitation. Accordingly, PJM asserts that its proposed language complies with the Capacity Performance Order by providing parameter limitations that are based on "contractual or other actual constraints," and by providing sellers guidance on the standard PJM will utilize to evaluate the vast majority of such constraints that are based on gas transportation contracts.

348. PJM also responds to the concerns raised by NRG/Dynegy and P3, characterizing as overly vague PJM's proposed unit-specific review standard, as based on whether the seller has obtained the most flexible gas pipeline transportation contract terms available. PJM argues that while its inquiry will be fact-specific and will vary from resource to resource, such a process is no different than any other element of a unit-specific review. PJM also clarifies that it will consider constraints arising from laws, regulations, and permit conditions, such as run-time limits associated with emissions limitations, or environmental regulation constraints associated with water intake or discharge, to be equivalent to physical constraints that are generally beyond the seller's ability to control.

349. PJM also recognizes that, in some limited cases, sellers may still have parameter limits based on legitimate contractual or actual constraints other than gas transportation contract constraints. PJM therefore clarifies that the guidance provided in its proposed tariff language regarding gas transportation contracts is not intended to preclude consideration of other legitimate "contractual or actual constraints" that may require parameter limitations. PJM adds, however, that it intends to apply the same standard, i.e., the seller will be required to demonstrate that it was not simply an economic decision but a physical restriction that could not be rectified among any commercial alternatives actually available. PJM states that, if so directed, it will include this clarification in its tariff.

350. PJM also responds to the Market Monitor's argument that, under proposed section 3.2.3(e), PJM will inappropriately be given the role of determining whether an exercise of market power has occurred. PJM argues that its proposed language is comparable to the language on review of parameter limits, providing for "input" from the Market

Monitor—a provision that the Commission accepted, noting that, ultimately, PJM must make the determination not to allow a parameter limit.³⁷⁰

5. Commission Determination

351. For the reasons discussed below, we find that PJM’s proposed revisions comply, in part, with the Capacity Performance Order. Accordingly, we accept PJM’s proposed revisions, subject to the condition. PJM must submit further revisions in an additional compliance filing, within 30 days of the date of this order.

352. We find that PJM’s revisions to Schedule 1, section 6.6(b) comply with the Capacity Performance Order directive to include language to allow a resource to reflect legitimate, constraints unrelated to the characteristics of the unit itself (which PJM terms non-physical constraints) in its energy market offer.³⁷¹ However, we find that the additional proposed requirement that, to qualify for consideration of a non-physical constraint, a gas generator must first obtain the most flexible gas pipeline transportation contract to be beyond the scope of the compliance directive, which required PJM to allow parameter limitations for operational constraints. PJM’s proposal also is unclear since operational constraints imposed by a gas pipeline may have little relationship to the underlying flexibility of a transportation contract, but are related to pipeline operational characteristics, and cannot be eliminated by contract term or service choice. Furthermore, we find that provision unduly discriminatory as it establishes a prerequisite applicable only to gas generators. We also agree with protestors that the language is vague and would require PJM to exercise significant discretion in determining whether a generator has obtained the most flexible contract available. Accordingly, we accept PJM’s proposed revisions, subject to the condition that PJM propose additional tariff revisions to remove the sentence beginning with “In considering whether a contractual or other actual constraint is a physical constraint...,”³⁷² from the Operating Agreement and the corresponding section of the OATT. We also condition acceptance on PJM providing its proposed clarification³⁷³ in the tariff to make explicit that the revisions here do not preclude resources other than natural gas generators from establishing legitimate, non-physical constraints.

³⁷⁰ PJM August 6, 2015 Answer at 13 (citing Capacity Performance Order, 151 FERC ¶ 61,208 at P 444).

³⁷¹ Capacity Performance Order, 151 FERC ¶ 61,208 at P 437.

³⁷² Proposed Operating Agreement at Schedule 1, section 6.6(b).

³⁷³ See PJM August 6, 2015 Answer at 10.

353. With respect to start-up and notification times, we find that PJM's revisions comply with the directive in the Capacity Performance Order³⁷⁴ to provide that parameters shall be based on the actual operational limitations of the relevant resource type.

354. We also find that PJM's revisions to make clear that a resource will only be deemed ineligible to receive make-whole payments if it operates outside any actual constraints faced by the resource are just and reasonable. PJM further complies with the Capacity Performance Order by proposing to incorporate a process for a market seller to justify to PJM that its resource operation outside of its unit-specific parameter limits was the result of actual constraints, rather than the exercise of market power. We disagree with the Market Monitor's objection that it is inappropriate to assign PJM the role of determining whether the exercise of market power has occurred. Similar to the Commission's finding regarding parameter limits in the Capacity Performance Order,³⁷⁵ we find that PJM's proposal allows for adequate opportunity for evaluation and input by the Market Monitor and that it is appropriate for PJM ultimately to make the determination of whether the Market Seller justified that it is entitled to be made whole.

355. Finally, we find that PJM complies with the Capacity Performance Order directive to incorporate timelines and details specifying how PJM will implement the unit-specific parameter limited schedule review process. We deny Illinois Municipal Electric Agency's request that the revisions require additional case-specific clarifications and NRG/Dynegy's request that PJM clarify that it will consult with sellers in the process of setting parameters limits and allow for the ability to request PJM reevaluate their parameter limits. We acknowledge that Schedule 1, section 6.6(b), provides for an annual review of unit-specific parameter limitations and section 3.2.3(e) outlines a case-by-case procedure through which a resource can justify operating outside of its unit-specific parameters for purposes of make whole payments.³⁷⁶ We find that resources are afforded the opportunity to justify their specific operation parameter limitations under these provisions, including case-by-case operation outside of unit-specific parameters due to actual constraints.

356. Regarding Illinois Municipal Electric Agency and NRG/Dynegy's argument that the tariff fails to require PJM to provide a reason for denying the request or the basis on

³⁷⁴ Capacity Performance Order, 151 FERC ¶ 61,208 at P 436.

³⁷⁵ *Id.* P 444.

³⁷⁶ See Proposed Operating Agreement at Schedule 1, section 6.6(b), section 3.2.3(e).

which its determination was made, we find that PJM's commitment to "notify the Capacity Market Seller in writing...whether the request is approved or denied,"³⁷⁷ will provide sufficient detail regarding the determination. We do not find that additional tariff revisions are necessary.

The Commission orders:

(A) Requests for rehearing of the Capacity Performance Order are granted in part, and denied in part, as discussed in the body of this order.

(B) PJM's compliance filings in response to the Capacity Performance Order are hereby accepted, subject to condition, as discussed in the body of this order.

(C) PJM is hereby directed to submit a compliance filing within 30 days of the date of this order, as discussed in the body of this order.

By the Commission. Chairman Bay is dissenting with a separate statement attached.

(S E A L)

Kimberly D. Bose,
Secretary.

³⁷⁷ Proposed Operating Agreement at Schedule 1, section 6.6(b).

Appendix A

Parties Seeking Rehearing of the *Capacity Performance Order*:

Abbreviations**Rehearing Petitioners**

AEMA/PJMICC

Advanced Energy Management Alliance
and the PJM Industrial Customer Coalition

AEP

American Electric Power Service
Corporation

APPA/NRECA

American Public Power Association and
the National Rural Electric Cooperative
Association

DC/Maryland Commissions

Maryland Public Service Commission and
the District of Columbia Public Service
Commission

Dayton/East Kentucky

The Dayton Power and Light Company and
the East Kentucky Power Cooperative, Inc.

Delaware Commission

Delaware Public Service Commission

Dominion

Dominion Resources Services, Inc.

Duke

Duke Energy Kentucky, Inc.

EMC

EMC Development Company

Exelon

Exelon Corporation

Generator Coalition

Essential Power, LLC; Essential Power
Rock Springs, LLC; Essential Power OPP,
LLC; Lakewood Cogeneration, L.P.;
Competitive Power Ventures, Inc.; NextEra
Energy Resources; Invenergy Thermal
Development

Homer City

Homer City Generation, L.P.

Illinois Municipal Electric Agency

Illinois Municipal Electric Agency

Illinois Commission

Illinois Commerce Commission

Joint Consumers	New Jersey Board of Public Utilities, the PJM Industrial Customer Coalition, the Delaware Division of the Public Advocate, the West Virginia Consumer Advocate Division, the Maryland Office of the People's Counsel, the Delaware Public Service Commission, the Pennsylvania Office of Consumer Advocate, the New Jersey Division of Rate Counsel, the Office of People's Counsel for the District of Columbia, the Public Power Association of New Jersey, and the Duquesne Light Company
Joint Parties	American Municipal Power, Inc., Old Dominion Electric Cooperative, and Southern Maryland Electric Cooperative, Inc.
Market Monitor	Monitoring Analytics, LLC, acting as the Independent Market Monitor for PJM
NRG/Dynegy	NRG Companies and Dynegy Companies
Ohio Consumers' Counsel	The Office of the Ohio Consumers' Counsel
P3	PJM Power Providers Group
PSEG	PSEG Companies
Panda	Panda Power Funds
Pennsylvania/Delaware Commissions	Pennsylvania Public Utility Commission and Delaware Public Service Commission
Public Citizen	Public Citizen, Inc.
Public Interest Organizations	Natural Resources Defense Council, Sierra Club, Union of Concerned Scientists, and Sustainable FERC Project
RESA	Retail Energy Supply Association
Steel Producers	Steel Producers

Appendix B

Parties Submitting Comments on PJM's Compliance Filings:

Abbreviations**Commenting Parties**

Calpine

Calpine Corporation

Exelon

Exelon Corporation

Generator Coalition

Essential Power, LLC; Essential Power Rock Springs, LLC; Essential Power OPP, LLC; Lakewood Cogeneration, L.P.; NextEra Energy Resources, LLC; Invenenergy Thermal Development; Competitive Power Ventures, Inc.; Ares EIF Management, LLC; Rockland Capital, LLC

Illinois Municipal Electric Agency

Illinois Municipal Electric Agency

Market Monitor

Monitoring Analytics, LLC, acting as the Independent Market Monitor for PJM

NRG/Dynegy

NRG Companies and Dynegy Companies

Ohio Consumers' Counsel

The Office of the Ohio Consumers' Counsel

P3

PJM Power Providers Group

PSEG

PSEG Companies

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

PJM Interconnection, L.L.C.	Docket Nos. ER15-623-002 ER15-623-004 ER15-623-005
PJM Interconnection, L.L.C.	EL15-29-001 EL15-29-003
Essential Power Rock Springs, LLC, Essential Power OPP, LLC, and Lakewood Cogeneration, L.P. v. PJM Interconnection, L.L.C.	EL15-41-001

(Issued May 10, 2016)

BAY, Chairman, *dissenting*:

Today's order denies a set of rehearing petitions challenging our June 9, 2015 Capacity Performance Order.¹ In that order, the Commission accepted modifications to PJM's capacity market construct. I dissented on two basic grounds. First, the Commission failed to adequately consider the costs of the proposed changes or to compare those costs with the potential benefits. Indeed, the record to date suggests that the multi-billion dollar cost to consumers exceeds the benefits. Furthermore, and equally important, the market design itself is flawed. Compensation for capacity resources is so generous, and the penalties for non-performance are so weak, that resources can profit even if they are unable to perform when they are most needed, thereby undercutting the very purpose of the program. The various rehearing requests raise both of those flaws. Because today's order refuses to correct either error, I must respectfully dissent.

At the outset, it is important to recognize that the prior capacity construct – the Reliability Pricing Model (RPM) – worked reasonably well and allowed PJM to meet reserve margins, add new capacity, and, most importantly, keep the lights on since 2007. Under RPM, PJM forecasted adequate reserve margins through at least 2019, despite significant generator retirements. Nevertheless, after the extreme cold of 2014, when generators had a 22 percent forced outage rate, PJM proposed capacity performance to address reliability concerns in emergency situations – a limited number of hours each year in which there is peak demand known as performance assessment hours.

¹ *PJM Interconnection, L.L.C.*, 151 FERC ¶ 61,208 (2015) (Capacity Performance Order).

PJM itself estimated that the incremental cost of capacity performance ranged from \$2.5 to 4.2 billion.² The Commission accepted PJM's proposal even though there was no cost-benefit analysis, however rudimentary, to establish that it was just and reasonable. Indeed, if anything, there was evidence to the contrary. While January and February 2014 had a forced outage rate of 22 percent and uplift payments of \$667 million, the winter of 2015, which was almost as cold and which had one day with a higher peak load, had a forced outage rate of 12 percent with uplift of \$105 million.³ Better preparation and winterization, the addition of gas infrastructure and improved gas-electric coordination, helped make this happen – even in the absence of capacity performance.

I dissented from the Capacity Performance Order in part because it failed to adequately consider the program's projected multi-billion dollar costs. Intervenors also raised similar concerns. In response, the Capacity Performance Order was dismissive in rejecting these claims.⁴ This decision was in error. While administrative agencies need not perform an explicit quantitative cost-benefit analysis, agencies act unreasonably when they fail to consider the costs of their regulatory choices.⁵ On rehearing, the majority asserts that it did consider the cost of the rule change and makes the conclusory assertion that the costs are reasonable, invoking improved reliability as the asserted benefit.⁶

² PJM Interconnection and Monitoring Analytics, *Capacity Performance Initiative* (Oct. 2014), available at <http://www.pjm.com/~media/committees-groups/committees/elc/postings/capacity-performance-cost-benefit-analysis.ashx>.

³ Federal Energy Regulatory Commission Staff, *2014 State of the Markets Report* (Mar. 2015), <http://www.ferc.gov/CalendarFiles/20150319162231-A-3.pdf>.

⁴ Capacity Performance Order, 151 FERC ¶ 61,208 at P 49 (“[W]e note, as a threshold matter, that the Commission does not generally require the mathematical specificity of a cost-benefit analysis to support a market rule change. Rather, the Commission considers the proposal in light of the currently effective tariff and comments in support and opposition to reach its determination. Here, on balance and in light of other changes on which we condition our acceptance, we find the proposal to be just and reasonable.”).

⁵ *Michigan v. EPA*, 135 S. Ct. 2699, 2707 (2015) (“Consideration of cost reflects the understanding that reasonable regulation ordinarily requires paying attention to the advantages *and* disadvantages of agency decisions.”).

⁶ *PJM Interconnection, L.L.C.*, 155 FERC ¶ 61,157, at PP 30-31 (2016) (Rehearing Order).

The problem with this assertion is two-fold. First, it ignores the way in which PJM itself characterized capacity performance:

The Capacity Performance proposal is designed to improve generator performance and enhance reliability, but PJM *did not attempt to quantify the economic value of reliability improvements*. In contrast to these energy market and reliability benefits, the Capacity Performance proposal can be expected to increase capacity costs, including the costs of investments for improved resource performance. *Overall, PJM found that the economic benefits would exceed the economic costs in years with extreme weather, whereas economic costs would exceed economic benefits in years with average or mild weather.*⁷

PJM conceded that it had not quantified the economic value of reliability improvements. That being said, PJM acknowledged that the proposal would increase costs with economic benefits exceeding costs only “in years with extreme weather, whereas economic costs would exceed economic benefits in years with average or mild weather.”⁸ What neither PJM nor the Commission attempted to ascertain, however, was whether the benefit from years with extreme weather outweighed the cost of years with average or mild weather.

Second, the talismanic invocation of reliability is, by itself, inadequate to establish reasoned decision making and just and reasonable rates. The question is not whether reliability may have improved – after all, if billions are spent on a problem, there ought to be some improvement – but whether the resulting rates are just and reasonable. An examination of *TransCanada Power Marketing, Ltd. v. FERC*, 811 F.3d 1 (D.C. Cir. 2015), is instructive. At issue there was a winter reliability program in New England that sought to address the region’s growing reliance on gas-fired generation. TransCanada argued that the program resulted in excessive profits and that the record lacked evidence regarding how much of the program cost was due to profit and risk mark-up. The Commission rejected that argument, relying in large part on non-cost criteria, including an invocation of “pressing reliability risks.” On appeal, the D.C. Circuit remanded. “[W]hen [the Commission] chooses to refer to non-cost factors in ratesetting, it must . . . offer a reasoned explanation of how the [relevant] factor[s] justif[y] the resulting rates.”⁹ Referring to “‘reliability benefits,’ as if to suggest that certain suppliers should be free to command high prices because of their reliability,” is not “reasoned decision making,” in

⁷ PJM February 13, 2015 Answer at 16-17 (emphasis added).

⁸ *Id.*

⁹ *TransCanada Power Marketing Ltd.*, 811 F.3d at 13.

the absence of a demonstration of “no excess of profits.”¹⁰

Unfortunately, here, the majority today commits the same error. Conclusory or generalized assertions of “pressing reliability risks” or “reliability benefits” are not enough. A reasoned explanation is required to establish that there is “no excess of profits” and that rates are just and reasonable. One can think of capacity as being like a form of insurance designed to ensure the reliability of the grid during periods of peak stress or demand. As laudable a product as insurance can be, cost matters relative to the risk being addressed and the benefit obtained.¹¹

This question of cost is compounded by a significant flaw in market design. To continue the insurance analogy, someone who pays for premium coverage rightfully expects to be able to rely upon it in an emergency. But that may not happen here. The design is too generous on the front end and too weak on the back end. In my dissent, I referred to this flaw as providing two carrots and a partial stick. Resources can be paid handsomely for their capacity commitment in the auction (the first carrot), but are insufficiently penalized if they break their promise to perform (the partial stick). They can even receive additional compensation if they over perform during a performance assessment hour (the second carrot). The combination of these design elements – in particular, the first carrot and the partial stick – means that resources can profit even if they fail to deliver in an emergency when they are most needed and for which they have been handsomely compensated.

Start with the compensation in the auction. Like other markets the Commission

¹⁰ *Id.*

¹¹ The majority’s attempt to distinguish *TransCanada* is unavailing. Regardless of how a rate is derived, under the Federal Power Act it must be just and reasonable. To determine whether a market outcome is just and reasonable, “what matters is whether an individual seller is able to exercise anticompetitive market power.” *Montana Consumer Counsel v. FERC*, 659 F.3d 910, 916 (9th Cir. 2011) (quoting *Blumenthal v. FERC*, 552 F.3d 875, 882 (D.C. Cir. 2009)). See also *Harris v. FERC*, 784 F.3d 1267, 1273 (9th Cir. 2015) (emphasizing importance of tariff requirements that “enable FERC to determine whether the rates were ‘just and reasonable’ and whether market forces were truly determining the price”) (quoting *Lockyer v. FERC*, 383 F.3d 1006, 1013 (9th Cir. 2004)). Here, to provide additional revenue to capacity resources, the mitigation rules were changed and do not screen for the exercise of market power on offers up to .85 of Net CONE, even though the market is structurally non-competitive. This measure in and of itself is problematic, justifiable perhaps only by a compelling showing of need, which PJM has failed to make, and by a careful consideration of cost, which the majority has failed to do.

oversees, market power is a real concern in the PJM capacity market. The Independent Market Monitor recognizes that PJM's capacity market is structurally non-competitive.¹² Because competition is not always available to restrain the exercise of market power, the market rules are an important check to ensure that capacity prices are just and reasonable.

The Commission typically imposes a variety of rules in its markets to mitigate the exercise of market power. The Capacity Performance Order, however, accepted a market design with very limited mitigation requirements. The core protection against the exercise of market power is an adjustable ceiling on capacity prices, called the offer cap. Resources cannot make offers into the capacity auction at prices above this cap without review by the Independent Market Monitor. The cap is usually the product of two numbers: the balancing ratio, currently .85, and the Net Cost of New Entry (CONE), which is PJM's estimate of the revenue that a new combustion turbine generator would require from the capacity market.¹³ However, the cap does not apply if a resource can justify higher unit-specific costs; those costs in turn could drive the market-clearing price even higher.

As a result, all units, including those with market power, have the ability to submit capacity offers up to the offer cap without scrutiny. The Independent Market Monitor does not review costs or the possible exercise of market power for any offers below the cap. Naturally, resources with the ability to exercise market power may be tempted to do

¹² Monitoring Analytics, *2015 State of the Markets Report for PJM*, Section 5 Capacity Market (Mar. 2016), available at http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2015/2015-som-pjm-volume2-sec5.pdf. See also Monitoring Analytics, *Analysis of the 2017/2018 RPM Base Residual Auction* (Oct. 2014), available at http://www.monitoringanalytics.com/reports/Reports/2014/IMM_Analysis_of_the_2017_2018_RPM_Base_Residual_Auction_20141006.pdf.

¹³ Net CONE can vary somewhat in amount from year to year. As an example, it was \$330.53/MW-day in the 2016-17 planning year, \$351.38/MW-day in the 2017-18 planning year, and \$300.57/MW-day in the 2018-19 planning year. PJM Interconnection, *2016-2017 RPM Base Residual Auction Planning Parameters* (May 2013), available at <http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/2016-2017-planning-period-parameters.ashx>. PJM Interconnection, *2017-2018 RPM Base Residual Auction Planning Parameters* (Aug. 2015), available at <http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/2017-2018-rpm-bra-planning-parameters-report.pdf>, [2018-2019-planning-parameters-report.pdf](http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/2018-2019-planning-parameters-report.pdf). PJM Interconnection, *2017-2018 RPM Base Residual Auction Planning Parameters* (Aug. 2015), available at <http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/2018-2019-bra-planning-parameters.ashx>.

so. Without oversight from the Independent Market Monitor, capacity resources have every reason to bid up to the cap as long as they believe that the bids will be accepted. Of course, in areas where resources have market power, they typically need not be concerned that competing resources will undercut their offers. Simply stated, if the offer cap is too high, market power is likely not fully mitigated.

As costly as the unmitigated exercise of market power might be, there is also the question of whether consumers receive the benefit of the bargain in an emergency. As long as capacity resources perform when called upon, consumers get something valuable in exchange for high capacity prices: a reliable electric grid. The market therefore needs to be designed correctly to provide a reason for resources to perform. If capacity resources in PJM do not meet their commitments, the consequences are financial. Resources pay a penalty for non-performance. Unfortunately, the Commission-approved scheme does not provide the necessary incentives to ensure that resources are available when needed.

Here's how the financial penalty works. On certain hours of certain days, the electric grid can become stressed due to the combination of high demand and constrained supply. For example, this outcome can occur on unusually hot or cold days. During these hours, PJM can declare an emergency and call on resources to meet the demand. PJM proposed, and the Commission authorized, that it would assess the performance of capacity resources during these hours. In each hour that a capacity resource does not perform when PJM needs it, it is penalized with a non-performance charge for each megawatt it fails to deliver.

PJM calculates that charge for each such hour of non-performance by multiplying .85 of Net CONE by the ratio of the actual performance assessment hours in the relevant capacity zone divided by 30. This figure in the denominator, 30, is crucial. If PJM had picked a lower number, the penalty charge in each hour would be higher. In other words, the consequences for capacity resources for failing to meet their obligations would be greater and the incentive to perform would be increased. PJM stated that it picked the number 30 to estimate the expected number of performance assessment hours in a given year.

This estimate is accurate for 2013-14, when PJM did declare 30 RTO-wide performance assessment hours. However, 2013-14 was an unusual year – an outlier because of the Polar Vortex in the winter of 2014. Other years had far fewer hours. In 2011-12, PJM declared no such RTO-wide hours, and in 2012-13, PJM declared only seven.¹⁴ Since issuance of the Capacity Performance Order, we now know that in 2014-

¹⁴ Independent Market Monitor for PJM February 25, 2015 Answer at Appendix B Table 1.

15 PJM declared no RTO-wide performance assessment hours, and so far in 2015-16 there have also been none. Over the last five years, the mean would be seven and the median zero. If the future looks like the past, the estimate of 30 hours is too high. This results in a penalty that fails to adequately incent performance – in other words, a partial stick. A capacity resource that never performs during a performance assessment hour may still retain a portion of its capacity award. As an example, if PJM declared eight performance assessment hours in a capacity zone, a resource that failed to perform in each of those eight hours would be subject to a non-performance charge per megawatt of capacity of $8/30$ times $.85$ Net CONE, which amounts to $.23$ of Net CONE for the delivery year. As long as the auction clearing price is higher than $.23$ of Net CONE¹⁵, a resource can pocket the difference even if it fails to perform during each of the eight performance assessment hours.

Ironically, this does not incent pay for performance, but pay for non-performance. A primary objective of capacity performance was to fix the perceived shortcoming in RPM “to sustain reliable operations during extreme conditions.”¹⁶ The majority agrees and asserts that “[u]nder PJM’s proposal, resources that clear the market and assume a Capacity Performance obligation are expected to perform during periods of system stress, with a failure to do so resulting in the loss of their capacity revenues.”¹⁷ This assertion, however, is belied by the mismatch between compensation and penalties, such that capacity performance suffers from the same type of problem as RPM, which the majority describes as “poor-performing and non-performing resources could expect to receive positive capacity revenues even if they failed to deliver energy when needed,”¹⁸ while costing billions more. Capacity performance provides optionality to a resource in the three years between the auction and the delivery year and in the delivery year itself when the resource can weigh the penalty of failing to perform during each performance assessment hour as a fraction of one-thirtieth of $.85$ of Net CONE.

Numerous rehearing requests identify this flaw in the market design.¹⁹ Today’s

¹⁵ For the 2018-19 delivery year, $.23$ of Net CONE would equal a non-performance charge of \$69.13/ MW-day. As noted below, capacity performance cleared at \$179.60/MW-day or $.60$ of Net CONE, for the 2018-19 delivery year.

¹⁶ PJM February 13, 2015 Answer at 17.

¹⁷ Rehearing Order, 155 FERC ¶ 61,157 at P 33.

¹⁸ *Id.* P 32.

¹⁹ *See, e.g.*, Independent Market Monitor for PJM July 2015 Request for Rehearing at 11 (“The use of 30 hours is not adequately supported.”);

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order responds by noting that in the past particular PJM zones declared more than 30 hours and speculates that it is possible that emergency conditions will increase in the future.²⁰ This claim is certainly true – the number of hours might be above or below 30 in any given year. However, it misses the point. As the rehearing request from PJM’s Independent Market Monitor argues, PJM need not select a particular number.²¹ The denominator could be based on a more sophisticated probabilistic model. Such a model could consider, for example, forecasts regarding weather and generator outages as well as the criteria defining performance assessment hours. Such modeling would make a real effort to estimate the expected number of hours in a given year.

The Independent Market Monitor’s approach would be somewhat more complicated than simply picking the number 30. Mathematical formulas and models, however, are common in the tariff provisions governing the capacity market. Adding another one here would not significantly increase the complexity of the market design. But it would come closer to achieving the goal of the penalty provision: ensuring that resources have the right incentives to perform when consumers most need them.

This concern over costs and benefits is not an abstract one. Since issuance of the Capacity Performance Order, PJM has run three capacity performance auctions. We now know that the costs are in the billions. The first auction occurred in August 2015 for the 2018-19 delivery year. This auction procured 80 percent capacity performance and 20 percent base capacity. The price tag for capacity performance was \$9.34 billion²²; capacity performance cleared at \$179.60/MW-day or .60 of Net CONE.²³ PJM next held

Pennsylvania/Delaware Commissions Request for Rehearing at 4-6; Joint Consumers Request for Rehearing at 7-14; DC/Maryland Commissions Request for Rehearing at 5-7; Ohio Consumers’ Counsel Request for Rehearing at 20-23; Exelon Request for Rehearing at 7-11.

²⁰ Rehearing Order, 155 FERC ¶ 61,157 at P 70-71.

²¹ Independent Market Monitor Request for Rehearing at 11. The Independent Market Monitor also notes that if a fixed number is used, the historical average is an appropriate proxy. *Id.*

²² Derived from PJM Interconnection, *Summary of 2018/2019 Base Residual Auction Clearing Results* (Aug. 2015), available at <http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/2018-2019-base-residual-auction-results.xls.ashx>.

²³ Monitoring Analytics, *2015 State of the Markets Report for PJM*, Section 5 Capacity Market, Table 5-24 (Mar. 2016), available at

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two transition auctions in which base capacity was replaced with capacity performance: 60 percent for the 2016-17 delivery year and 70 percent for 2017-18. This gave resources that had received a base capacity award – and were already obligated to provide capacity in the delivery year – the opportunity to re-offer the capacity as capacity performance. This added \$2.30 billion in incremental costs for the 2016-17 delivery year.²⁴ Capacity performance cleared at \$134/MW-day or .41 of Net CONE.²⁵ The 2017-18 transition auction added costs of \$1.63 billion.²⁶ Capacity performance cleared at \$151.50/MW-day or .43 of Net CONE.²⁷

As the following chart makes clear, the capacity auctions in PJM have become increasingly expensive.²⁸

http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2015/2015-som-pjm-volume2-sec5.pdf.

²⁴ Derived from PJM Interconnection, *2016/2017 Delivery Year Summary of Auction Results* (May 2013), available at <http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/2016-2017-base-residual-auction-results.ashx> and *PJM 2016/2017 RPM Capacity Performance Transition Incremental Auction Results* (Nov. 2015), available at <http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/2016-2017-transition-incremental-auction-results.ashx>.

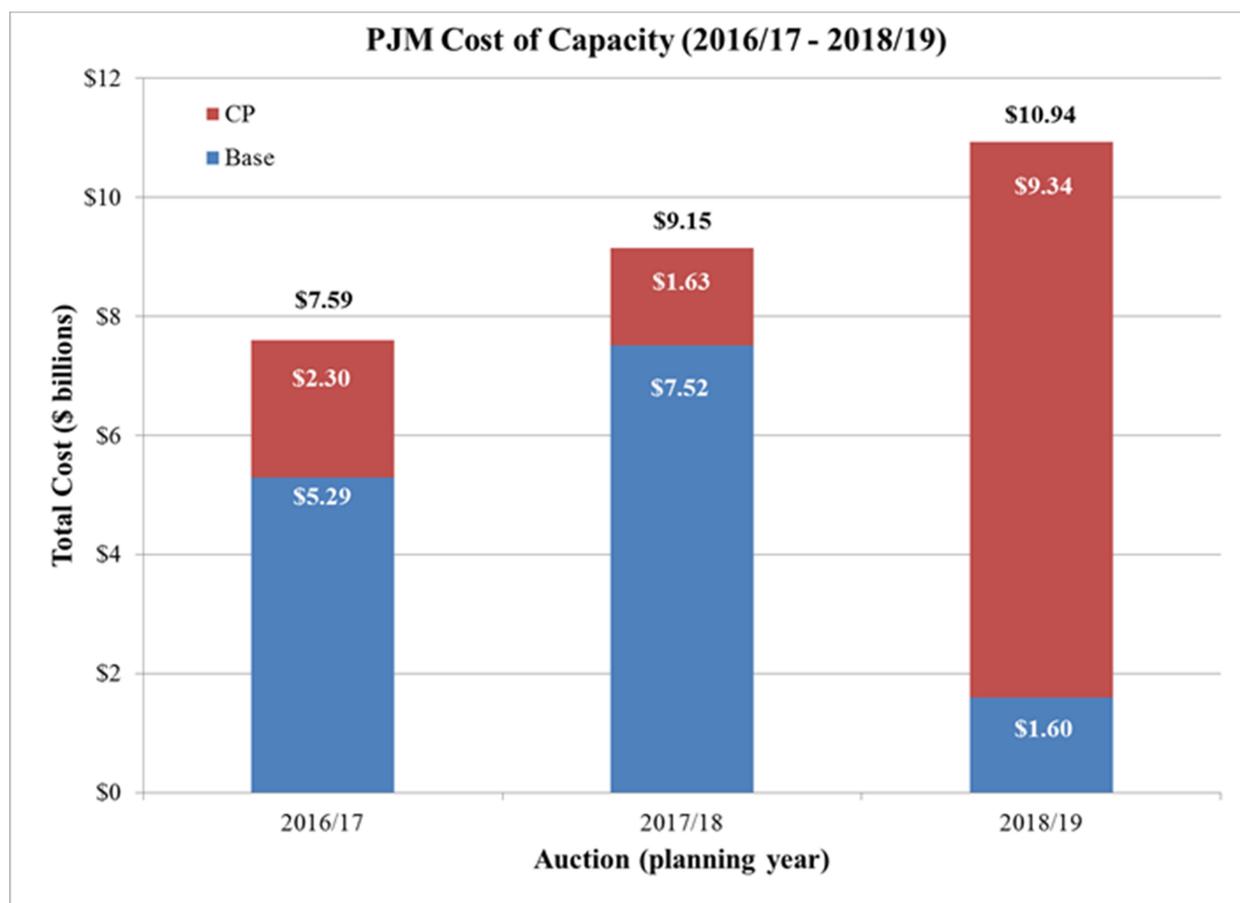
²⁵ *Id.*

²⁶ PJM Interconnection, *2017/2018 Delivery Year Summary of Auction Results* (May 2014), available at <http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/2017-2018-base-residual-auction-results.ashx> and *PJM 2017/2018 RPM Capacity Performance Transition Incremental Auction Results* (Nov. 2015), available at <http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/2016-2017-transition-incremental-auction-results.ashx>.

²⁷ *Id.*

²⁸ Derived from PJM Interconnection, *2018/2019 RPM Base Residual Auction Results* (Aug. 2015), available at <http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/2018-2019-base-residual-auction-report.ashx>. PJM Interconnection, *2017/2018 RPM Base Residual Auction Results* (June 2014), available at <http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/2017-2018-base-residual-auction-report.ashx>. PJM Interconnection, *2016/2017 RPM Base Residual Auction Results* (May 2013), available at <http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/2016-2017-base-residual-auction-report.ashx>. PJM Interconnection, *2017/2018 RPM Capacity Performance Transition Incremental Auction Results* (Nov. 2015), available at <http://www.pjm.com/~media/markets-ops/rpm/rpm->

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It is also clear from the transitional auctions alone in 2016-17 and 2017-18 that capacity performance has resulted in billions in additional costs for consumers. Moreover, costs rose from 2017-18 to 2018-19, even though more supply was offered and there was less projected demand. The concern is what could happen in future auctions in a market that is structurally non-competitive and in which mitigation has largely been eliminated to check the exercise of market power.

Reliable operation of the electric grid is a central goal of the Commission, PJM, and the participants in our markets. When designed appropriately, capacity markets can help ensure that resources are properly compensated for delivering reliable power to

[auction-info/2017-2018-cp-transition-auction-report.ashx](http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/2017-2018-cp-transition-auction-report.ashx). PJM Interconnection, *2016/2017 RPM Capacity Performance Transition Incremental Auction Results* (Nov. 2015), available at <http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/2016-2017-transition-incremental-auction-results.ashx>.

consumers at just and reasonable rates. Nevertheless, the majority fails to adequately consider the design of the market, the costs of capacity performance, or the balance of those costs against the potential benefits. As a result, we do not know whether consumers pay a just and reasonable rate for capacity, and we do not know whether they will receive the service they are purchasing. Such an outcome cannot be the product of reasoned decision making.

For all those reasons, I respectfully dissent.

Norman C. Bay
Chairman

Document Content(s)

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