137 FERC ¶ 61,204
FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

Before Commissioners: Jon Wellinghoff, Chairman;
Philip D. Moeller, John R. Norris,
and Cheryl A. LaFleur.

PJM Interconnection, L.L.C. Docket No. ER11-4628-000

ORDER ACCEPTING AND SUSPENDING PROPOSED TARIFF CHANGES, SUBJECT TO REFUND AND THE OUTCOME OF A STAFF TECHNICAL CONFERENCE

(Issued December 14, 2011)

1. On September 23, 2011, PJM Interconnection, L.L.C. (PJM) submitted proposed revisions to its Open Access Transmission Tariff (OATT), the Amended and Restated Operating Agreement of PJM (Operating Agreement), and the Reliability Assurance Agreement Among Load Serving Entities in the PJM Region (Reliability Assurance Agreement), pursuant to section 205 of the Federal Power Act (FPA).[1]

2. PJM states that its proposed revisions are intended to support the development of price responsive demand (PRD), a state-level initiative pursuant to which an end-use customer can vary its load in response to wholesale electricity prices. PJM notes that, with the advent of advanced metering technologies and the introduction of retail rate structures capable of adjusting in response to wholesale prices changes, PJM's tariff revisions are required to both complement these state initiatives and to better serve the needs of PJM's markets. PJM adds that these proposed revisions are required in both the PJM capacity market, as governed by PJM's Reliability Pricing Model (PRM) protocols, and in PJM's day-ahead and real-time energy markets. PJM requests that its proposed revisions be made effective on December 15, 2011, as to its capacity market, and on May 1, 2012, as to its energy markets.

3. We accept and suspend PJM's filing for a five month period to become effective May 15, 2012, subject to refund, and to the outcome of a staff technical conference and a further order. PJM's filing represents an important, innovative proposal that has garnered broad stakeholder support. Nonetheless, we find that intervenors have raised a number of technical and operational issues that raise questions as to the justness and reasonableness of this proposal and warrant additional analysis. We find that a staff technical conference is appropriate to explore these issues.

[1] 16 U.S.C. § 824e (2000).

I. Background

A. Market Developments Giving Rise to PJM's Filing

4. PJM notes that, throughout the PJM region, states and other retail jurisdictions are currently in the process of installing advanced metering infrastructure (AMI), or smart meters, that can record usage on an hourly basis making retail PRD possible.[2] PJM adds that these retail entities are also in the process of authorizing dynamic retail rate structures whose rates rise and fall in response to wholesale energy prices – thus rewarding customers for reducing their usage in response to higher prices. PJM states that these PRD initiatives will create incentives for consumers, including residential and small commercial customers, to voluntarily reduce their consumption when prices rise in the regional wholesale electricity market.

5. PJM states that these developments also have the potential of benefiting the wholesale markets by: (i) slowing the growth in peak demand and thus deferring the need for generation investment and certain transmission upgrades; (ii) reducing overall costs by improving existing asset utilization; (iii) helping reduce the frequency and magnitude of energy shortage events; (iv) introducing demand elasticity; (v) improving the predictability of demand requirements and power flows; (vi) preserving short-term system reliability; (vii) reducing planning reserves; and (viii) reducing the uncertainty associated with load forecasts.

6. PJM states, however, that the realization of these benefits requires rule changes, at the wholesale market level. PJM notes, for example, that its existing rules do not take retail responsiveness to varying wholesales prices into account when determining the RPM capacity obligation of a load serving entity. PJM adds that its existing pricing mechanisms fail to fully compensate this responsiveness for the value it provides in reducing a load serving entity's capacity obligation. PJM states that the need for rule changes, to better support PRD, has been recognized by retail regulators in the PJM region as a necessary complement to their retail initiatives.

7. PJM notes that the proposal is the result of an extended stakeholder process lasting over two years. The filing received comments in support, including from the Public Utilities Commission of Ohio (Ohio Commission), District of Columbia Public Service Commission (DC Commission), and the Illinois Commerce Commission (Illinois

[2] *See* PJM Filing at 8 (citing FERC Staff Report, "Assessment of Demand Response and Advanced Metering" (Feb. 2011) (finding that AMI penetration had increased by 85 percent from 2007 to 2009)). PJM notes AMI has been, or will be, introduced in Maryland, the District of Columbia, Delaware, Pennsylvania, Illinois, Ohio, Virginia, and Indiana. PJM adds that these AMI investments are being made, in some cases, on a pilot basis and/or on a multi-year, phased-in schedule.

Commission). Several parties protested elements of the proposal and recommended changes, but no party opposed it outright.

B. PJM's Proposed Changes

8. PJM proposes to define PRD as an end-use customer load with: (i) meters capable of recording electricity consumption at intervals of one hour or less; (ii) supervisory control at a PRD substation level[3] able to curtail the PRD load in response to a Maximum Generation Emergency;[4] and (iii) a dynamic retail rate structure, or an equivalent contractual arrangement linked to, or based upon, changes in real-time Locational Marginal Prices (LMP).[5] PJM states that this proposed definition is generally consistent with the Commission's definition of this term in Order No. 745.[6]

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[3] PJM proposes to define PRD substation as "an electrical substation . . . in the same Zone or . . . sub-Zonal [locational deliverability area] as the [identified PRD] end-use customers . . . that, in terms of the electrical topography of the Transmission Facilities comprising the PJM Region, is as close as practicable to such loads." *See* proposed Reliability Assurance Agreement at Section 1.71E.

[4] A Maximum Generation Emergency may be declared by PJM to address either a generation or transmission emergency. PJM may declare such an event when it anticipates the need to request that one or more Generation Capacity Resources, or Non-Retail Behind The Meter Generation resource operate at its maximum net or gross electrical power output, subject to the equipment stress limits for such Generation Capacity Resource or Non-Retail Behind The Meter resource in order to manage, alleviate, or end the Emergency. *See* PJM OATT at Section 1.3.13

[5] *See* proposed Reliability Assurance Agreement at Section 1.71F:

> [PRD is] end-use customer load registered by a PRD Provider . . . that [has] . . . the metering capability to record electricity consumption at an interval of one hour or less, supervisory control capable of curtailing such load . . . at each PRD Substation identified in the relevant PRD Plan or PRD registration in response to a Maximum Generation Emergency declared by [PJM], and a retail rate structure, or equivalent contractual arrangement, capable of changing retail rates as frequently as an hourly basis, that is linked to or based upon changes in real-time [LMPs] at a PRD Substation level and that results in a predictable automated response to varying wholesale electricity prices.

[6] PJM Transmittal at 16 (citing Demand Response Compensation is Organized Wholesale Energy Markets, Order No. 745, FERC Stats. & Regs. 31, 322, at P9 (2011)).

9. PJM proposes to allow load serving entities and other market participants to make PRD commitments as a PRD Provider. PJM proposes to define PRD Provider as a load serving entity, or other eligible market participant such as a curtailment service provider (CSP), that can satisfy the functional requirements for providing PRD.[7] PJM argues that permitting both the load serving entity and other eligible participants to engage in PRD will foster competition and innovation and thus will promote an increased use of PRD. In addition, PJM notes that the PJM region has a well-developed and growing industry of CSPs.

10. PJM states that a PRD Provider will be required to submit to PJM a PRD Plan identifying its load and supporting its proposed PRD commitments. The PRD Plan will include specifications of the AMI and supervisory control equipment, as well as any applicable retail regulatory approvals, and demonstration that such approvals were obtained. The PRD Plan will be required to demonstrate that the PRD Provider can implement a committed reduction within 15 minutes, following PJM's declaration of an emergency event and when prices exceed the prescribed level. PJM states that if it accepts the plan, it will use the PRD commitments in the plan to adjust the parameters PJM is required to post for the affected RPM auction. PJM proposes that, if the PRD Provider is not a load serving entity, its PRD Plan be required to detail how its contractual arrangements with the relevant end-users include a dynamic retail rate structure that conforms to the applicable PRD implementation standards, including any required retail regulator approvals. PJM also proposes to require a PRD Provider to submit information regarding the PRD Providers' location relative to PJM substation-level pricing points (if that data is available), base consumption levels, and the decreasing consumption levels that correspond to increasing prices.[8]

11. PJM proposes to require that the PRD Provider "register" its load, prior to the start of the delivery year, in order to provide any information not available at the time that the PRD Plan is submitted and/or to ensure that all necessary supporting information has been provided. PJM also proposes to require the PRD Provider to notify PJM of any change in their registered loads, whether due to such no longer being PRD-eligible, or being transferred to another PRD Provider, or for any other reasons. PJM states that to prevent duplicative commitments of the same load reduction capability, its proposal bars

[7] *See* proposed Reliability Assurance Agreement at Section 1.71B.

[8] PJM proposes that if PRD substation-level data is not available at the time a PRD Plan is submitted, data be submitted on a zonal (or sub-zonal locational deliverability area) level. PJM proposes to define a PRD substation as "an electrical substation that is located in the same Zone or in the same sub-Zonal LDA as the end-use customers identified in the PRD Plan or PRD registration and that, in terms of the electrical topography of the Transmission Facilities comprising the PJM Region, is as close as practical to such loads. *See* proposed Reliability Assurance Agreement at Section 1.71E.

loads registered as PRD from being simultaneously committed to provide other demand response functions in the energy and capacity markets.

12. With respect to PJM's capacity market, PJM proposes to allow a PRD Provider to commit, in advance of an RPM base residual auction (and, in some cases, in advance of the third incremental auction), that its loads at individual substations will reduce to a specified service level, provided that: (i) PJM declares a maximum generation emergency;[9] and (ii) LMP reaches a price specified in advance by the PRD Provider.[10] PJM calls this specified service level a Maximum Emergency Service Level.[11]

13. PJM proposes to allow a PRD Provider to specify a PRD reservation price, which it defines as a capacity clearing price below which an individual load will not commit as PRD.[12] PJM states that the Maximum Emergency Service Level will be incorporated into the parameters PJM uses to run the relevant RPM auction. PJM states that, under its proposal, it will not procure capacity for load increments that will be reduced as a result of a PRD commitment.

14. PJM states that the PRD Provider will be required to calculate, subject to PJM review, the increment of load reduction provided by PRD, i.e., the difference between the Maximum Emergency Service Level and what the load level would be without PRD. PJM states that this value will be based on the same methods and assumptions PJM uses in its load forecasts, that is, it will be based on the expected peak load contribution of the PRD load, such that a PRD Provider will not be permitted to commit that an end-use customer will reduce by more than its peak load contribution.[13]

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[9] *See supra* note 4.

[10] PJM proposes that, if the load forecast for the delivery year increases from the base residual auction to the third auction for a locational deliverability area, the PRD Provider be permitted to commit additional PRD in that locational deliverability area for that year, in an amount not to exceed, in the aggregate, the total increase in the load forecast for that locational deliverability area. PJM states that it will specify in its manuals how this overall increase will be allocated among PRD Providers in the locational deliverability area.

[11] The price component of a Maximum Emergency Service Level may not exceed PJM's energy offer price cap, currently $1,000/MWh.

[12] *See* proposed Reliability Assurance Agreement at Section 1.71D.

[13] "Peak load contribution" is the average of the end-user's actual load during the five coincident peak hours of the preceding delivery year. *See* PJM Manual 19 at section 4.4.

15. PJM states that the increment of reduction, or in other words, the difference between the PRD Provider's expected peak load value of PRD and the Maximum Emergency Service Level for that load, will be referred to as the Nominal PRD Value. This value quantifies, for the PRD loads served by a given load serving entity in a given zone, the reduction in the peak loads for which the load serving entity is responsible and the corresponding reduction in its RPM capacity obligation. PJM states that it will also use the Nominal PRD Values of all PRD loads in a given zone to adjust the capacity level that PJM targets for procurement in an RPM auction.[14]

16. With respect to RPM, a PRD commitment to reduce load will reduce the capacity to be procured in the RPM auctions and reduce the capacity obligation of the load serving entity responsible for the load. PJM proposes to reflect this PRD load reduction in RPM through a PRD credit. Specifically, PJM proposes to calculate the RPM capacity charge assessed to the load serving entity as if there were no commitments to reduce loads under PRD. PJM will then provide a PRD credit (PRD Credit) to the load serving entity calculated as the Nominal PRD Value attributable to PRD commitments on behalf of loads served by the load serving entity times the RPM clearing price. PJM states that the PRD Credit will provide the benefit of reducing a load serving entity's net capacity obligation in a manner that provides a distinct, readily identifiable credit that can be tracked, as necessary, at the retail level. PJM notes that, at the retail level, or through bilateral or other agreements outside of RPM, the PRD credit may be passed along, as appropriate, as between the load serving entity and any non-load serving entity PRD Provider.

17. PJM also proposes to limit PRD Credits to load serving entities, such that a non-load serving entity PRD Provider would be required to contract with the relevant load serving entity to receive compensation. PJM argues that this approach preserves the fundamental wholesale capacity market rule that load serving entities should only procure and pay for capacity needed to meet the peak loads of the customers they serve.

18. PJM proposes that PRD Providers be required to submit a PRD Curve that PJM will then use to dispatch energy in the energy markets. PJM describes the PRD Curve as a demand curve consisting of up to ten price-quantity pairs with the highest quantity, lowest price pair equal to the Maximum Emergency Service Level. Under PJM's proposal, PRD Curves submitted by load serving entities will be used in both the day-ahead and real-time energy market, while PRD Curves submitted by non-load serving

[14] PJM proposes to require the PRD Provider to identify, in its PRD Plan, all assumptions and variables affecting the Maximum Emergency Service Level and Nominal PRD Values, and to include sufficient data to allow a third party to verify the calculations.

entity PRD Providers will only be used in the real-time energy market.[15] PJM states that PRD Providers will have automated control over end-use customer loads that can produce the reductions described in the PRD Curve. PJM asserts that it will use PRD Curves when determining the least costly way of obtaining energy in both the day-ahead and real-time markets and thus use PRD to set prices.

19. PJM proposes to implement PRD into the PJM capacity market on a phased-in basis. Specifically, PJM proposes to cap the amount of PRD that can register in the RPM auction for the first four delivery years,[16] and to allocate these caps among zones, or sub-zones, and among load serving entities within each zone or sub-zone.[17] PJM argues that this phased-in approach is appropriate, given that PRD is also being phased-in on the retail level. PJM thus notes that a phased-in approach will allow PJM and market participants to gain experience with the operation of PRD prior to its full implementation. In addition, PJM notes that its transition proposal was among the accommodations required in building a strong stakeholder consensus in support of PJM's filing.

20. PJM proposes to limit a PRD Provider's right to participate in PJM's other demand response programs, including energy-related demand response. PJM states that to prevent duplicative commitments of the same load reduction capability, loads registered as PRD, under its proposal, will be barred from making commitments to simultaneously provide other demand response functions in the energy and capacity markets. Specifically, PJM states that for each delivery year that a load is identified as PRD, that load will be ineligible to be registered as a demand response resource in the energy markets (Economic Load Response or Emergency Load Response), or to be used as a basis for a capacity resource in any RPM auction, that is, as a demand resource sell offer, or as an energy efficiency sell offer.

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[15] PJM restricts day-ahead submissions to load serving entities because allowing two different entities to submit day-ahead load information for the same end-use customers would invite conflict and create uncertainty.

[16] The cap would be 1,500 MWs, for the delivery year commitments made in the May 2012 base residual auction; 2,500 MWs for the delivery year commitments made in the May 2013 base residual auction; 3,500 MWs for the delivery year commitments made in the May 2014 base residual auction; and 4,000 MWs for the delivery year commitments made in the May 2015 base residual auction.

[17] PJM states that, as between PRD loads in a zone, the cap for the zone would be allocated based on the PRD reservation prices associated with the loads, lowest to highest. For loads in the same zone with the same PRD registration price, the available PRD amounts would be allocated *pro rata*, based on each load's share of the preliminary zonal peak load forecast for such zone. *See* proposed Reliability Assurance Agreement at Schedule 6.1(N).

21. PJM states that its proposal adds a PRD option but does not eliminate, or detract, from any of the demand response options that are already available under its market rules. PJM points to Order No. 745, which states that there are generally two types of price-induced demand reductions, customers that: "provide demand response that acts as a resource in wholesale markets to balance supply and demand;" or "reduce demand by responding to dynamic rates that are based on wholesale prices (sometimes called 'price-responsive demand')".[18] PJM states that it has already worked to incorporate the first type of demand reduction, and that the instant filing seeks to integrate the second type.

22. PJM proposes that, if it has not declared a Maximum Generation Emergency during a given delivery year, a PRD Provider be required to demonstrate that it has tested in PRD-eligible load for at least a one-hour period during any hour in which an emergency could be called.[19] PJM argues that, if committed PRD does not respond when called upon and PJM is faced with greater peak loads than expected, peak period reliability may be adversely affected. PJM proposes that PRD Providers that fail to reduce their Maximum Emergency Service Level be assessed a compliance charge.

23. Finally, PJM proposes to allow load that has not committed as PRD in the capacity market (or any other demand response product) to submit PRD Curves in the energy market. PJM states that PRD Providers that are load serving entities would be permitted to submit PRD Curves in both the day-ahead and real-time energy markets, while non-load serving entity PRD Providers would be permitted to submit PRD Curves only in the real time energy market. PJM proposes that these PRD Curves be required to identify load on a PRD sub-station level and the maximum time period required to attain the specified load reductions.

II. Notice of Filing and Responsive Pleadings

24. Notice of PJM's filing was published in the *Federal Register*, 76 Fed. Reg. 63,291 (2011), with interventions and protests due on or before October 14, 2011. Notices of intervention and timely-filed motions to intervene were filed by the entities noted in the appendix to this order. In addition, motions to intervene out-of-time were submitted on October 31, 2011, by the District of Columbia Office of People's Counsel (DC People's Counsel), on November 1, 2011, by the Maryland Public Service Commission (Maryland Commission), on November 4, 2011, by Nucor and Steel Dynamics (Steel Producers), and on November 14, 2011 by Retail Energy Supply Association (RESA).

25. Timely-filed protests and/or comments were submitted by the American Electric Power Service Corporation (AEP); Demand Response and Smart Grid Coalition (DR

[18] Transmittal at 3 (citing Order No. 745, FERC Stats. & Regs. ¶ 31,322 at P 9).

[19] *See* proposed Reliability Assurance Agreement at Schedule 6.1(L).

Coalition); DC Commission; EnergyConnect, Inc. and EnerNOC, Inc. (ECI, *et al*.); Exelon Corporation (Exelon); Old Dominion Electric Cooperative (ODEC); PJM Industrial Customer Coalition (PJM ICC); PJM Power Providers Group (P3); PSEG Companies (PSEG); the Public Utilities Commission of Ohio (Ohio Commission); Rockland Electric Company (Rockland); and Viridity Energy, Inc. (Viridity).

26. Answers were submitted on: (i) October 17, 2011, by the Electric Power Supply Association (EPSA); (ii) on October 25, 2011, by the Illinois Commission; (iii) on October 31, 2011, by the DC People's Counsel, Demand Response Supporters,[20] ODEC, PJM ICC, the Delaware Public Service Commission (Delaware Commission), American Municipal Power, Inc. (AMP), and Viridity; (iv) on November 1, 2011, by North America Power Partners (NAPP); (v) on November 4, 2011, by Steel Producers and DR Coalition; (vi) on November 8, 2011, by PJM; (vii) on November 14, 2011, by RESA; (viii) on November 18, 2011, by the Maryland Commission, and Viridity; (ix) On November 23, 2011, by Viridity and PJM ICC; and on December 7, 2011, by PJM.

A. Protests and Comments

27. ECI, *et al.*, argue that PJM's proposal to exclude a non-load serving entity PRD Provider from being eligible to directly receive a PRD Credit is inefficient, adds unnecessary costs to the PRD process, and will therefore interfere with price signals in the marketplace.[21] ECI, *et al.*, assert that, under PJM's proposal, a load serving entity will be placed in a position where it can insert itself directly into the compensation process between the end-use customer and the wholesale market, while a non-load serving entity PRD Provider cannot. ECI, *et al*., characterize PJM's proposal as unduly discriminatory and preferential.[22] ECI, *et al*., add that, under PJM's proposal, only load serving entities are likely to sign up to serve as PRD Providers.

28. ECI, *et al*., also argue that there would be significant market benefits were non-load serving entity PRD Providers made eligible to receive the PRD Credit. Specifically,

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[20] ECI, *et al.*, Energy Curtailment Specialists, Inc., EnerNOC, Inc., Viridity, and PJM ICC.

[21] *See also* DR Coalition comments at 2 (urging the Commission to ensure that PRD will be equitable and efficient for all participants, load serving entities and others).

[22] ECI, *et al*., Protest at 4 (citing *PJM Interconnection, L.L.C.* 117 FERC ¶ 61,331, at P 113 (2006) (settlement that included provisions giving preferential treatment to signatories unduly preferential and discriminatory); *Midwest Independent Transmission System Operator, Inc.*, 122 FERC ¶ 61,172, at P 412 (2008) (cost allocation proposal supported by majority of stakeholders not based on cost causation principles inequitable and unjust and unreasonable)).

ECI, *et al.*, assert that such a rule would ensure that the maximum amount of price-responsive retail load would be incorporated into wholesale market operations. ECI, *et al.*, add that the PRD construct, at its heart, is a mechanism to allow customers that are willing to commit demand reductions, based on price, to be credited with reduced capacity obligations for this commitment. ECI, *et al*., conclude that customers should not be precluded from participation in PRD by a load serving entity that declines to provide the opportunity for participation.

29. The Ohio Commission objects to PJM's proposed phase-in of PRD. The Ohio Commission argues that, under PJM's allocation of its proposed participation caps, PRD allotments will be made without regard to need. The Ohio Commission characterizes this *pro rata* assignment as unreasonable and discriminatory and claims that it will impose unnecessary costs on those most reliant on the PRD option. The Ohio Commission adds that there is no reasonable justification for restricting the use of PRD over the transition period proposed by PJM when the effect of these caps will be to allow selected market participants to limit competition and protect their capacity revenues to benefit their private business interests.

30. PJM ICC objects to PJM's proposed revision of the Reliability Assurance Agreement, at Section 6.1, precluding a PRD load from participating in PJM's Economic Load Response program. PJM ICC argues that PJM's proposal would deprive demand response that occurs at prices below the prices specified in the customer's PRD Curve, and outside of a Maximum Generation Emergency, from being compensated at the full LMP and, as such, violates Order No. 745 which requires participants in Economic Load Response Programs to be paid LMP under certain conditions.

31. PJM ICC proposes that PJM be required to modify its proposal to provide that customers will retain their eligibility to receive full LMP compensation for any demand response that these customers may provide when LMPs are below the prices specified in the PRD Curve. PJM ICC notes that for many customers, the risk-affected PRD Curve prices are likely to be higher than the LMPs at which the customer would be able to engage in demand response on a daily, or hourly, basis, if compensated at the full LMP. PJM ICC adds PJM's proposal would foreclose legitimate opportunities for customers to engage in demand response with compensation set at this level.

32. Viridity argues that nothing in the PJM proposal precludes a second entity from registering the same loads to provide services such as energy, regulation, and synchronized reserve, to the extent that the load is able to reduce its consumption below its committed Maximum Emergency Service Level at times when there is no Maximum

Generation Emergency.[23] In other words, Viridity argues customers participating in PRD can choose to work with one PRD Provider who has specialized expertise in developing and implementing a PRD Plan, and separately work with a CSP who has specialized expertise in the energy and ancillary services markets. However, customers who participate in PJM's wholesale demand response programs effectively have no such choice Viridity contends.

33. P3 argues that, while PRD is the "ultimate solution" to demand response participation in PJM's capacity markets, adding yet another demand response program, as PJM proposes, without planning for a transition from PJM's existing supply-side demand response programs, will promote confusion and inefficiency.[24] P3 proposes, instead, that PJM be required to transition to a single, demand-side method for load to participate in the capacity market, in other words, a full reliance on PRD. P3 argues that the absence of a transition plan threatens the development of AMI.

34. P3 adds that a transition to a single demand-side mechanism to recognize curtailments in capacity planning will eliminate substantial confusion and discord about the measurement of demand side resources to accommodate their participation as supply-side capacity resources. P3 further notes that, absent a transition plan, the addition of PRD to the suite of supply of existing demand response products will require PJM to increasingly rely on customer curtailments.

35. PSEG argues that the current treatment of demand response resources in PJM will deter PRD participation. PSEG notes that demand response facilities that participate as capacity resources have lower capital requirements than PRD and, because they are

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[23] Viridity cites to the following PJM statement made on May 4, 2011 and available at: http://pjm.com/~/media/committees-groups/committees/mrc/20110504/2011054-item-02-prd-faqs-version-2.ashx.:

> If load wishes to be committed as PRD and meets all eligibility requirements, it is required to perform a Maximum Energy event and consume at its Maximum Emergency Service Level. During normal system conditions, if load can reduce beyond [its] committed [Maximum Emergency Service Level], the load could still participate in the energy and reserve markets as an Economic [demand response] resource[.]

Viridity further notes that PJM has confirmed that the PRD Provider and CSP, representing the customer in the wholesale markets, need not be the same entity.

[24] *See also* PSEG Comments at 5.

usually only called during emergency conditions, have fewer operational responsibilities than PRD. PSEG asserts that, as such, PJM's proposal fails to ensure that PRD will be the ultimate solution to demand response participation in PJM's markets.

36. The Ohio Commission and the Illinois Commission object to PJM's proposed testing requirements, to the extent these requirements may necessitate a one-hour interruption of PRD loads associated with residential and small consumers. The Ohio Commission argues that requiring residential and small consumers to experience one-hour service curtailment, in the absence of any emergency, solely for testing purposes, would make it difficult to obtain broad adoption of dynamic retail pricing. The Ohio Commission adds that such a requirement would be unreasonable as applied to small consumers and discriminatory when compared to non-price responsive consumers. The Ohio Commission notes that non-PRD loads are not subject to any performance testing and face no penalties, even when they exceed forecast levels and associated planning reserves.

37. With respect to PRD loads, the Ohio Commission argues that it is sufficient that these loads will be subjected to both higher peak retail prices and penalties, should they fail to meet their commitments, when called. Accordingly, the Ohio Commission requests that PJM be required to interpret its proposed testing provision, Schedule 6.1(L), as authorizing only limited, statistical sampling of residential and small consumer responses and/or component testing of supervisory controls.

38. Exelon urges the Commission to enhance the benefits attributable to PJM's proposal by requiring PJM to provide a pricing mechanism that allows market prices for energy to rise gradually to reflect the actual value of energy during periods of shortage.[25]

39. AMP requests clarification that PJM's PRD proposal will not allow a PRD Provider to effectively alter retail rates through the use of a wholesale tariff. In addition, AMP requests clarification that retail load, registering as PRD with customer-specific nodal price point, will not operate to alter or convert the load serving entity's reliance on a differing, aggregate nodal price, or zonal LMP. AMP argues that PRD should not be permitted to alter the LMP definitions of an load serving entity's load.

40. Finally, the Ohio Commission requests clarification that, under PRD, states will possess the authority to exclude, or limit, retail load's ability to acquire PRD service under PJM's OATT.

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[25] *See also* P3 Comments at 6 (arguing that a meaningful scarcity pricing regime to recognize the full value of PRD can further improve the vitality of PJM's markets); EPSA Answer at 5 (arguing that the Commission, in Order No. 719, linked the issues of price formation and demand response).

B. PJM's Answer to Intervenors' Protests and Comments

41. PJM defends its PRD Credit proposal on the basis of its broad stakeholder support, and asserts that it was one of many compromises needed to garner the necessary super majority support for the PRD proposal. PJM states that the PRD Credit proposal appropriately aligns the PRD Credit with a load serving entity's capacity obligation.

42. PJM acknowledges intervenors' concerns that restricting the PRD Credit may affect the growth of PRD, and that allowing non-load serving entities to participate as PRD Providers will increase PRD participation. PJM offers to monitor this issue and to file a report with the Commission, if directed to do so, assessing the implementation and performance of PRD after PRD has been incorporated into at least two consecutive capacity auctions.

43. In response to the Ohio Commission's comments, PJM argues that successful PRD implementation will require significant adaptation, testing, and training by market participants, particularly load serving entities, and that the phase-in plan it proposes will ease this necessary transition. PJM notes that the Commission, in other proceedings, has supported the use of transition periods and annual, phased-in limits in similar circumstances (e.g., in implementation of locational capacity pricing). PJM argues that the participation cap it proposes will provide participants with time to get to know the dynamics of PRD as it develops.

44. PJM clarifies that the zonal level caps will only be used to apportion the PRD limit when the overall limit for the PJM Region is exceeded. PJM notes that under its proposed tariff language, any portion of the cap will be unused in one zone while PRD is turned away in another zone. PJM adds that, because of the PRD reservation price, PJM will not know the level of PRD until after the auction and will not be able to allocate the overall PRD limit among zones prior to the limit. PJM states that, as such, offers with lower reservation prices will drive the allocation of PRD. PJM offers to revise the relevant portion of the Reliability Assurance Agreement in a compliance filing to make this intent clear.

45. PJM also takes issue with Viridity's and PJM ICC's proposals to allow PRD loads to participate as supply-side demand response resources. PJM argues that these proposals fail to ensure that there will not be products, or commitments, on both the supply side and demand side of the PJM markets that rely on essentially the same load reduction. PJM explains that its proposal does not attempt to address the rules required to provide that assurance and clearly define the distinct loads that could be committed as separate supply side and demand side products. PJM asserts that any attempt to base multiple products on one end-use customer must recognize the distinction between PRD as a load adjustment and demand response as a resource offered into the PJM markets.

46. PJM explains that when a party makes a commitment, it reduces the capacity that must be procured in RPM to meet the needs of the affected load serving entity; in other

words, the peak loads of the load serving entity are adjusted down. PJM explains that the PRD rules require the affected participants to follow through on that commitment in day-ahead and real-time operations. Thus, PJM argues that, based on the specification for the load serving entity, in the day-ahead and real-time markets, no resources of any type-generation or demand response-are procured to meet the increment of load that will be reduced to honor the PRD commitment. PJM states that, as such, a market participant cannot submit an economic load response offer in the day-ahead markets to "reduce" the PRD load, given that this load is simply not in the market.

47. PJM argues that PJM ICC's suggested qualifier, that PRD committed loads could be registered as economic demand response "up to the prices specified in the PRD Curve," falls short of curing this fundamental mismatch. PJM asserts that regardless of price, a given load reduction committed as PRD cannot be considered as a supply-side resource. PJM also argues that a given load cannot perform on both the demand and supply side of the market at the same time. Moreover, according to PJM, the energy market price is not a variable that an end-use customer can control. PJM explains that if economic load response is offered into the energy market as a resource on a given day and prices later rise to the level specified in a PRD Curve, then the load that committed as both PRD and economic load response (under the PJM ICC approach) would be on both sides of the market, as a load reduction and a supply resource to meet load.

48. PJM argues that contrary to Viridity's and PJM ICC's asserted reliance on Order No. 745, nothing in that rule requires that a single end-use customer's possibly duplicative or overlapping load reductions be committed as multiple products. PJM further argues that any such approach raises a host of implementing issues, including how to define new baselines and distinct increments of a customer's load; how to clearly apportion performance responsibilities and possible charges for non-performance among different products and different demand response providers; and how to address possible sharing of information between curtailment service providers that are relying on the same customer for their wholesale products. PJM asserts while this is an issue that properly could be explored through further stakeholder discussions; it need not be addressed or compelled here.

49. In response to the Ohio and Illinois Commissions' arguments, PJM argues that the Commission approved similar testing provisions for supply-side demand response resources, and that PRD is like supply-side demand resources in this regard.[26] PJM argues that it modeled the PRD testing requirements on the demand resource testing requirements.[27] Furthermore, PJM contends that demand resource providers could credibly argue that PJM is providing a preference to PRD in its market rules if it did not

[26] *PJM Interconnection, L.L.C.*, 126 FERC ¶ 61,275, at P 180 (2009).

[27] *See* PJM OATT at Attachment DD, Section 11A.

apply similar performance measurement, testing and compliance charges and provisions to PRD. PJM disagrees with the Ohio Commission's argument that the testing requirement discriminates against PRD loads, since non-PRD loads do not have a similar testing requirement. PJM asserts that instead of comparing PRD loads with non-PRD loads, the PRD loads that commit to reduce through their PRD Plans should be compared to demand resources that commit to reduce through the RPM auctions. PJM asserts while it relies on non-PRD load in forecasting future capacity needs, non-PRD loads do not commit to perform in any certain manner. PJM argues, for non-PRD load, that it bases its RPM capacity procurement targets on the forecast level of those loads. By contrast, PJM asserts that for PRD, it will base its capacity procurement target on an explicit downward adjustment to its forecast, reflecting the PRD load reduction commitments. In this respect, PJM argues PRD is more like demand resources, which also commit in advance to reduce to a specified level or by a specified amount, and which are subject to tests that assure those commitments can be honored.

50. PJM asserts that if the PRD reduction conditions trigger during a year, the test is unnecessary, as the PRD will have to show in response to the emergency conditions and elevated prices that it can indeed reduce as promised. But when those triggering conditions do not arise during a year, PJM contends, it is reasonable to require the PRD load to show for a minimal period that it can, in fact, reduce as committed. PJM argues that it will rely on those commitments to procure less capacity in the RPM auctions; therefore, it is essential to demonstrate that the committed load reductions can be provided.

51. Finally, PJM observes that AMP seeks confirmation that retail load registering as PRD may not change the LMP definition of a load serving entity's load. PJM clarifies that: (i) an end-use customer of a load serving entity can be registered as PRD with a PRD substation at an LMP node that differs from the load serving entity's designation of its pricing point (which often is an aggregate combining multiple LMP notes); (ii) the PRD pricing point designation will *not* change the load serving entity's pricing point designation; and (iii) the triggering of the PRD could however change the price and load at the PRD Substation, which (assuming that the node is part of the aggregate) could in turn affect the calculation of the aggregate LMP for the load serving entity.

C. Intervenors' Answers

52. DC People's Counsel agrees with ECI, *et al.*, that the limitation of the PRD Credit to load serving entities, to the exclusion of non-load serving entity PRD Providers, is anticompetitive and may result in unjust and unreasonable rates. DC People's Counsel argues that, in addition to violating the comparability principles announced by the Commission in Order No. 890,[28] and Order No. 1000,[29] a limitation of the PRD Credit to

[28] *See Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, FERC Stats. & Regs. ¶ 31,241, *order on reh'g and clarification*, Order (continued…)

load serving entities is likely to have two additional adverse consequences: (i) the likelihood that only load serving entities will offer PRD services; and (ii) the possibility that a customer whose load serving entity chooses not to offer PRD services will be left without other options to participate.

53. ODEC and AMP agree with PJM that the PRD Credit mechanism, as proposed in PJM's filing, is not discriminatory and should be accepted. ODEC argues that, in the context of RPM, a PRD load reduction produces a reduced capacity obligation: an obligation that applies to the load serving entity on behalf of the load being served. ODEC argues that, as such, it is appropriate that the PRD Credit (an offset to the capacity obligation) be provided to the entity that is assessed the initial obligation. AMP adds that by requiring non-load serving entity PRD Providers to contract with load serving entities in order to receive compensation, PJM's approach gives the load serving entity the information about PRD on its system that it needs for both operational and planning purposes.

54. RESA supports PJM's proposal as a reasonable way to ensure that the load serving entity can know what PRD exists and so that each load serving entity can appropriately forecast its load based on the best available information. RESA submits that its members are willing to negotiate with the load serving entity to apportion the PRD Credit resulting from any non-load serving entity PRD Providers' participation in the PRD program. RESA states that any non-load serving entity PRD Provider that disagrees with its allocable share of the credit will have recourse against the load serving entity at the Commission or the state commission or via the state retail program that would dictate an allocation methodology for loads in its state. RESA asserts that it is willing to work within that system for the overall benefits that it believes will accrue to the market by virtue of the new PRD program.

55. ODEC objects to the requested revisions proposed by the Ohio Commission. ODEC notes that PRD is a new mechanism that will need to interact properly with the complex and still-evolving RPM market. ODEC asserts that, under these circumstances, it is reasonable for PJM to phase-in PRD in its capacity market. Nonetheless, ODEC states that it would not oppose the requirement that PJM initiate a stakeholder review proceeding to assess this issue, following a reasonable transition period.

56. EPSA agrees with P3 and PSEG that acceptance of PJM's PRD proposal should be conditioned on PJM submitting a transition plan for converting its three supply-side

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No. 890-A, FERC Stats. & Regs. ¶ 31,261 (2007), *order on reh'g*, Order No. 890-B, 123 FERC ¶ 61,299 (2008), *order on reh'g*, Order 890-C, 126 FERC ¶ 61,288 (2009), *order on clarification*, Order No. 890-D, 129 FERC ¶ 61,126 (2009).

[29] *See Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, Order No. 1000, FERC Stats. & Regs. ¶ 31,323 (2011).

demand response products to PRD. EPSA adds that PJM should be required to consult with its stakeholders, prior to July 2012, and submit a transition plan no later than August 1, 2012, in anticipation of commencing a transition no later than the 2012 RPM capacity auction.

57. Demand Response Supporters respond to the requests, made by P3, PSEG and EPSA, in favor of PRD as the single demand response program and the elimination of PJM's existing supply-side programs. Demand Response Supporters argue that these requests are beyond the scope of this proceeding, are unsupported to the extent required by FPA section 206, and provide no analysis describing how a transition would, or could, occur.[30]

58. ODEC objects to P3's request that PJM's filing be accepted subject to the condition that PJM transition to the use of PRD as PJM's sole demand response product. ODEC asserts that it is unreasonable to dictate the time period for PJM to work with its stakeholders on the next iteration of demand response in PJM.

59. The Illinois Commission characterizes PJM's proposed testing requirements as unnecessary and burdensome, given that the reliability assurance they purport to promote will be achieved through numerous other mechanisms.[31]

60. Other reliability assurance mechanisms that the Illinois Commission contends are additional redundant requirements include: (i) the requirement for the load serving entity, or PRD Provider, to have supervisory control capable of interrupting PRD load's service upon request by PJM; (ii) the condition that PJM will review and must approve each PRD plan and that such PJM approval establishes a binding commitment by the PRD Provider; (iii) the imposition of a strict penalty structure to discourage "commitment shortfalls" (described by PJM as having insufficient PRD-eligible load in a zone to satisfy a PRD Provider's Nominal PRD Value); and (iv) encouraging performance by penalizing PRD participants that do not reduce load to their maximum emergency service level during declared maximum generation emergency events. Accordingly, the Illinois Commission recommends that proposed Schedule 6.1(L) be rejected. In the alternative, the Illinois Commission requests that an acceptance of PJM's proposed provision be conditioned on

[30] *See* Order No. 745, FERC Stats & Reg. ¶ 31,322 at P 10.

[31] The Illinois Commission notes, for example, that PJM's proposal requires automated response as the first mechanism to ensure reliability and, in addition, a metering capability to record electricity consumption at an interval of one hour, or less, and a retail rate structure, or equivalent contractual arrangement, capable of changing retail rates as frequently as an hour basis, that is linked to, or based upon, changes in varying wholesale electricity prices.

the requirement that PJM reassess the need for its requirement at the conclusion of PJM's proposed transition period.

61. ODEC opposes intervenors' requests seeking to eliminate or adopt alternatives to PJM's proposed annual testing requirement. ODEC notes that, as an load serving entity, it is sympathetic to concerns about undue restrictions against participation in demand response programs, or unreasonable interruptions service. ODEC argues, however, that neither the Ohio Commission nor the Illinois Commission can guarantee that the participation requirements and penalties proposed by PJM will be sufficient to protect against adverse impacts on reliability, should PRD not respond, when expected to do so.

62. Viridity and PJM ICC argue that as a practical matter, a customers' PRD obligations, as proposed, would not preclude a PRD customer from engaging in additional, energy-based demand response for the portion of load designated as PRD and for the portion of load not designated as PRD. Viridity and PJM ICC note that, on any given day, the customer will have flexibility to reduce demand above and beyond its PRD obligations. Viridity and PJM ICC therefore object to PJM's suggestion that a customer that is designating any portion of its load as PRD be prohibited from enrolling any of its load in PJM's economic load response program. Viridity and PJM ICC add that no restrictions should exist on the ability of PRD customers or PRD load to participate in PJM's economic load response program, as long as any such commitment does not conflict with the relevant PRD obligation.

63. In its November 18, 2011 answer, Viridity argues that PJM has not challenged the merits of Viridity's proposal to allow multiple CSPs to serve a single demand response resource, but merely relies on a procedural argument relating to the scope of this proceeding. Viridity argues that due to the difference in the rules that would be applicable to PRD and the existing rules applicable to demand response in the wholesale market, a substantive answer to this problem will be required.

64. Finally, Steel Producers and DR Coalition object to intervenor arguments proposing that PJM be required to transition its three existing demand response products to PRD. Steel Producers argue that such an approach would amount to a significant unstudied and unwarranted change, given that PJM's existing demand response products have increased system reliability, lowered LMP, and have provided valuable environmental benefits. DR Coalition adds that all forms of demand response should be accommodated.

D. PJM's Answer to Intervenors' Answers

65. PJM, in its November 14, 2011 answer, addresses the Illinois Commission's concerns regarding testing requirements, arguing that the proposed testing requirements will not hinder widespread participation in PRD. PJM also argues that the Illinois Commission's proposals do not demonstrate that PRD-registered loads are actually capable of performing the committed load reduction. PJM adds that it is unclear why a

customer would object to one-hour of testing requirements per year in return for concrete, current reductions in its electric charges. Nonetheless, PJM supports the Illinois Commission's fallback proposal that PJM file a report after the transition period assessing the performance of PRD, including its reliability rules such as the testing requirement.

66. In its December 7, 2011 answer, PJM responds to the arguments made by PJM ICC and Viridity regarding the need to enable customers with PRD load to participate in PJM's economic load response program, to the extent such participation would not be inconsistent with these customers' PRD obligations. PJM states that while it generally agrees with the objectives underlying this proposal, the need to consider any additional tariff clarifications, or refinements, in this regard, does not support the finding that PJM's PRD proposal is defective. PJM submits, rather, that creating additional rules allowing a single end-use customer to be the basis of simultaneous commitments of PRD and other demand response products, is second-step implementation issue that should be considered separately from PJM's PRD proposal. PJM points out that the practical application of any such rules will not come into play until 2015, and that the Commission should not prejudge this issue here.

67. PJM also responds to Viridity's arguments regarding the rule only allowing one CSP to provide service to a demand response resource. PJM argues that Viridity's request to modify this rule is beyond the scope of this proceeding and that this issue is currently being considered by PJM's stakeholders.

III. Discussion

A. Procedural Matters

68. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2011), the notices of intervention and timely, unopposed motions to intervene serve to make the entities that filed them parties to this proceeding. In addition, given the early stage of this proceeding and the absence of undue prejudice or delay, we grant the unopposed late-filed interventions of the DC People's Counsel, the Maryland Commission, RESA, and Steel Producers.

69. Rule 213(a)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2) (2011), prohibits an answer to a protest and an answer to an answer unless otherwise ordered by the decisional authority. We will accept the answers filed by EPSA, the Illinois Commission, the DC People's Counsel, Demand Response Supporters, ODEC, PJM ICC, the Delaware Commission, AMP, Viridity, NAPP, Steel Producers, PJM, RESA, the Maryland Commission, and DR Coalition because they have provided information that has assisted us in our decision-making process.

B. Substantive Matters

70. PJM's filing represents an important, innovative proposal to support the development of PRD and has broad stakeholder support, including the support of retail regulatory authorities. Nonetheless, we find that intervenors have raised a number of technical and operational issues that raise questions as to the justness and reasonableness of this proposal and warrant additional analysis. As such, we find that PJM's proposed tariff changes have not been shown to be just and reasonable and may be unjust, unreasonable, unduly discriminatory or preferential or otherwise unlawful. Accordingly, we accept and suspend PJM's filing for a five month period to become effective May 15, 2012, subject to refund, the outcome of a staff technical conference, and a further order.[32] Among the issues that have not been fully supported and require further exploration are the allocation of the PRD Credit, the funding of the PRD Credit, the limitation on PRD load providing economic load response, the details regarding automation and supervisory control, and the testing requirement for PRD Providers. To explore these and other issues presented by PJM's filing, we direct Commission staff to convene a staff technical conference within 60 days of the date of this order.

71. At the staff technical conference, PJM should be prepared to address the concerns raised by intervenors in their comments. In addition, PJM should be prepared to provide additional support for its PRD proposal, as appropriate, including but not limited to:

(i) identifying the current and expected penetration of LMP-based dynamic retail rates, in the PJM region, as a percentage of residential, commercial and industrial customers, and the current and expected MW of load for each customer class;

(ii) justifying the proposal to restrict non-load serving entity PRD Providers from receiving PRD Credits directly when their customers commit to maintain load caps at prescribed prices (i.e., a Maximum Emergency Service Level), including an explanation of how any contractual arrangements regarding the distribution of the PRD Credits, as between the load serving entity and a non-load serving entity PRD Provider, might be structured and/or performed;

(iii) demonstrating, preferably with an example, that the Locational Reliability Charge will fully fund the PRD Credit;

(iv) explaining the basis for the caps on RPM participation during the transition period, including the proposed levels;

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[32] We recognize that these tariff sheets will become effective after the commencement of PJM's base residual auction for the 2015-2016 delivery year. Given the questions raised by intervenors and the Commission on the PRD proposal, however, we believe that the proposal needs further clarification before implementation.

(v) providing further explanation and support for its proposal that a PRD load should not be permitted to provide economic load response by lowering its consumption below its Maximum Emergency Service Level if such reductions could help balance supply and demand cost-effectively;

(vi) explaining its statement that the PRD Curve terminates at the Maximum Emergency Service Level, given that this restriction on the PRD Curve does not appear to be reflected in the submitted tariff language;

(vii) describing and explaining the anticipated participation of energy-only PRD (e.g., without a capacity market commitment), including the requirements regarding automation;

(viii) providing an example of how PRD affects the capacity market, such as a demonstration of how PRD would shift the RPM demand curve and affect capacity prices;

(ix) providing an example of how PRD will be incorporated into load forecasts in the real-time and day ahead market; and

(x) describing, in general, how PRD will affect the day-ahead and real-time energy markets with respect to scheduling, economic dispatch, and settlement processes for all affected entities.

72. We direct Commission staff to establish appropriate post-staff technical conference comment procedures and additional guidelines as may be required. Details as to the time and date of the technical conference will follow in a separate notice.

The Commission orders:

(A) Pursuant to the authority contained in sections 205 and 206 of the Federal Power Act, PJM's filing is accepted and suspended for a five month period, to become effective on May 15, 2012, subject to refund, and to the outcome of a staff technical conference and a further order, as discussed in the body of this order.

(B) Commission staff is hereby directed to convene a staff technical conference, within 60 days following the date of this order, to further explore PJM's filing, as discussed in the body of this order.

By the Commission. Commissioner Spitzer is not participating.
Commissioner Moeller concurring in part with a separate statement to be issued at a later date.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.

Appendix

Intervenors

American Electric Power Service Corp (AEP).
American Municipal Power, Inc. (AMP) *
Baltimore Gas and Electric Company
Constellation Energy Commodities Group, Inc.
and Constellation NewEnergy, Inc.
Delaware Public Service Commission (Delaware Commission)
Demand Response and Smart Grid Coalition (DR Coalition) *
Direct Energy Business, LLC
District of Columbia Office of People's Counsel (DC People's Counsel)
District of Columbia Public Service Commission (DC Commission) *
Dominion Resources Services, Inc.
Electric Power Supply Association (EPSA)
EnergyConnect, Inc. (ECI) *
EnerNOC, Inc. *
Exelon Corporation (Exelon) *
FirstEnergy Companies
GenOn Parties
Hess Corportation
Illinois Commerce Commission (Illinois Commission)
Maryland Public Service Commission #
Monitoring Analytics, LLC
North America Power Partners, LLC (NAPP)
North Carolina Electric Membership Corp.
New Jersey Board of Public Utilities
Nucor and Steel Dynamics (Steel Producers) #
Old Dominion Electric Cooperative (ODEC) *
Pennsylvania Office of Consumer Advocate
PJM Industrial Customer Coalition (PJM ICC) *
PJM Power Providers Group (P3) *
PSEG Companies (PSEG) *
The Public Utilities Commission of Ohio (Ohio Commission) *
Retail Energy Supply Association (RESA)
Rockland Electric Company (Rockland) *
Shell Energy North America (US), L.P.
Viridity Energy, Inc. (Viridity) *
Virginia Municipal Electric Association No. 1

* timely-filed protest and/or comments
\# motion to intervene out-of-time