

131 FERC ¶ 61,168
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Jon Wellinghoff, Chairman;
Marc Spitzer, Philip D. Moeller,
and John R. Norris.

PJM Interconnection, L.L.C.

Docket Nos. ER05-1410-015
EL05-148-015
ER09-412-008
ER09-412-010

ORDER ACCEPTING COMPLIANCE FILING,
DENYING REHEARING, AND
REQUIRING FURTHER COMPLIANCE FILING

(Issued May 20, 2010)

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1. In this order, the Commission accepts a filing relating to PJM Interconnection, L.L.C. (PJM's) Reliability Pricing Model (RPM) capacity market that complies with the Commission's October 30, 2009 order in this proceeding.¹ The compliance issues relate to the periodic review of the Net cost of new entry (Net CONE), the question of whether to require PJM to sell back capacity commitments when its Reliability Requirement is exceeded, and the determination of prices for capacity in Incremental Auctions. The Commission also denies rehearing of its October 30 Order regarding the sell-back requirement, since the acceptance of PJM's compliance filing grants the relief requested in the rehearing.

I. Background

A. RPM

2. PJM operates the RPM capacity market, under which PJM purchases capacity on a multi-year forward basis through an auction mechanism. Under RPM, PJM conducts a Base Residual Auction three years ahead of each Delivery Year, in which it procures the majority of the capacity that will be required for that Delivery Year. Additionally, while RPM is designed to enable PJM to procure the bulk of needed capacity for each Delivery Year in the Base Residual Auction for that year, during the three-year period between the Base Residual Auction and the Delivery Year, PJM also conducts three scheduled Incremental Auctions. The Incremental Auctions originally enabled PJM only to procure additional capacity if it had underestimated loads in the Base Residual Auction, and RPM included no mechanism to respond to a circumstance under which the Base Residual Auction had procured more capacity than needed.

¹ *PJM Interconnection, L.L.C.*, 129 FERC ¶ 61,090 (2009) (October 30 Order).

3. The amount of capacity that PJM requires its Load Serving Entity (LSE) customers to purchase, and the price for that capacity, is determined by the Variable Resource Requirement Curve (the VRR Curve). The VRR Curve, in broad terms, is designed to reflect the relationship of price to quantity. It is a product of two parameters, the Net CONE and the Installed Reserve Margin (IRM). CONE is intended to approximate the costs for a new peaking unit to enter the capacity market.² The IRM is the amount of capacity that PJM anticipates needing to meet its reliability targets.³

4. PJM has designed the VRR Curve so that the price of capacity is equal to the Net CONE for a new peaking unit when the amount of capacity to be supplied is one percent greater than the Installed Reserve Margin.⁴ PJM's tariff acknowledges that the operation of the VRR Curve may in some cases cause the RPM auctions to procure more capacity than necessary to meet PJM's Reliability Requirement:

The Office of the Interconnection shall determine Variable Resource Requirement Curves for the PJM Region [and LDAs] . . . to establish the level of Capacity Resources that will provide an acceptable level of reliability consistent with the Reliability Principles and Standards. It is recognized that the variable resource requirement reflected in the Variable Resource Requirement Curve can result in an optimized auction clearing in which the level of Capacity Resources committed for a Delivery Year exceeds the PJM Region Reliability Requirement⁵

Prices above Net CONE (where capacity is less than IRM + 1 percent) will encourage additional entry, while prices below Net CONE (where capacity exceeds IRM + 1

² *PJM Interconnection, L.L.C.*, 123 FERC ¶ 61,015, at P 2 (2008) (CONE is the capacity price "considered necessary to attract new entry . . . calculated as the levelized, estimated fixed cost of a new peaking unit . . . net of a historical average of the estimated energy and ancillary services net earnings for such units.").

³ "The Installed Reserve Margin (IRM) is the amount of capacity expected to be needed to meet the traditional 1-day-in-10-year reliability target, where firm load is involuntarily curtailed no more than 1 day in 10 years due to inadequate capacity." *Id.* at P 2 n.5.

⁴ *Maryland Public Service Commission v. PJM Interconnection, L.L.C.*, 124 FERC ¶ 61,276, at P 3 n.4 (2008).

⁵ PJM tariff, Attachment DD, section 5.1(a).

percent) will discourage additional entry; thus, the amount of capacity participating in the market is likely to fluctuate around the level where price matches Net CONE.

5. On December 12, 2008, PJM made a filing under section 205 of the Federal Power Act (FPA) in which it proposed significantly to revise the RPM capacity market.⁶ In the December 12 filing, PJM proposed to update its Reliability Requirements before each of the three scheduled Incremental Auctions. If the updated Reliability Requirement differed, in either direction, from the most recent prior Reliability Requirement used to set or adjust capacity procurement levels, then PJM would seek in the upcoming Incremental Auction either to buy additional commitments of capacity, or to "sell back" capacity commitments to resources, i.e., allow capacity resources to buy out of their prior commitments.⁷

6. The Commission issued an order on PJM's proposal on March 26, 2009,⁸ in which it required a further compliance filing. PJM made that compliance filing on

⁶ PJM subsequently amended that filing on February 9, 2009.

⁷ As we noted later, a supplier may wish to purchase back from PJM its own obligation to provide capacity, under circumstances when PJM's sell-back of that capacity benefits both parties:

[A]ssume that a capacity resource is committed to provide 100 MW of capacity to PJM, is guaranteed in return to receive \$30/MW in capacity payments, and anticipates that its costs to provide capacity will be \$20/MW. Thus, if the capacity commitment is carried out, the resource will net \$10/MW. But if PJM no longer needs that 100 MW of capacity [because it now anticipates lower demand in the Delivery Year], PJM can negotiate with the resource to sell its commitment back to it for any amount between \$30 and \$10. If PJM and the resource come to agreement at \$15/MW, both parties benefit: PJM will not have had to pay \$30 to the resource for capacity it does not need, and will instead only pay \$15 to terminate its obligation to make capacity payments; the resource, on the other hand, will not have to expend \$20 to provide the capacity, and will therefore net the entire \$15 payment, rather than \$10.

October 30 Order at P 54 n.24.

⁸ *PJM Interconnection, L.L.C.*, 126 FERC ¶ 61,275 (2009) (March 26 Order), *order on clarification and reh'g*, 128 FERC ¶ 61,157 (2009) (August 14 Rehearing

(continued)

September 1, 2009. The Commission ruled on that compliance filing on October 30, 2009.

B. October 30 Order

7. In the March 26 Order, the Commission addressed PJM's proposed method of determining CONE, and also of updating CONE on a periodic basis. In its compliance filing, PJM proposed to use the Handy-Whitman Index of Public Utility Construction Costs (Handy-Whitman Index) to update CONE. In the October 30 Order, the Commission accepted this proposal in principle, but required further compliance filings, addressing both the use of the Handy-Whitman Index and the appropriate time period for periodic review of CONE.

8. In the proceeding leading to the October 30 Order, the Illinois Commission argued that RPM has consistently procured capacity in excess of the Reliability Requirement. It asked the Commission to require PJM to treat the buying and selling back of capacity "reciprocally." The Illinois Commission stated that PJM was currently required by its tariff to procure more capacity in the Incremental Auctions when it has not previously procured enough capacity to meet the Reliability Requirement; the Illinois Commission asked the Commission also to require PJM to "sell back" resources' capacity obligations when it has procured capacity in excess of the Reliability Requirement.

9. In the October 30 Order, the Commission accepted PJM's filing, conditioned on PJM either revising its tariff to provide for a provision governing its sell-back of capacity that is symmetrical with the provisions for purchasing capacity, or providing an explanation as to why such a provision should not be included.⁹ Additionally, the Commission accepted the filing on the condition that PJM file a revised section 5.12(b)(i) that clearly describes the specific prices at which PJM would offer to pay to purchase varying amounts of capacity.

II. Notice of Filing and Responsive Pleadings

10. Notice of the December 29, 2009 filing was published in the *Federal Register*, with motions to intervene, notices of intervention, comments and protests due on or before January 19, 2010.¹⁰ The Ohio Consumers Counsel filed a motion to intervene. Timely protests and comments were filed by Shell Energy North America (Shell),

Order).

⁹ In the proceeding leading to the October 30 Order at P 79.

¹⁰ 75 Fed. Reg. 2,532 (2010).

Indicated Customer Interests (Indicated Customers),¹¹ and Rockland Electric Company (Rockland). The Illinois Commerce Commission (Illinois Commission) sought leave to file comments out of time. PJM and the PJM Power Providers Group (Power Providers) filed answers to the parties' comments, and Indicated Customers filed an answer to those answers.

III. Discussion

A. Procedural Matters

11. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2009), the notice of intervention serve to make the entities filing them parties to this proceeding. We further grant the Illinois Commission's motion to file comments out of time, as granting such relief at this stage of the proceeding will not disrupt the proceeding or place additional burdens on existing parties.

12. Rule 213(a)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2) (2009), prohibits an answer to a protest or an answer unless otherwise ordered by the decisional authority. We will accept the answers filed by PJM and Power Providers, and Indicated Customers' reply to those answers, because they have provided information that has assisted us in our decision-making process.

B. Substantive Matters

13. On December 29, 2009, as directed by the October 30 Order, PJM submitted revisions to the PJM tariff, with the majority of the new tariff provisions to be effective November 1, 2009.¹²

¹¹ The Indicated Customer Interests consist of the Pennsylvania Office of Consumer Advocate, the Maryland Office of People's Counsel, the PJM Industrial Customer Coalition, Blue Ridge Power Agency, Duquesne Light Company, the Public Power Association of New Jersey, the New Jersey Division of Rate Counsel, and the Office of the Ohio Consumers' Counsel.

¹² PJM requests an effective date of November 1, 2009 for most of the enclosed PJM Tariff sheets, consistent with the effective date established by the October 30 Order when it conditionally accepted the changes submitted with the September 1 Filing. However, PJM encloses certain additional revised sheets to reflect further changes to those sheets subsequent to the September 1 Filing. It states that, on September 14, 2009, PJM filed changes in this proceeding to section 5.12(b) to incorporate compliance changes related to RPM's Conditional Incremental Auctions. The Commission accepted those changes with a letter order, granting the requested November 13, 2009 effective

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1. Use of Handy-Whitman Index and Periodic Review for CONE

14. In the October 30 Order, the Commission accepted PJM's use of the Handy-Whitman Index to adjust CONE on the condition that PJM revise its tariff to describe in more detail how it would use the Handy-Whitman Index. The Commission noted that "the use of the Handy-Whitman Index is a formula rate and the tariff provision needs to describe the methodology being used in determining the CONE value."¹³

15. In response to this directive, PJM proposes to use the Handy-Whitman Index North Atlantic Region for purposes of CONE Areas 1 and 2, and the Handy-Whitman Index North Central Region for purposes of CONE Area 3.¹⁴ PJM also includes a succeeding set of tariff changes, to be effective January 31, 2010, identifying the Handy-Whitman Index regional indices for use with the pending additional CONE Areas, i.e., the Handy-Whitman Index North Atlantic Region for purposes of CONE Area 4, and the Handy-Whitman Index South Atlantic Region for purposes of CONE Area 5.¹⁵ PJM also

date. Accordingly, PJM encloses herewith succeeding changes to Sheet Nos. 595 and 595.01 with an effective date of November 13, 2009, reflecting the compliance changes required by the October 30 Order combined with the Conditional Incremental Auction changes accepted after the October 30 Order. PJM additionally encloses a succeeding Sheet No. 586, with an effective date of January 31, 2010, applying the compliance changes required by the October 30 Order to the new CONE Areas established in Docket No. ER10-366-000.

¹³ October 30 Order at P 39.

¹⁴ The Handy-Whitman Index North Atlantic Region covers, among others, the states of Delaware, Maryland, New Jersey, Pennsylvania, and West Virginia, thus lending itself well for use with CONE Area 1, which consists of New Jersey, parts of Delaware, southeastern Pennsylvania, parts of Maryland and a small portion of Virginia; CONE Area 2, which consists of parts of Maryland and Delaware; and the recently proposed CONE Area 4, consisting of parts of Pennsylvania. The Handy-Whitman Index North Central Region covers, among others, Illinois, Indiana, Michigan, and Ohio, thus lending itself for use with CONE Area 3, which consists of parts of Ohio, Indiana, Illinois, Michigan, and West Virginia.

¹⁵ The Handy-Whitman Index South Atlantic region covers, among others, Virginia and North Carolina, lending itself to use with the newly proposed CONE Area 5, which consists of portions of those two states. RPM currently divides the PJM Region into three CONE Areas to reflect construction cost differences within the PJM Region. On December 1, 2009, PJM filed tariff revisions in Docket No. ER10-366-000 to establish five CONE Areas, which were accepted by delegated letter order on

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proposes to revise section 5.10 of Attachment DD to the PJM Tariff to include a reference to the specific Handy-Whitman Index resource category, i.e., the "Other Production Plant" index, which PJM will use to adjust CONE each year. PJM states that this is the most appropriate index to use for the cost to construct a combustion turbine generation plant, which is the defined RPM Reference Resource.¹⁶

16. In the October 30 Order, the Commission accepted a comprehensive four-year review of the Handy-Whitman Index as part of PJM's proposal, under the condition that PJM either remove the four-year review provision, or else file revised tariff sheets that better explained what offers PJM would consider in its analysis, how it will determine whether offers are competitive, and the relationship between this four-year review provision and PJM's existing tariff authority to make a section 205 filing. The Commission further stated that if PJM removes the four-year review provision, its current triennial review provision will remain in effect.¹⁷

17. In its compliance filing, PJM proposes removing the previously proposed four-year review provision and reinstating the triennial review.¹⁸ PJM's proposed revisions also clarify that the next triennial review will be for the 2015-2016 Delivery Year, i.e., a CONE review in 2011 for use in the May 2012 Base Residual Auction. PJM states that it will be able to make an FPA section 205 filing with the Commission 60 days before PJM posts Base Residual Auction parameters in early February.

a. Commission Determination

18. We will accept PJM's compliance filing because PJM has demonstrated that both its use of the Handy-Whitman Index and its provision for triennial review of CONE are just and reasonable.

January 22, 2010.

¹⁶ Transmittal letter, PJM December 29, 2009 compliance filing (Transmittal) at 3, *citing* PJM tariff, Attachment DD, section 2.58.

¹⁷ October 30 Order at P 44.

¹⁸ Transmittal at 6.

2. Purchases of Additional Capacity in Incremental Auctions

a. Background of the Tariff and Proposals

19. PJM's tariff requires that it consider three factors regarding purchases of capacity in its Incremental Auctions.

- First, to accommodate short-term capacity resources that cannot participate in the Base Residual Auction, PJM reserves a portion of its capacity purchases (the hold-back amount¹⁹) for later procurement in the Incremental Auctions.
- Second, PJM seeks to purchase capacity because of conditions relating to its ability to satisfy the Reliability Requirement.
- Third, in the Incremental Auctions PJM must integrate its purchase offers with offers to purchase capacity by resources wishing to buy out of their capacity commitment.²⁰

20. In this filing, PJM has revised its proposals to purchase capacity related to the Reliability Requirement and the hold-back provision in response to the October 30 Order. Specifically with respect to purchases related to the Reliability Requirement, under PJM's proposal, PJM would seek to purchase additional capacity in an Incremental Auction when either of two conditions arises.

- Condition 1 is that the total amount of capacity procured in previous auctions for a Delivery Year is less than the updated Reliability Requirement by a threshold amount for the Delivery Year. In this case, PJM proposes to offer to buy the hold-back amount at a fixed price, and to offer to buy additional capacity based on the sloped VRR curve.
- Condition 2 is that the Reliability Requirement has increased by a threshold amount since the previous auction for the same Delivery Year. In this case, PJM

¹⁹ To enable resources that are not able to participate in the Base Residual Auction, PJM does not purchase a portion of its total capacity requirement in the Base Residual Auction, but rather purchases that amount (the Short-Term Resource Procurement Target, or hold-back amount) in the Incremental Auctions.

²⁰ For example, a generator selected in the Base Residual Auction that has determined it cannot meet its in-service date may want to try to buy replacement capacity.

proposes to purchase the hold-back amount plus the amount associated with the increase in the Reliability Requirement at a fixed price.

In other words, under Condition 1, PJM has insufficient capacity on hand to meet its Reliability Requirement. Under Condition 2, the Reliability Requirement has been increased, but PJM may or may not already have enough capacity on hand to meet it.

b. October 30 Order

21. In the October 30 Order, the Commission conditionally accepted this proposal. However, the Commission found section 5.12(b)(i) of the tariff unclear²¹ and conditioned its acceptance on PJM filing clarifications to this section to describe the prices at which PJM would offer to pay to purchase varying amounts of capacity. The Commission also found that in a number of areas PJM had failed to justify the prices it was offering to pay for capacity. In its initial filing in this docket, PJM proposed that the fixed price offered for the hold back and for increases in the Reliability Requirement would equal 1.5 times Net CONE. In the October 30 Order, the Commission concluded that this price may be too high and could lead to over-procurement of capacity. We therefore accepted PJM's filing, on the condition that PJM either justify its proposal to pay 1.5 times Net CONE or else revise the price at which it would purchase capacity in such a situation.²²

c. Issues Raised

i. Clarification of the Integration of Buy-Bids Into the VRR Demand Curve

(a) PJM's Compliance Filing

22. PJM states that, in its enclosed tariff revisions, it more precisely defines the increment to the VRR Curve that will be used in the Incremental Auction to procure more capacity. PJM states that its tariff already provides for the establishment of the shape of the VRR Curve, and it is adding new tariff sections to update the complete VRR Curve to reflect changes in the curve's components since the Base Residual Auction and define the curve increment used in the Incremental Auctions by defining the left-most point on that

²¹ October 30 Order at P 80-81 (PJM's "tariff language does not clearly describe the specific prices at which PJM would offer to pay to purchase varying amounts of capacity. We will therefore accept the filing on the condition that PJM file with us a revised section 5.12(b)(i) that clearly describes the specific prices at which PJM would offer to pay to purchase varying amounts of capacity").

²² October 30 Order at P 83-84.

increment, i.e., the beginning megawatt quantity. Specifically, the term “Updated VRR Curve” would be defined as the VRR Curve used in the Base Residual Auction, updated to reflect the hold-back amount plus any change in the Reliability Requirement from the Base Residual Auction to the present Incremental Auction. In addition, the term “Updated VRR Curve Increment” would be defined to mean the portion of the Updated VRR Curve to the right of the quantity associated with the combination of (i) the net capacity procured in previous auctions for the same Delivery Year, (ii) the hold-back, and (iii) any increase in the Reliability Requirement.

23. PJM states that the increment to the VRR Curve that it proposes for the Incremental Auctions serves the same purpose as the VRR Curve in the Base Residual Auction: to provide a demand curve setting forth the megawatts of unforced capacity that PJM will procure at each price point. PJM states that when the VRR Curve Increment is used in an Incremental Auction, the auction will clear at the intersection of the VRR Curve and the supply curve consisting of sell offers submitted in the auction, just as the Base Residual Auction clears at that intersection.

(b) Comments

24. Indicated Customers argue that unlike the Base Residual Auctions, in which capacity demand is defined by the VRR Curve, in the Incremental Auctions the capacity demand is based on offers to purchase capacity. Thus, Indicated Customers argue, there is no provision for using all or part of a VRR Curve in clearing the Incremental Auctions. They further assert that PJM's proposed language does not define how PJM will integrate its purchase offers based on the updated VRR Curve Increment with the purchase offers of market participants. They ask the Commission to order PJM to further clarify how this will be done, to ensure that the purchase offers of market participants are treated in a non-discriminatory manner relative to PJM's purchase offers in clearing the Incremental Auctions.²³

(c) Answer

25. In its Answer, PJM states that, because the curve describes a variable requirement (i.e., a series of capacity-price points below, at, and above the Reliability Requirement), an Incremental Auction could clear sufficient capacity to meet the Reliability Requirement, or it could clear more or less than that quantity, depending on the supply curve formed by the Sell Offers. PJM states that it proposes to use the Updated VRR Curve Increment for the same purpose in the Incremental Auctions as it uses the VRR

²³ Affidavit of James F. Wilson, attached to Indicated Customers' protest (Wilson Affidavit) at 29, paragraph 67.

Curve in the Base Residual Auction: namely, as "another try" at meeting the Reliability Requirement.

26. Finally, PJM states that its buy bids will be appropriately integrated with the VRR Curve. In response to Indicated Customers' protest, PJM states that there will be only one demand curve used to clear any Incremental Auction, which will be the combination of the VRR Curve Increment with all submitted Buy Bids, with each Buy Bid adding a horizontal segment that extends the curve to the right. To construct the single demand curve, each Buy Bid will be inserted in the VRR Curve Increment at the price point that corresponds to the price point stated in the Buy Bid. Inserting a Buy Bid will create a horizontal segment, equal in length to the capacity of the Buy Bid, in the VRR Curve at such pricing point. PJM notes that at the end of the horizontal segment, the VRR Curve will continue with the same slope it had on its segment preceding the point where the Buy Bid was inserted, and any number of such Buy Bids can be inserted in the VRR Curve.

(d) Commission Determination

27. We find that PJM has adequately revised its tariff to describe the process by which it integrates buy bids into the VRR curve. PJM has explained that it will use in the Incremental Auctions only the portion of the Updated VRR Curve that accounts for all cleared capacity in the prior auctions. The VRR Curve Increment represents the amounts of capacity that PJM is willing to purchase at various prices when conditions described in section 5.4(c)(2) of the PJM Tariff, Attachment DD, apply.²⁴ As PJM notes in its answer,²⁵ the single demand curve will be updated and shifted by the buy bids in the amount of the capacity added by each bid to construct the Updated VRR Curve Increment.²⁶ At the end of this horizontal move, the VRR Curve will then continue with the same slope that it had preceding the buy bid. That is, PJM will construct a demand curve by summing, for each capacity price, the amount of capacity that it is willing to purchase at this price with the amount of capacity that market participants are willing to

²⁴ Section 5.4(c)(2) requires PJM to seek to purchase more capacity when either (i) the updated Reliability Requirement less the applicable Short-Term Resource Procurement Target [i.e., hold-back amount] by the total capacity procured to date exceeds the lesser of 500 MW or one percent of the applicable prior Reliability Requirement, or (ii) PJM conducts a Conditional Incremental Auction for the Delivery Year and does not obtain all additional capacity commitments sought in the auction.

²⁵ See PJM Answer at 19–20.

²⁶ PJM has proposed two newly defined terms, “Updated VRR Curve” and “Updated VRR Curve Increment” to reflect shifts in the VRR Curve between the Base Residual and Incremental Auctions. See Fifth Revised Sheet No. 572.

purchase at this same price. We find that this is a reasonable and clearly-described method of developing a demand curve.

ii. Offer Price For Additional Capacity

28. As discussed above, section 5.4(c) of Attachment DD to PJM's tariff describes two different conditions under which PJM would seek to purchase additional capacity in an Incremental Auction. Condition 1 occurs when the total amount of capacity procured in previous auctions for the Delivery Year is less than the Updated Reliability Requirement by a specified threshold.²⁷ Condition 2 occurs when the Reliability Requirement has increased since the previous auction for the same Delivery Year by a specified threshold.²⁸ Under Sections 5.4(c) and 5.12(b) of Attachment DD, when either of these conditions arise, there are up to three categories of capacity needs for which PJM would seek to purchase capacity, depending on which of the two conditions applied. These categories are (i) capacity for the amount held back from the Base Residual Auction to accommodate the hold-back amount, (ii) capacity for the increase in the Reliability Requirement (when Condition 2 applies), and (iii) additional capacity to reduce the capacity deficit below the Reliability Requirement (when Condition 1 applies).

d. PJM's Compliance Proposal

29. In its compliance filing, PJM proposes a lower fixed price for offers to purchase capacity for the hold-back amount and to meet the increased Reliability Requirement. Instead of an offer price of 1.5 times Net CONE, PJM now proposes a fixed price determined by the point on the Updated VRR Curve associated with the quantity equal to the net capacity procured in all previous auctions for the same Delivery Year. PJM states that since it has never cleared fewer than 129,000 MW in any Base Residual Auction, this proposal moves the price for buy bids far to the right – i.e., far lower on the curve than the current price of 1.5 times Net CONE. PJM asks the Commission to resist proposals to reduce this price still further, stating that (as was the case with the 1.5 times Net CONE price) an increase in the Reliability Requirement that arises after the Base Residual Auction indicates a potential shortage situation, warranting use of the highest

²⁷ The threshold for the First and Second Incremental Auctions is the lesser of 500 MW or one percent of the applicable prior Reliability Requirement. For the Third Incremental Auction, the threshold is 0 MW.

²⁸ For a Scheduled Incremental Auction, the threshold is (i) the lesser of 500 MW or one percent of the applicable prior Reliability Requirement, minus (ii) the hold-back amount. In addition, if PJM conducts a Conditional Incremental Auction and does not obtain all additional commitments of resources sought in the Condition Auction, PJM shall seek to purchase the shortfall in the Scheduled Incremental Auction.

reasonable purchase offer price to avert that shortage prior to the Delivery Year. PJM urges the Commission to reject proposals by the Illinois Commission and Indicated Customers to reduce this price, stating that those proposals ignore the urgency of obtaining needed capacity before the Delivery Year.

30. PJM states that, rather than using the 1.5 times Net CONE price (i.e., the highest price on the VRR Curve), PJM will use the highest price that takes into account the previously committed capacity. Specifically, PJM states that it is amending its tariff to reflect that the bid price for new capacity will equal the price at the intersection point of (1) the Updated VRR Curve²⁹ and (2) the vertical line representing the "net" capacity committed to the PJM Region as a result of all prior auctions conducted for that Delivery Year, with the term "net" reflecting that some capacity might have been sold back in prior Incremental Auctions for that Delivery Year.³⁰ PJM states that this approach values the capacity it is purchasing more accurately along the VRR Curve, since it takes into account the fact that the PJM region already has procured most of the capacity needed for the Delivery Year; thus, the price of the next increment of needed capacity is moved lower on the VRR Curve. PJM also states that this new choice better serves the original rationale for use of the 1.5 times Net CONE price - i.e., procuring either the capacity held back from the Base Residual Auction for short-term resources, or the capacity needed to address an upward correction to the Reliability Requirement.

31. In essence, PJM proposes a fixed offer price to purchase capacity for the first two categories (i.e., the hold-back amount and the increase in the Reliability Requirement). PJM proposes a variable set of offer prices, based on the Updated VRR Curve Increment, to purchase capacity for the third category (i.e., additional capacity to shrink the difference between the amount of capacity procured to date and the updated Reliability Requirement). The following table illustrates the proposal:

²⁹ The Updated VRR Curve is "the [VRR] Curve used in the Base Residual Auction of the relevant Delivery Year 'updated to reflect the Short-term Resource Procurement Target [i.e., hold-back amount] applicable to the relevant Incremental Auction and any change in the Reliability Requirement from the Base Residual Auction to such Incremental Auction.'" Transmittal at 15.

³⁰ *Id.* at 17-18.

| Quantity | Fixed Price | Variable Price |
|-----------------------------------------|-------------|----------------|
| Hold Back | | |
| Increase in Reliability Requirement | | |
| Failure to Meet Reliability Requirement | | |

e. Comments

32. Indicated Customers oppose PJM’s proposed fixed offer price when seeking to purchase capacity to meet the hold-back and the increased Reliability Requirement. In their view, the simplest and most efficient approach, which is also the most consistent with the sloped VRR curve concept, would be to update the VRR curve for each Incremental Auction, and for PJM to submit buy and sell offers corresponding to the uncleared and cleared, respectively, portions of the updated VRR curve.³¹

33. Indicated Customers argue that PJM’s proposal introduces an asymmetry between the provision for capacity purchases and the provision for capacity sales in the Incremental Auctions, and creates a bias toward over-procurement. Indicated Customers state that the fixed price that PJM proposes to pay – at the point on the Updated VRR Curve corresponding to the quantity cleared in prior auctions for the given delivery year³² - is likely to be higher than the Base Residual Auction clearing price, as the VRR Curve will have shifted to the right (due to the assumed increase in the Reliability Requirement and the addition of the applicable share of the hold-back amount). Indicated Customers argue that at this high price, it is likely that such offers to purchase capacity will clear in the Incremental Auction. By contrast, the price that PJM proposes to offer when selling back capacity obligations – the “Weighted Average Resource Clearing Price” (except for Third Incremental Auctions, when the price is zero) – is likely to be very close to the applicable Base Residual Auction price. Indicated Customers argue that when capacity is being sold back, the price at which the Base Residual Auction would have cleared had the updated VRR Curve been used, and the value of capacity on the Updated VRR Curve at

³¹ Wilson Affidavit, P 9.

³² Indicated Customers' Protest at 16, *citing* October 30 Order at P 83-84.

the point where the quantity of capacity cleared in prior auctions intersects it, will be lower. Indicated Customers therefore assert that, due to this price asymmetry, when the Reliability Requirement increases, additional incremental purchases of capacity are highly likely, but when the Reliability Requirement has decreased, sell-backs of capacity obligations will be less likely; and for this reason, PJM is likely to over-procure capacity at load's expense.³³

34. Indicated Customers urge the use of one of two solutions to address the asymmetry. Their preferred solution would be to delete the separate provision for offering back capacity at a fixed price based on the change in the Reliability Requirement. This change, they argue, would render the sell-back more consistent with the VRR curve concept, and would ensure that all mutually beneficial transactions are realized. Their alternative approach (which they term “second best”) would be to set the fixed price of (a) the purchase offer for the hold back and (b) the increase in the Reliability Requirement at the point on the updated VRR curve corresponding to the capacity cleared in prior auctions plus one-half of the quantity of the bid for the hold back and the increase in the Reliability Requirement.

f. Commission Determination

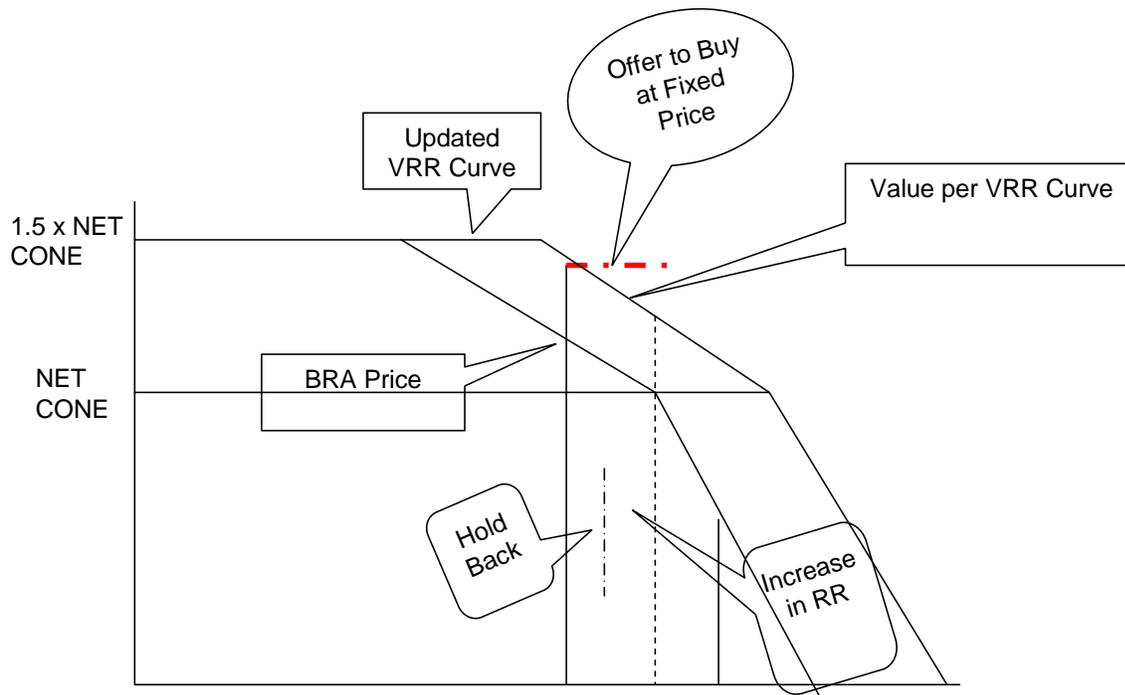
35. While PJM’s proposal has significantly reduced the price at which it will offer to purchase capacity from its original proposal, we agree with Indicated Customers that this revised proposal continues to deviate from the underlying principle of using the VRR curve to establish capacity prices. We therefore accept PJM’s compliance filing on the condition that PJM revise it to price capacity in the Incremental Auctions using the VRR curve.

36. As we noted in the October 30 Order,³⁴ the VRR curve represents the expected value to the PJM system (as reflected by the prices offered) for various amounts of capacity. Under the VRR curve, the incremental value of capacity decreases as the amount of capacity procured increases. The fixed price that PJM proposes to offer for capacity to meet the hold back and the increase in the Reliability Requirement is the price on the Updated VRR Curve associated with the amount of capacity procured to date in the previous auctions. This price is the value of the first MW of capacity needed to meet the hold back and the increase in the Reliability Requirement. The value of the remaining MWs, as reflected in the VRR curve, is lower than this price. PJM proposes,

³³ Indicated Customers cite to proposals by their consultant, Mr. Wilson, that they claim will ameliorate this problem, *see* Indicated Customers' Protest at 17-18.

³⁴ October 30 Order at P 74.

however, to offer a price that is higher than the value of these remaining MW (which will make up most of the capacity that it seeks to procure).



As seen in the graph, the horizontal (red) dotted line represents the quantity PJM will offer to purchase at a fixed price even though this price is more than the value of the capacity as indicated by the updated VRR curve.

37. PJM argues that its proposed fixed offer price should not be lowered, because an increase in the Reliability Requirement after the Base Residual Auction indicates a potential shortage situation. In the first place, PJM is proposing to offer this price whenever the Reliability Requirement has increased even if it already has purchased sufficient capacity to satisfy the updated Reliability Requirement, in which case no shortage would exist. Indeed, Section 5.4(c) explicitly contemplates this situation. Moreover, in a situation in which the Reliability Requirement has not changed, and when the amount of capacity procured up to the date of the Incremental Auction is less than the Updated Reliability Requirement, PJM proposes only to offer up to the price indicated by the VRR curve. PJM therefore has not justified why it needs to offer a price higher than the its value on the VRR curve when the Reliability Requirement has increased, but at the same time will offer a price on the VRR curve when it has failed to satisfy the Reliability Requirement.

38. PJM also has not shown that prices using the VRR curve will not be sufficient to attract the entry of needed capacity. When the amount of capacity procured up to the date of the Incremental Auction is less than the Updated Reliability Requirement, the price offered to procure additional capacity on the VRR Curve would exceed the Net

CONE, and thus, would send a strong economic signal to encourage additional supply. Of course, the amount of capacity procured in the RPM auctions for a given Delivery Year may occasionally fall somewhat short of the Reliability Requirement for a single year. RPM is based on the need to satisfy Reliability Requirements over a 10-year time horizon, but will not necessarily procure capacity equal to the Reliability Requirement in each year. In the years when PJM is short of the Reliability Requirement, the higher prices should encourage entry. In addition, the design of the VRR curve is biased (i.e., designed to procure the Installed Reserve Margin (IRM)³⁵ plus 1 percent of IRM, not simply IRM), so that over 10 years, on average PJM should procure on average more than the Reliability Requirement. In these circumstances, we see no reason for PJM to depart from the structure of RPM simply because the Reliability Requirement has changed since the Base Residual Auction.

39. Accordingly, we accept PJM's filing subject to the condition that PJM make a compliance filing within 30 days that provides for an offer price that uses the Updated VRR curve to value capacity when implementing the provisions for both the hold back and increases in the Reliability Requirement.

3. Sell-Back Requirement

a. Background

40. In PJM's initial proposals, it proposed to offer to buy-back capacity when the Reliability Requirement decreased a threshold amount.³⁶ Under the proposal, PJM would sell-back up to the amount of the decrease in the Reliability Requirement. With respect to pricing for the sell-back PJM proposed to offer to sell back this capacity at a fixed price equal to the Weighted Average Resource Clearing Price at the time of the applicable auction (for the first Incremental Auction or the Second Incremental Auction), and a price of \$0/MW for the third Incremental Auction. PJM, however, did not propose to sell-back capacity in the event that it had procured more capacity than required by the Reliability Requirement.

³⁵ As noted at P 3 above, IRM is the amount of capacity that PJM anticipates needing to meet its reliability targets.

³⁶ The threshold is the lesser of 500 MW or one percent of the applicable prior Reliability Requirement for the First or Second Incremental Auctions, and 0 MW for the third Incremental Auction.

b. October 30 Order

41. In the October 30 Order, the Commission was concerned about asymmetries between PJM's treatment of its proposals to purchase capacity and its proposals to sell-back capacity. We found that PJM's proposal to offer, when the amount of capacity procured to date has fallen sufficiently short of the Updated Reliability Requirement, to procure additional capacity above the hold back through the Incremental Auctions, at progressively lower prices in accordance with the VRR Curve to be just and reasonable. We noted, however, that the Illinois Commission had raised a question as to a possible proposed asymmetry with the sell-back provision, because PJM did not propose to sell-back whenever the capacity acquired exceeds the Reliability Requirement (regardless of any change in the Reliability Requirement):

The Illinois Commission contends that PJM's proposal is unduly discriminatory because it proposes only to buy capacity when it has procured less than the Reliability Requirement, but does not propose to sell capacity when it has procured capacity greater than the updated Reliability Requirement.³⁷

42. We found that the Illinois Commission's position was not clear as to when and at what price it believes PJM should be willing to sell capacity, and that "to the extent that the Illinois Commission is proposing that PJM should be willing to sell capacity at any price above \$0, we find that this argument is inconsistent with the VRR Curve, which was previously approved for RPM, and is beyond the scope of this filing."³⁸ We further reiterated that the VRR Curve recognizes that when offer prices are relatively low, PJM will purchase capacity greater than the Reliability Requirement. We then stated:

However, we do agree that PJM's proposal may unreasonably discriminate in certain situations. *There may be situations in which a generator is willing to buy its capacity obligation back from PJM for an amount greater than what the excess capacity is worth to PJM, as reflected in the VRR curve.* For example, a new generator may be unable to complete its plant on time, which would subject it to a penalty (the higher of 20 percent of the capacity price or \$20/MW-day above the capacity price). If that generator is unable to purchase replacement capacity from another generator or resource, it

³⁷ October 30 Order at P 76.

³⁸ *Id.*

might be willing to buy its obligation back from PJM at a price lower than the capacity price plus penalty, but greater than the price PJM paid for that capacity in a previous auction. . . . PJM should be willing to sell back to a generator at prices that exceed the Base Residual auction price By buying the capacity back, the generator would be better off because its buy-back of capacity would cost less than the penalty, and PJM (and load) would be better off because they would save more on capacity costs than the capacity is worth.³⁹

43. We also pointed out that "this requirement would need to be implemented in conjunction with the requirement to purchase additional capacity when the Reliability Requirement increases . . . and in some cases both the purchase and sale requirements would apply at the same time."⁴⁰ We noted that in such a situation, whether PJM ultimately bought or sold capacity in the Incremental Auction should depend on whether the market price was comparatively high or low: if the price was sufficiently high, PJM would sell capacity and would not buy any additional capacity, but if the price is sufficiently low, PJM would not sell capacity and, rather, would buy additional capacity.

44. We therefore placed the following requirement on PJM:

PJM has not provided a satisfactory justification for not including a sell-back provision in these circumstances. We will therefore accept PJM's filing conditioned on PJM either revising its tariff to provide for a provision governing its sell-back of capacity that is symmetrical with the purchasing provisions under section 5.12(b)(i), or providing an explanation as to why such a provision should not be included.⁴¹

c. PJM's Compliance Filing

45. PJM has sought to comply with this requirement by explaining why no sell-back requirement should be placed on it as a result of the amount of capacity procured to date exceeding the updated Reliability Requirement. It first states that, although the

³⁹ *Id.* at P 77, emphasis added, citations to graphs omitted.

⁴⁰ *Id.* at P 78.

⁴¹ *Id.* at P 79.

Commission tentatively concluded that such a sell-back would benefit loads, in fact it would put loads in a worse position relative to the *status quo*, both by harming load economically in the short term, and by degrading the incentive of capacity resources to honor their commitments over the long term.

46. PJM states that currently, a seller that cannot honor its commitment and does not secure a replacement pays a penalty or "compliance charge," i.e., it pays back the clearing price it is due as a result of its commitment, plus the greater of 20 percent of that clearing price or \$20 per MW. Those compliance charge revenues are allocated to the loads the resource was committed to serve. By contrast, PJM states, under the October 30 Order's sell-back scenario, the committed seller could avoid its commitment by paying loads potentially significantly less than the \$20/20 percent compliance charge rate. PJM states:

For example, assume a capacity seller clears 100 MW of capacity in the Base Residual Auction at a price of \$200/MW-day but cannot meet its commitment. Under the current rules, if the seller does not replace its capacity, PJM would assess and collect a compliance charge from the seller of \$24,000/day (i.e., 100 MW times \$200 times 1.2). But PJM still would collect from loads and pay to the seller capacity revenues of \$20,000/day (i.e., 100 MW times \$200). Loads receive the net collection of \$4,000/day, but have 100 MW less capacity to meet their peak needs than was initially committed in the Base Residual Auction.⁴²

47. PJM states that if, by contrast, it were required to accept an offer to buy back a seller's obligation, the seller could offer to buy out of its commitment, and the buy-out price would always be at or below that the compliance charge rate. Therefore, PJM asserts, if previously-committed capacity significantly exceeds the Reliability Requirement, and thus creates excess supply, a seller's competitive buy-out offer might be well below the compliance charge rate:

If . . . a capacity seller offered to pay 1.1 times the clearing price and its Buy Bid cleared the Incremental Auction for the full 100 MW, then PJM would collect \$22,000/day (100 MW times \$200 times 1.1) from the seller. Just as above, PJM still would pay the seller \$20,000/day for the original, unfulfilled commitment. The end result under this scenario is that loads still would have 100 MW less capacity than expected from the original Base Residual Auction commitment, and would

⁴² Transmittal at 9.

receive a net distribution of \$2,000/day, half of what they would receive had the seller paid the compliance charge.⁴³

48. In addition to this short-term disadvantage to load, PJM argues that requiring a sell-back option when capacity exceeds the Reliability Requirement would lessen sellers' incentive to perform, and would thus degrade reliability. PJM notes that the current \$20/20 percent compliance charge level that the Commission approved in the March 26 Order was justified on the basis that it would provide a sufficient incentive to sellers to meet their capacity obligations. PJM states that if, however, it is required to sell back capacity at any price above the clearing price whenever a region or Local Deliverability Area (LDA) has cleared above the Reliability Requirement, capacity sellers in that region or LDA will know that the effective penalty rate will be below 20 percent whenever the area clears above the Reliability Requirement, and in fact, the more capacity the area clears above the Reliability Requirement, the lower its effective penalty rate will be.

49. PJM acknowledges that, in the October 30 Order, the Commission suggested that requiring such a sell-back would only be permissible if there is a floor for the sell-back price equal to the clearing price established by prior auctions.⁴⁴ PJM believes, however, that, if there is substantial capacity above the Reliability Requirement, the sell-back price is likely to be driven down to that floor level, i.e., barely above the clearing price set by the prior auctions. PJM notes that the most recent Base Residual Auction cleared over four percentage points above the Installed Reserve Margin (20.9 percent versus 16.2 percent), and if PJM were to offer the thousands of MW represented by those four percentage points back to previously-committed sellers, the price would very likely drop to the price the sellers would receive as a result of their prior capacity commitment.

50. PJM further states that a capacity seller's incentive to take the necessary actions to honor its commitment will be reduced, if that seller knows that it can buy back that commitment at a minimal cost. If, for instance, a seller is facing a possible delayed in-service date for a new plant, that seller could mitigate that delay through, for example, additional payments to the construction contractor – and, under the current penalty provisions, it may be economically advantageous for the seller to do so. But, if the seller is able to repurchase its obligation at a low price, it will be more economical for it to do so rather than to incur the necessary expenses to complete its plant. PJM argues that, in this circumstance, load would be better served by aligning the incentives for the seller to complete its plant on time. PJM similarly states that sellers would have less incentive to

⁴³ *Id.* at 10.

⁴⁴ October 30 Order at P 77 (generators may be willing to repurchase their capacity obligations "for an amount greater than what the excess capacity is worth to PJM").

incur the costs necessary to minimize outages at their plants (if they can avoid penalties due to outage-related charges by repurchasing their commitments) or to refrain from selling their PJM-committed capacity outside of PJM. At bottom, according to PJM, this approach would signal that an RPM commitment is less of a commitment any time that a region or LDA does not clear above the Reliability Requirement, and thus, would reduce the incentive to all sellers to ensure that they can meet their capacity commitments; in this way, PJM argues, this proposed approach would ultimately impair regional reliability. PJM therefore requests the Commission to find that a sell-back provision is *not* required at prices between the clearing price and the penalty rate when auctions clear above the Reliability Requirement.

d. Comments

51. Indicated Customers argue that requiring PJM to sell back capacity in Incremental Auctions would benefit load by making cleared excess capacity available to the market when needed, and thus lower sellers' risk, encourage participation in the RPM markets, moderate RPM prices, and enhance RPM's overall efficiency, while also protecting reliability.

52. Indicated Customers disagree with PJM that load would be harmed by a sell-back provision in the short-term. Citing to an affidavit provided by James Wilson,⁴⁵ Indicated Customers state that it is in all parties' interest to provide a capacity seller who may have difficulty meeting its obligation with maximum opportunities prior to the delivery year to overcome its difficulties, and to have potential non-performance issues resolved in advance of the delivery year. Indicated Customers also disagree with PJM's assertion that loads will be best served if a resource that faces delays is given greater incentives to bring its resource on line than to buy out its obligation: they argue that it is not in load's best interest to require sellers under all circumstances to incur whatever cost is necessary to bring resources online. Further, Indicated Customers also state that if PJM is not required to sell back capacity obligations, resources will still be able to sell back their obligation (either through the Incremental Auctions, or bilaterally), but under those circumstances load would get no benefit, because PJM would acquire neither sell-back proceeds nor any compliance penalty proceeds to be credited to loads. Indicated Customers also assert that the additional dollars that would be credited to load from non-performing capacity that incurs compliance penalties are small, and do not compensate for denying generators a reasonable opportunity to buy back their capacity obligations.

53. Indicated Customers also disagree with PJM's argument that requiring it to sell back capacity obligations will degrade reliability in the long-term. They argue that little

⁴⁵ Wilson Affidavit.

or no capacity will be sold at prices above the compliance penalty, pointing out that where an Incremental Auction clears at a lower price than the previous auction, none of the capacity offered by PJM under the sell-back provision would clear, because the sell-back capacity typically would be offered at only prices equal to or greater than the Base Residual Auction clearing price.

54. Indicated Customers argue that the sell-back requirement is in fact consistent with the sloped VRR Curve concept and appropriately extends the concept to the Incremental Auctions. They argue that the sloped VRR Curve reduces price volatility by adjusting purchases and sales based on whether supplies are offered at low prices or higher prices. Indicated Customers state that PJM believes, without justification, that the VRR Curve concept requires that whatever quantity of excess capacity clears in the Base Residual Auction, even if very large, should be “locked in” through all the Incremental Auctions, i.e., the VRR Curve resulting from the Base Residual Auction would be frozen.

55. Indicated Customers note that while PJM is opposed to implementing a sell-back provision that is symmetrical to its tariff provisions governing the purchase of capacity, it has supported, and is implementing, a limited provision for offering to sell back capacity in the Incremental Auctions based on a decrease in the Reliability Requirement at a single fixed price specified in the tariff. Indicated Customers point to PJM’s most recent peak load forecast for the 2011/2012 delivery year, which is 5,407 MW lower than the forecast used in the Base Residual Auction for that delivery year, and assert that PJM’s recent peak load forecasts are over-optimistic, so that substantial reductions in future Reliability Requirements are likely.

56. The Illinois Commission recommends that the Commission reject PJM’s proposal not to include a sell-back provision in its tariff for situations when actual capacity procurement is greater than the Reliability Requirement. The Illinois Commission maintains that a provision requiring PJM to sell back capacity in excess of its Reliability Requirement would make both load and generators better off without compromising reliability, and that PJM’s decision does not further the goals of efficiency and is biased towards unnecessarily increasing costs to Illinois customers.

57. The Illinois Commission maintains that reliability would be unaffected by allowing a capacity resource to buy out its commitment, as PJM would be selling excess capacity and would know the resource’s status before the Delivery Year. Further, the Illinois Commission states that, while PJM believes that load will be harmed in the short term because it will receive less under the Commission’s proposed sell-back scenario than under PJM’s current rules, in fact load will be better off if the capacity is sold, given that the price will be greater than the capacity value, according to the VRR Curve. The Illinois Commission disagrees with PJM that a seller’s incentive to honor its commitments would be reduced if it could buy out its RPM commitment, because the RPM is an auction clearing price mechanism and each additional MW of committed

capacity bought back by a generator would raise the buy-out price by that rate of change of the VRR Curve.

58. The Illinois Commission also asserts that PJM's intent to use the penalty charge to deliver additional value to load is contrary to the purpose of the penalty charges, which is to provide an incentive for capacity resources to meet their obligations for the delivery year to ensure reliability. The Illinois Commission additionally states that allowing a capacity resource to buy out its commitment cannot endanger reliability, because PJM will only be releasing capacity commitments when excess capacity (i.e., capacity above the Reliability Requirement) has been procured.

59. Further, the Illinois Commission disagrees with PJM that capacity resources will be able to buy out their commitments at zero or very close to zero cost, and asserts that PJM's statement inappropriately implies that the price for the first MW contained in PJM's sell-back provision would apply to all MWs of capacity in the offer. The Illinois Commission states that PJM's evidence that it would be required to make a large sell offer, so that the price would drop to the floor price, is based solely on the last Base Residual Auction. According to the Illinois Commission, when PJM submits a sell offer for the amount of capacity above the Reliability Requirement, the floor price will be equal to the market clearing price from the Base Residual Auction, but will increase at a rate equal to the inverse of slope of the VRR Curve. Thus, the Illinois Commission asserts, the amount that a supplier will have to pay to buy back its commitment will increase as the number of MWs to be released increases, and therefore, PJM's argument that the holders of capacity obligations will be able to avoid their commitments at "virtually no cost" is inaccurate.

60. Shell similarly protests PJM's decision not to include in its tariff a provision requiring the sell-back of excess capacity in Incremental Auctions as a price taker. According to Shell, this excess capacity would generate market-based credits for consumers of any excess capacity PJM had previously purchased. Shell argues that, if PJM does not sell its excess capacity into the market, it will ultimately over-procure capacity in the operating year, which will artificially depress prices and not provide resources the price signals they need from the market. Shell states that the interests of stakeholders are best served by a sell-back provision that permits the Incremental Auction to find a capacity price based on all resources and demands, and that by PJM offering additional capacity into the Incremental Auction it will allow suppliers to better manage their RPM positions. Shell also disagrees with PJM that a sell-back provision would reduce capacity resources' incentive to honor their commitments.

61. Shell also states that, for market mitigation purposes, RPM suppliers are required to offer all their available capacity into each Incremental Auction, but PJM is effectively asking to have the capacity that it holds exempted from this requirement. Shell argues

that PJM, like other parties, should be required to offer its excess capacity into the Incremental Auction at a zero offer price.

62. Rockland supports PJM's position. It further states that, if the Commission's sell-back proposal were based on a desire to facilitate the construction of new generation by lowering risk, there are other alternatives that would better address this concern, such as extending the commitment period for New Entry Pricing Adjustment.⁴⁶

e. Answers

63. PJM rejects the argument made by protesters that it is focusing on compliance charges as a source of revenue from non-performance, rather than as an incentive to encourage performance. PJM states that it is simply correcting the statement in the October 30 Order that loads could be "better off" under the sell-back regime discussed here. PJM reiterates that under the current rules, load will receive more revenue than would be the case under the sell-back regime.

64. PJM further states that as a grid manager, it wants performance, not penalties. PJM states that generators concerned with the performance of their capacity already have options for seeking replacement capacity from other capacity sellers, either through the Incremental Auctions or bilaterally, and protesters have not shown that those options are insufficient to protect capacity resources. PJM notes that the current capacity replacement options benefit load by replacing capacity that may not be able to perform with capacity that is more likely to perform, but the requirement that it sell back capacity whenever an auction clears above the Reliability Requirement would make it more likely that PJM will become "the buy-out option of last resort," thus in effect making PJM's sell-back of the obligation equivalent to a penalty, but at a lower rate. PJM reiterates that the sell-back requirement would undermine RPM by impairing the design objectives of the VRR Curve, which is expected under some circumstances to procure capacity above the Reliability Requirement, thus providing stability that optimizes cost and reliability over time.

65. PJM additionally states that the sell-back requirement will interfere with the long-term price signals that RPM is intended to send, as capacity will be initially committed at a higher price, but, if an auction clears above the Reliability Requirement, that capacity will ultimately be priced at a lower level; thus, the signal sent to prospective developers of new capacity would be that the capacity committed to the PJM region will never exceed the Reliability Requirement. PJM further points out that, although the Illinois

⁴⁶ New Entry Pricing Adjustment is a provision under which a new entrant may, under some circumstances, be guaranteed to receive its first-year offer price for a certain number of years.

Commission and Indicated Customers assume that PJM will be required to use an "inverted" or "decrement" VRR Curve in any such sell-back, in fact the Commission has not so ordered.

66. PJM argues that Shell's protest, which asks the Commission to require PJM to offer to sell back capacity at a zero price, is a collateral attack on the October 30 Order, which found that any argument "that PJM should be willing to sell capacity [cleared above the Reliability Requirement] at any price above \$0 . . . is inconsistent with the VRR curve . . . and is beyond the scope of this filing;"

67. Power Providers assert that the sell-back provisions advocated by the protesters will undermine the penalty structure of RPM and facilitate gaming in the Base Residual Auction on the part of net short capacity sellers, and are at odds with the original economic underpinnings of the RPM design. Power Providers stress that the current penalty provisions serve an important function in assuring that the capacity offered in the Base Residual Auction is "real" and not illusory. Power Providers argue that the proposed sell-back requirement would not help achieve the mandated reliability standard because it would only be triggered when PJM has already met the Reliability Requirement.

68. Power Providers further assert that the proposed sell-back requirement increases the opportunities for gaming across the auctions for the same delivery period by allowing an LSE to suppress the Base Residual Auction clearing price with additional Demand Response supply while knowing that it can buy out of the supply obligation in the Incremental Auction at a cost cheaper than the savings that result from suppressing the Base Residual Auction clearing price.⁴⁷ Power Providers contend that, even if an LSE

⁴⁷ Power Providers provide the following hypothetical (*see* Power Providers Answer at 8-9): Assume an LSE has an obligation to provide 100 MWs of capacity resources in the DPL-South LDA. Based on published data, the LSE determines that it is likely that the LDA will clear with surplus resources, and so the proposed sell-back provisions should apply in the first Incremental Auction for that Delivery Year. In response, the LSE offers 5 MW of new Demand Response into a Base Residual Auction that the LSE does not believe it will be able to deliver. The LSE offers these 5 MWs below the expected clearing price, and therefore they clear the Base Residual Auction.

Power Providers state that this extra capacity would have the effect of lowering the Base Residual Auction clearing price by \$16.31/MW-day. This price reduction would reduce the LSE's Base Residual Auction cost by $\$16.31 \times 100 = \$1,631$ per day, or $\$16.31 \times 100 \times 365 = \$595,315$ over the year. In the first Incremental Auction, the LSE would submit an offer to buy back this capacity obligation at 1.2 times the Base Residual Auction clearing price. Power Providers state that, if this is the only bid or offer received

(continued)

does not knowingly submit illusory resources, the incentive that currently exists to carefully calculate exactly what a resource can deliver is entirely undermined by the sell-back proposal, as the risk of submitting a “stretch” offer reflecting what a party hopes to be able to provide (instead of what it knows it can provide) is significantly diminished under the sell-back.

69. Power Providers further state that an argument could be made that this type of gaming might also occur under current market rules, given the relatively low penalty rate for resource deficiencies. However, they note that, if the LSE carried this additional 5 MW capacity supply obligation all the way to the delivery year, the fact that it offered resources that it was unable to deliver would be exposed, but with the opportunity afforded by the sell-back requirement to extinguish the obligation altogether, the sham would never be detected and could be repeated indefinitely. Finally, Power Providers acknowledge that, because the Incremental Auctions have cleared below the Base Residual Auction, the hypothesized example could occur safely without the additional sell-back provision. But, Power Providers argue that this view relies on a continuation of the past availability of excess supplies, and that the addition of the hold-back provision may alter this dynamic by increasing demand in the Incremental Auctions.

70. Power Providers also note that the Incremental Auctions were intended to be limited in nature, and no second Incremental Auction has been held to date. The primary auction was the Base Residual Auction, and PJM proposed a downward-sloping demand curve to clear it. Power Providers state that, as PJM demonstrated in its original RPM filing, the downward sloping demand curve has the effect of reducing system costs as the reserve margin increases (i.e., the capacity excess increases). They argue that protestors seek to maintain this design, and the associated benefits in the form of lower Base Residual Auction clearing prices, and then shed the excess that created the lower Base Residual Auction clearing prices in the Incremental Auctions. Thus, Power Providers claim, protestors' sell-back proposal is inconsistent with RPM's overall design. Power Providers further note that the modeling performed by PJM in support of RPM assumed that capacity procured through the auction in excess of the Reliability Requirement would remain committed for that delivery year and would be available at the commencement of

in the Incremental Auction, the Incremental Auction will clear at the price that would have prevailed in the Base Residual Auction but for the 5 MW of additional Demand Response offered by the LSE, i.e. it would clear at a price \$16.31/MW-day higher. In this case, the LSE will have to pay $\$16.31 \times 5 \times 365 = \$29,766$ to shed the capacity obligation, but in so doing it has reduced its RPM total bill by $\$16.31 \times 95 \times 365 = \$565,549$ over the course of the year, compared to its RPM cost had it not offered the 5 MW in the Base Residual Auction and paid PJM to extinguish that obligation in the first Incremental Auction.

the next delivery year, but the sell-back requirement reduces the accuracy of the original models showing that RPM would generally achieve reliability levels, thus undercutting the rationale for RPM in the first place.

71. Indicated Customers state that the gaming strategy set forth by Power Providers is risky, and would likely lead to losses. They allege that that Power Providers err in assuming that the incremental capacity that net buyers will allegedly purchase will lower the Base Residual Auction price, and that this may not occur. Indicated Customers note that in the May 2009 Base Residual Auction, an incremental 5 MW or even close to 250 MW offered in the DPL South zone would have had no impact on the clearing price: such incremental offers would shift the supply curve to the right, and approximately 250 MW of additional capacity could have been offered before any lowering of the clearing price would have resulted.⁴⁸ Indicated Customers also state that, while the potential benefit from this alleged gaming strategy is uncertain and may often be zero, the cost of the strategy is also uncertain and could be high, as it depends upon the availability of replacement capacity in Incremental Auctions at low prices, given that the past pattern of relatively low Incremental Auction prices may change.

72. Indicated Customers also disagree with Power Providers' allegation that the sell-back proposal would create a situation that discriminates against capacity sellers, stating that Power Providers are ignoring the discriminatory effect of the current rules against load. They state that while capacity resources have the flexibility to offer new or incremental capacity into the Base Residual Auction (or to forego the Base Residual Auction and offer the capacity into an Incremental Auction, if they expect prices to be more attractive there), loads have no flexibility at all to select among the auctions to satisfy their obligations.

73. Indicated Customers disagree with PJM's assertion that, if a sell-back requirement were in place, PJM would effectively become the "buy-out option of last resort," so that all resources would view selling back to PJM as the default option. They argue that

⁴⁸ Indicated Customers Answer at 5-6. Indicated Customers also state that even under circumstances where the supply curve is vertical at the clearing point, the price suppression resulting from an incremental 5 MW offered into the auction, based on the parameters for the 2013/2014 auction cited by Power Providers, would be either \$6.28/MW-day or \$10.04/MW-day in the DPL South zone, depending upon the segment of the VRR Curve intersecting the supply curve, not the \$16.31/MW-day stated by Power Providers, which cannot occur under any circumstance. *Id.*, citing 2013-2014 RPM Base Residual Auction Planning Parameters without FRR Adjustments, February 5, 2010 (the ratio of the difference in UCAP Price to the difference in UCAP Level between points a and b, and between points b and c).

PJM's sell-back offers will be inserted into Incremental Auctions where thousands of other MW will be offered by market participants, and PJM's sell-back offers will be at relatively unattractive prices. Indicated Customers also state that, contrary to PJM's understanding, the intent of the sell-back requirement is not to ensure that PJM sells back all the capacity above the Reliability Requirement: rather, they argue, the purpose of the sell-back option is to make excess, unneeded capacity available to the market, and it is unlikely that all excess capacity would be sold back.

74. Finally, Indicated Customers disagree with PJM's view that the sell-back requirement will result in erroneous signals to capacity developers as to the need for capacity in PJM. They state that (a) excess capacity will only be consistently sold back if Incremental Auction prices are consistently higher than the Base Residual Auction prices, the opposite of the pattern to date, and (b) if that becomes the case, developers will choose to offer their capacity into the relatively high-priced Incremental Auctions rather than the Base Residual Auctions, ultimately arbitraging away the price differential and “correcting” the price signal.

f. Commission Determination

i. Sell-Back Requirement Any Time Capacity Procured Exceeds the Reliability Requirement

75. In the October 30 Order, the Commission conditioned its acceptance of PJM's proposal to buy additional capacity when capacity is short of the reserve margin on PJM either revising its tariff to provide a symmetrical provision governing the sell-back of capacity or providing an explanation as to why a sell-back provision should not be included.⁴⁹ We find that PJM has sufficiently explained its decision to not include a symmetrical sell-back provision, and we will accept PJM's filing.

76. First, as we noted in the October 30 Order, the provision for buying additional capacity is justified by the need to provide for reliability on the PJM system by seeking to cover its Reliability Requirement for each year.⁵⁰ Second, we think that PJM has provided a reasonable basis for seeking to ensure that resources bidding into the Base Residual Auction and subsequent auctions should face significant incentives to honor their capacity commitments by imposing the full penalty level prescribed by the tariff. The sell-back provision could provide a seller with the ability to reduce its RPM commitment at little cost to it and thereby reduce its incentive to honor its commitment.

⁴⁹ October 30 Order at P 79.

⁵⁰ *Id.* P 71.

77. Further, we are concerned that the type of bidding behavior the Power Providers describes in its Answer could permit a seller to reduce its RPM commitment at a low cost. That is, a large LSE could profitably suppress the Base Residual Auction clearing price by bidding in additional supply with the prospect that it can buy out of the supply obligation in the Incremental Auction at a lower cost than the savings that result from suppressing the Base Residual Auction clearing price. This occurs because the lower price in the Base Residual auction applies to all the capacity that the large LSE needs to provide, but the price that it has to pay to sell-back the excess capacity applies only to the amount sold back. The overall savings from the lower price obtained in the Base Residual Auction therefore is greater than the amount paid to buy-back a commitment. Even if the Indicated Customers' suggestion is true – that bidding in excess capacity will not always lower the Base Residual Auction price and may carry some risks to Load Serving Entities in certain market situations – we find that, in light of the risk that such a bidding strategy could be employed successfully to lower the capacity price, it is reasonable not to require PJM to sell back capacity when the amount of capacity it has procured to date exceeds the updated Reliability Requirement.

78. In the October 30 Order, we expressed concern that it might be unduly discriminatory for PJM to offer to buy additional capacity in an Incremental Auction when the amount procured to date was less than the Reliability Requirement, while failing to offer to sell capacity when the amount procured is in excess of the Reliability Requirement. However, upon further reflection and in light of the additional comments we have received, we conclude that there is no undue discrimination, given the possibility that a sell-back requirement might reduce a resource's incentive to honor its capacity commitment, and it might also enable Load Serving Entities to use the bidding strategy described above to lower price below what would otherwise result in a competitive market. Moreover, a distinction is warranted because while the existing PJM rules protect against the potential exercise of market power by generators that may have an incentive to withhold capacity, the market rules contain no concomitant protection against the potential exercise of market power by large buyers.⁵¹

79. The Commission addressed a similar concern about gaming and uneconomic entry into the New York Independent System Operator (NYISO) capacity market.⁵² In that

⁵¹ There is no comparable bidding strategy by generators to raise prices artificially because PJM's mitigation rules prevent a generator from offering to sell capacity in an Incremental Auction that was not offered in previous auctions for the same Delivery Year. Thus, generators could not withhold some capacity below the Reliability Requirement in the Base Residual Auction in order to inflate the Base Residual Auction price, and then offer to sell the withheld capacity in a subsequent Incremental Auction.

⁵² *New York Independent System Operator, Inc.*, 122 FERC ¶ 61,211, at P 100-

case, we accepted NYISO's proposal for net buyer mitigation, because of similar potential bidding behavior:

Large net buyers may have both the incentive and the ability to depress prices through uneconomic entry. The in-City market is dominated by two large net buyers – ConEd and NYPA. A large net buyer could acquire new capacity that is not needed in the market and whose costs exceed the market price. Such an investment would be inefficient, the net buyer would lose money on the capacity, and no rational seller would knowingly make such an investment. But the investment could benefit the net buyer because the additional capacity could reduce the market price for capacity and lower the net buyer's total capacity bill. If the newly added capacity represents only a portion of the net buyer's total capacity needs, the reduction in the buyer's total capacity bill caused by the lower prices could more than offset the loss on the newly added capacity investment. As a result, a large net buyer could have an incentive to make such an inefficient investment. However, this would result in the LSE's captive ratepayers bearing the risk of uneconomic investment. The mitigation of net buyers' sales of capacity proposed by NYISO should help avoid this.⁵³

80. Likewise, we cannot find unreasonable PJM's proposal to retain its existing penalty structure when the capacity auction results in the procurement of capacity beyond the Reliability Requirement.

81. Further, we agree with PJM that Shell's protest is a collateral attack on the October 30 Order. As noted elsewhere herein, in the October 30 Order the Commission found that "to the extent that the Illinois Commission is proposing that PJM should be willing to sell capacity at any price above \$0, we find that this argument is inconsistent with the VRR Curve, which was previously approved for RPM, and is beyond the scope of this filing."⁵⁴

106, *order on reh'g*, 124 FERC ¶ 61,301 (2008) (expanding mitigation protections initially targeted solely at net buyers to all parties).

⁵³ *Id.* P 101.

⁵⁴ October 30 Order at P 76.

ii. **Offer Price for the Sell-Back of Capacity when the Reliability Requirement Decreases**

82. We agree with Indicated Customers that the offer price mechanism for selling back capacity when the Reliability Requirement has decreased should be symmetrical with the offer price mechanism for purchasing additional capacity when the Reliability Requirement has increased. As discussed earlier, it is reasonable for the purchase prices offered by PJM for additional capacity to reflect the capacity's value as indicated on the Updated VRR Curve. Similarly, when the Reliability Requirement has decreased since the previous auction, PJM should seek to sell back the additional capacity (the amount matching the decrease in the new Reliability Requirement) whenever it can receive a price higher than its value as reflected in the VRR curve.⁵⁵

83. Other things equal, the value of a given amount of capacity is lowered when the Reliability Requirement decreases. This is reflected by the fact that lowering the Reliability Requirement would lower the Updated VRR Curve. When the Reliability Requirement has decreased, PJM has proposed to offer to sell back capacity during the First or Second Incremental Auctions at a fixed offer price equal to the Weighted Average Resource Clearing Price at the time of the applicable auction. For the First Incremental Auction, this average price would be the price in the Base Residual Auction, the marginal value of capacity in that auction. For the Second Incremental Auction, this average price is likely to be very close to the price in the Base Residual Auction.

84. As Indicated Customers point out, however, the average clearing price likely will be higher than the marginal value of the capacity to PJM based on the changed VRR curve. By offering to sell at a price above the capacity's value, the capacity is less likely to be sold even though the price offered is equal to or greater than the value of that capacity as reflected on the VRR curve. Thus, PJM's customers could be required to pay for some capacity whose cost exceeds its value.

85. For the Third Incremental Auction, PJM has proposed to offer to sell back capacity at any price above zero. Unless PJM has procured a very large surplus of capacity, the marginal value of capacity will be positive. Therefore, by offering to sell

⁵⁵ Unlike under the customer's proposal to sell back capacity when the amount of capacity procured to date exceeds the updated Reliability Requirement, offering to sell back capacity when the Reliability Requirement has decreased would not raise the issue of gaming and buyer market power. That is because buyers' sell offers can affect whether the amount of capacity procured exceeds the Reliability Requirement, but they cannot affect whether the Reliability Requirement changes between auctions.

back capacity at a near-zero price, PJM could sell back capacity at a price less (and quite possibly far less) than the capacity's value.

86. Accordingly, we accept PJM's filing subject to the condition that PJM make a compliance filing within 30 days that uses the Updated VRR curve to value capacity sold back as a result of a reduction in the Reliability Requirement.

IV. Rehearing of the October 30 Order

87. PJM timely sought clarification or in the alternative rehearing, and the PJM Power Providers Group (Power Providers) timely sought rehearing and clarification, of the October 30 Order.

A. Requests for Rehearing and Supporting Comments

88. PJM first states that its request for clarification or rehearing is limited to two respects of the October 30 Order. First, it states that "the Commission's suggestion that PJM should offer to sell back capacity in certain circumstances would produce unjust and unreasonable results . . . [and] the sell-back would not aid loads, as the Commission assumes, and could severely undercut the compliance charges that currently are used to ensure capacity sellers honor their resource commitments,"⁵⁶ and PJM seeks to ensure that the Commission has not yet reached a conclusion as to the justness and reasonableness of requiring PJM to sell back capacity obligations.

89. Second, PJM seeks confirmation that the October 30 Order's requirement that PJM revise its Tariff to "clearly describe the specific prices" that PJM would offer to pay for capacity does not require PJM to state such prices, which will vary from year to year and from area to area, but rather, only to require a more detailed description of the method by which such prices will be determined. PJM states that if the Commission does not grant these requested clarifications, it seeks rehearing.

90. Power Providers similarly state that their request for rehearing and clarification is limited to two issues. They state, first, that the finding in the order that PJM should sell back capacity procured through the operation of a Base Residual Auction not needed to meet the minimum Reliability Requirement if the sales price for such capacity exceeds the auction clearing price is at odds with the RPM penalty mechanism. Second, Power Providers state that certain findings in the October 30 Order seem to suggest that PJM could sell back capacity, if a high enough purchase price were to be offered, even if the

⁵⁶ PJM Request for Rehearing at 1.

Reliability Requirement were not being achieved, and they argue that this result is grossly inconsistent with the basic goal of RPM.⁵⁷

91. RPM Participants (Old Dominion Electric Cooperative and the Mirant Parties) filed an answer in support of PJM and Power Providers' rehearing requests.

B. Commission Ruling

92. The request submitted by PJM and the first of the two issues raised by Power Providers relate only to the question of whether PJM should be required to sell back capacity obligations to resources, when PJM has obtained more capacity than the Reliability Requirement. Because of our ruling on this issue in the related compliance filing, we have granted PJM's and the first of Power Providers' requests for relief. Additionally, as Power Providers make clear, the only circumstance under which their second concern could occur would be if the Commission did impose a sell-back requirement on PJM. As discussed above, the Commission has agreed with PJM not to impose such a sell-back requirement; therefore, Power Providers' second issue has similarly been resolved.

93. We therefore deny PJM's and Power Providers' requests for rehearing or clarification.

The Commission orders:

- (A) We hereby accept PJM's compliance filing, as discussed above.
- (B) We hereby deny rehearing and clarification, as discussed above.

⁵⁷ See Power Providers' Request for Rehearing at 6:

The October 30, 2009 order makes findings regarding the possibility of a sell back obligation in circumstances in which the Reliability Requirement has increased. The order posits a scenario in which there may be an obligation to sell back capacity (presumably because an amount in excess of the Reliability Requirement was obtained in the [Base Residual Auction]) while at the same time there may be obligation to buy capacity because the Reliability Requirement has increased above the threshold amount. In these circumstances, the order indicates that whether PJM buys or sell capacity would be a function of PJM's view of whether prices are comparatively high or low.

(C) Within 30 days of the date of this order, PJM is required to make a compliance filing as described in the body of this order.

By the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.