

109 FERC ¶ 61,067
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Pat Wood, III, Chairman;
Nora Mead Brownell, and Joseph T. Kelliher.

PJM Interconnection, LLC

Docket Nos. RT01-2-011
RT01-2-012
RT01-2-014
ER03-738-002

ORDER ON REHEARING AND COMPLIANCE FILINGS

(Issued October 18, 2004)

1. This order addresses the process by which PJM Interconnection, LLC (PJM) designates transmission expansions required for competition. The Commission here denies requests for rehearing and grants a request for clarification, and accepts two compliance filings with modifications. This order benefits customers by continuing to move forward the process by which PJM will ensure the construction of sufficient transmission capacity to support robust competition in the PJM market.

I. BACKGROUND

A. Initial Order

2. By order dated December 20, 2002, the Commission granted PJM full regional transmission organization (RTO) status.¹ The Commission directed PJM to make a further compliance filing to revise PJM's Regional Transmission Expansion Planning Protocol (RTEPP) to "more fully explain how PJM's planning process will identify expansions that are needed to support competition." PJM submitted changes to its tariff and the Operating Agreement on March 20, 2003, to expand the RTEPP to include "economic" planning. By order dated July 24, 2003,² the Commission accepted PJM's compliance filing, but required PJM to make a further filing to clarify certain points.

¹ PJM Interconnection, LLC, 101 FERC ¶ 61,345 (2002) (December 20 Order).

² PJM Interconnection, LLC, 104 FERC ¶ 61,124 (2003) (July 24 Order).

3. PJM complied with the July 24 Order on August 25, 2003, by submitting further changes to Schedule 6 of the Operating Agreement and other information. PJM proposed to first identify areas that were experiencing unhedgeable congestion (*i.e.*, congestion costs from which parties could not protect themselves through the use of hedging instruments such as Financial Transmission Rights (FTRs)). PJM proposed then to wait one year for the market to provide a congestion solution (the market window), such as a merchant developer proposing to construct an upgrade. If, during this market window, the market did not bring about a solution, PJM would determine the respective costs and benefits of constructing an upgrade, and if it determined that the benefits of constructing an upgrade would outweigh the costs, PJM would propose construction of a transmission upgrade. PJM would also make a determination as to the parties who would bear the costs of constructing the upgrade (*i.e.*, the upgrade's beneficiaries).

4. On October 24, 2003, the Commission issued an order accepting PJM's RTEPP.³ In that order, we accepted the RTEPP as it applied to economic upgrades, but required PJM to amend its proposal so that it would complete its cost-benefit analysis prior to the opening of the market window.⁴ We also gave guidance as to how PJM should define unhedgeable congestion.

B. Requests for Rehearing and/Or Clarification

5. The PSEG Companies (PSEG) and the Maryland Office of People's Counsel, Pennsylvania Office of the Consumer Advocate, Ohio Consumers' Counsel and D.C. Office of People's Counsel (Joint Consumer Advocates) filed timely requests for rehearing. The Coalition of Municipal and Cooperative Users of New PJM Companies' Transmission (Muni-Coop Coalition) filed a timely request for clarification and rehearing.

C. Compliance Filings

6. PJM made two compliance filings in response to the Commission's October 24 Order: the first on November 24, 2003 (Docket No. RT01-2-012), and the second on April 21, 2004 (Docket No. RT01-2-014).

³ PJM Interconnection, LLC, 105 FERC ¶ 61,123 (2003) (October 24 Order).

⁴ Id. at P 23.

7. PJM's November 24, 2003 compliance filing was noticed in the *Federal Register*, with motions to intervene, protests or comments due on or before December 11, 2003.⁵ Delaware Municipal Electric Corporation (DEMEC), the Muni-Coop Coalition, Joint Consumer Advocates, National Grid USA (National Grid), NRG Companies (NRG) and Allegheny Companies (Allegheny) filed timely protests or comments. PJM filed an answer to the protests.

8. PJM's April 21 compliance filing was noticed in the *Federal Register*, with protests, comments and motions to intervene due on May 12, 2004.⁶ PSEG, the Muni-Coop Coalition, National Grid, Joint Consumer Advocates, DEMEC and Allegheny filed timely protests or comments.⁷ Constellation Power Source, NRG Energy, and Conectiv Energy Supply (collectively, Constellation) filed late comments. Chesapeake Transmission, LLC (Chesapeake) and Tangibl, LLC (Tangibl) filed motions to intervene out of time, Tangibl filed comments, and Chesapeake filed an answer to Constellation's and PSEG's comments. PJM submitted an answer to the protests.

II. DISCUSSION

9. In procedural matters, we will grant Tangibl's and Chesapeake's motions to intervene out of time in this subdocket. Under Rule 214(d) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214(d), in deciding whether to grant late intervention, the decisional authority may consider whether the movant had good cause for failing to intervene in a timely fashion. Chesapeake states that it is filing a request for untimely intervention because it only became aware of a problem with the language of PJM's compliance filing, which it believes may render Chesapeake's proposed transmission project unviable, after the comment date set by the Commission. Tangibl states that it wishes only to comment on proposals submitted by other parties in response

⁵ 68 Fed. Reg. 68366 (2003).

⁶ 69 Fed. Reg. 25381 (2004).

⁷ Allegheny Power (Allegheny) filed a timely motion to intervene and a protest; however, it is unnecessary for the Commission to consider the motion to intervene, because the Allegheny Companies (Allegheny Power and Allegheny Energy Supply Company) are already intervenors in this docket. New York Transmission Owners (NYTOs) also filed a motion to intervene in the RT01-2 root docket. Since, however, NYTOs already intervened in that docket previously, it is not necessary for the Commission to grant their motion.

to PJM's April 21 compliance filing, and that its submission will not prejudice any of the other parties to this case. The Commission finds that good cause exists to permit these late interventions.

10. Rule 213(a)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2), prohibits an answer to a protest unless otherwise ordered by the decisional authority. We will accept PJM's answers because they have provided information that assisted us in our decision-making process. Although Chesapeake characterizes its pleading as an answer, Chesapeake is really filing a protest to PJM's April 21 compliance filing, and we will accept and address it on that basis.

A. Rehearing Requests

1. Timetable for cost-benefit analysis

a. Requests for rehearing

11. In the October 24 Order, the Commission required PJM to amend its Operating Agreement to provide that, once PJM has determined that unhedgeable congestion exists, PJM must complete its cost-benefit analysis prior to the opening of the "market window" (the period during which PJM solicits market solutions to unhedgeable congestion), in order to give the parties necessary information to explore alternatives during that market window. In its compliance filing, we directed PJM to either propose a 60-day timeframe to perform the cost-benefit analysis, or else explain why a longer period would be necessary. To provide more information to the market, we also required PJM to make a preliminary finding as to what parties, if no market solution is found and an upgrade is ultimately required through the Regional Transmission Expansion Plan (RTEP) process, would be the beneficiaries of that upgrade, and would therefore be likely to be allocated the costs of the upgrade.⁸

12. PSEG, Joint Consumer Advocates and the Muni-Coop Coalition assert that the Commission erred in requiring PJM to release its cost-benefit analysis before opening the market window. Joint Consumer Advocates assert that requiring the cost-benefit analysis to be performed before the market window opens will delay the opening of the market window, and thus, the eventual resolution of unhedgeable congestion costs. Joint Consumer Advocates ask the Commission to rule that PJM must open the market window as soon as unhedgeable congestion reaches the trigger levels, and commit to producing preliminary cost allocation information within a certain number of months after the

⁸ October 24 Order at P 63.

opening of the market window. The Muni-Coop Coalition argues that a cost-benefit analysis performed in 60 days will be insufficient, and that PJM will need to seek frequent waivers of this requirement; the Muni-Coop Coalition fears that the grant of such waivers would delay the resolution of congestion problems even further.

13. PSEG states that, if PJM initiates its cost-benefit analysis at such an early phase of the proceedings, it will only be able to estimate the scope of the projected upgrade with approximately 50 percent probability of accuracy, and must of necessity rely on insufficiently accurate information. PSEG argues that a cost-benefit analysis performed on this basis may send improper signals to the investment community and to merchant developers in particular, making the project appear riskier than it really is and making it more difficult to obtain financing. PSEG argues that even if a developer develops a different cost estimate for the project, it will be difficult for the developer to obtain financing based on its own analysis once PJM has issued a cost estimate. PSEG fears that this could have a chilling effect on new merchant transmission projects.

b. Commission decision

14. The Commission denies rehearing on this issue. As discussed below, PJM has stated in its April 21 compliance filing in Docket No. RT01-2-014 that it has now determined that it can provide initial cost-benefit information within a 60-day time frame, which PJM will publish within 60 days after a constraint exceeds the applicable Market Threshold.⁹ Thus, the Muni-Coop Coalition's and Joint Consumer Advocates' fear of lengthy delay appears to be unfounded. As the Commission found in the October 24 Order, opening the market window before the cost benefit analysis is presented would not give the parties the ability to consider and use that information to explore alternatives during the market window. The benefit to parties in enabling them to use the cost-benefit information outweighs the harm done by the limited 60-day delay in opening the market window.

15. The Commission does not agree with PSEG's argument that the release of PJM's initial 60-day cost-benefit analysis will be misleading or will send improper signals, or that it will have an unduly chilling effect on a merchant developer's ability to develop or obtain financing for a project. Once PJM has made the initial decision that a particular area is afflicted by unhedgeable congestion, the initial cost-benefit analysis will provide important signals to market participants who may already be considering upgrades at or near that area, enabling them to optimize the siting and sizing of their upgrade proposals.

⁹ There were no protests of the shorter 60-day time frame included in the April 21 compliance filing.

As to PSEG's concern, PSEG does not explain why a merchant seeking financing will be unable to explain to a lender any modifications of PJM's initial analysis, which it deems more appropriate to its project. As discussed above, the benefits to all parties of providing such information at an early stage in the process outweigh possible negative impacts in dealing with lending institutions. Providing a cost-benefit analysis early in the process enables load serving entities and transmission owners to better gauge the potential extent of their cost responsibility for these upgrades, and will therefore provide them with an incentive to invest in merchant transmission or other projects.¹⁰

2. Recurring and non-recurring congestion

a. Request for rehearing

16. In our October 24 Order, the Commission responded to National Grid's concern that PJM's process may fail to pick up sufficient congestion, particularly non-recurring congestion. The Commission agreed that PJM's process may miss significant congestion, and directed PJM to address this concern in a 30-day compliance filing.

17. The Muni-Coop Coalition argues on rehearing that the Commission erred in giving PJM excessive and unreviewable discretion in distinguishing between "recurring" and "non-recurring" congestion. The Muni-Coop Coalition points out that, as National Grid stated in its earlier protest of PJM's filing, PJM's definition might disqualify from consideration congestion events in the same location that might be dissimilar, but congestion might nonetheless be frequent enough to be evidence of insufficient transmission capacity. The Muni-Coop Coalition further asks the Commission to direct PJM to refine its definitions of recurring and non-recurring congestion and to make the criteria it uses for those terms less ambiguous.

b. Commission decision

18. The Commission denies rehearing on this issue. In the first place, the Muni-Coop Coalition's request for rehearing is premature, since the Commission made no determination on the merits of PJM's proposal in the October 24 Order. Rather, the Commission ordered PJM to make a compliance filing, explaining why its proposal did not result in missing significant congestion or make necessary revisions to its process of

¹⁰ For example, once customers recognize that they may be potentially responsible for defraying part of the cost of a transmission project, they may be more willing to invest in a merchant transmission project that would be less costly.

determining congestion.¹¹ Thus, any issues regarding vagueness of terms or discretion can be addressed with respect to PJM's compliance filing. As discussed later, the Commission is accepting PJM's filing with respect to non-recurring congestion. We find that PJM's definition of recurring and non-recurring congestion is not excessively vague or ambiguous,¹² and as we state later, PJM's definition will provide sufficient flexibility to address potential congestion from multiple non-recurring causes in the future.

3. Third-Party FTRs and Economic Generation

a. Request for rehearing

19. In the October 24 Order, with regards to filing a compliance filing on the calculation of gross congestion and unhedgeable congestion, the Commission stated that:

Some parties contend that certain FTRs should not be included in the calculation, because the FTRs may be expensive to buy, while others suggest additional hedging mechanisms should be included. But these comments fail to recognize that the use of FTRs in the formula provided by PJM is basically a way of measuring the total capacity of the path, not whether any particular party is hedged or not.¹³

The Commission also stated that economic local generation "is properly excluded from the total affected load, because it represents capacity that alleviates congestion. If the demand equaled the capacity of the transmission line, plus the in-merit generation, there

¹¹ October 24 Order, at P 48.

¹² PJM provides the following definition of recurring and non-recurring causes of congestion (PJM Operating Agreement, Schedule 6, section 1.5.7(c)(2)(C)(4)):

Recurring causes shall include, but shall not necessarily be limited to, periodic maintenance outages of transmission or generation facilities, forced outages of generation facilities, and forecasted, continuing increases in load. Non-recurring causes shall include, but shall not necessarily be limited to, forced outages of transmission facilities and outages for construction of new transmission (including interconnection) facilities.

¹³ October 24 Order at P 46.

would be no congestion on the line. Thus, to determine the cost of congestion, one should exclude the load that can be served by in-merit generation."¹⁴

20. Joint Consumer Advocates assert that the Commission erred by finding that PJM correctly proposed to consider congestion to be hedgeable if there are FTRs or Auction Revenue Rights (ARRs) available from a third-party merchant. Joint Consumer Advocates states that "the issue [does] not relate to the capacity on a regulated transmission path (over which load is awarded ARR or FTRs as part of network transmission service) but rather a separate line that reduces congestion between the same two points but was built on a merchant basis (for which the merchant is awarded the FTRs that can be sold to load)."¹⁵ Joint Consumer Advocates argue that, if load must purchase FTRs or ARRs to be hedged against congestion (especially at very high prices), that load is still experiencing the costs of congestion simply by having to make payments to third-party merchants for those FTRs or ARRs. Joint Consumer Advocates argue that it would be better for PJM to exclude such FTRs from the calculation of unhedgeable congestion, although PJM should acknowledge their availability as it performs the cost-benefit analysis that determines whether an upgrade is economic.

21. Joint Consumer Advocates similarly argue that the Commission erred by finding that economic local generation will reduce load's congestion costs. Joint Consumer Advocates argue that this erroneously assumes that economic generation will be available to load at that "economic" price, as opposed to the market clearing price. Joint Consumer Advocates state that there is no reason to believe that the owner of such economic local generation would be willing to enter into bilateral contracts at a lower price, when it can receive the higher market clearing price by simply bidding its output into the market. Joint Consumer Advocates further claim that, even if load and economic local generation reach a bilateral agreement, the price contained in that agreement will reflect at least to some extent the fact that that generation is foregoing the opportunity to be compensated at the market clearing price.

b. Commission decision

22. The Commission denies rehearing on these issues. Joint Consumer Advocates contend that third-party FTRs/ARRs can be very expensive and therefore should not be included in the calculation of unhedgeable congestion. As we explain below, Joint Consumer Advocates' argument does not recognize that the cost of third-party

¹⁴ *Id.* at P 47.

¹⁵ Joint Consumer Advocates request for rehearing at 4-5.

FTRs/ARRs is dependent on the extent of congestion, and that the PJM methodology for calculating unhedgeable congestion will isolate those circumstances in which congestion is high (and third-party FTRs/ARRs are valuable and presumably expensive) from those where congestion is low (and the third-party FTRs/ARRs would have little value and would be cheap to obtain).

23. As we explained in the October 24 Order, the PJM definition of unhedgeable congestion is designed to measure the amount and location of congestion so as to determine where economic upgrades should be built. In essence, PJM is using FTRs/ARRs as a proxy to measure the full capacity of the facilities into the congested area. Up to that level, there would be no congestion on the facilities, and hence no congestion costs. Thus, the value and cost of third-party FTRs/ARRs would be low. If the amount of power across the facilities never exceeds the total of the allocated FTRs/ARRs, including third-party FTRs/ARRs, there would be no congestion and parties would not have to pay much, if anything, at all for the third-party FTRs/ARRs. Joint Consumer Advocates cites, as an example, a case where FTRs could be available to a particular load over a merchant-built line that provides enough capacity to transmit all of the energy purchased by that load, so that PJM's congestion measurement methodology would not conclude that that load was subject to unhedgeable congestion; however, Joint Consumer Advocates maintain that in such a situation, the FTRs available on that merchant line would be prohibitively expensive.

24. However, Joint Consumer Advocates does not explain how such a situation could arise. If, in their example, there is a transmission facility built by a merchant with enough capacity to transmit all of the energy purchased by load, any FTRs associated with that line would be worth little or nothing: no customers would be willing to pay any substantial price for such FTRs because there will be no congestion charges that need to be hedged. FTRs/ARRs only have value when the demand across the facilities exceeds the capacity of the facilities (as measured by the available FTRs/ARRs). Thus, the inclusion of third-party FTRs/ARRs in PJM's congestion measurement methodology appropriately isolates those cases in which there is little congestion, and the third-party FTRs/ARRs would be inexpensive, from those where congestion exists and the third-party FTRs/ARRs would be expensive. In cases where such congestion exists, the PJM model would result in a finding of unhedgeable congestion, which will trigger the beginning of the process by which PJM will determine whether an upgrade should be built to reduce that congestion, and thus the value and cost of those third-party FTRs/ARRs. In Joint Consumer Advocates' example, it would not be efficient to expand transmission capacity, and no customer would have any interest in seeing transmission capacity expanded; thus, PJM's congestion measurement methodology correctly would not find customers in such a situation to be subject to unhedgeable congestion, and the process would not lead to the determination that an upgrade be built.

25. The same is true for economic local generation. Economic local generation reduces the congestion that would otherwise occur. Congestion occurs when load within an area cannot be met with the lowest-cost set of available generation and, as a result, higher-cost local generation (inside the constrained area) must be dispatched in place of lower-cost remote generation. Congestion can be measured by the amount of out-of-merit generation. Out-of-merit generation (and thus, congestion) can be reduced either by expanding transmission capacity or by building more low-cost generation in the local area. Locating low-cost, in-merit generation near load reduces congestion because such local generation does not use constrained transmission facilities to reach local load. Of course, as long as congestion exists, the energy price inside the constrained area will be higher than outside the area, and both in-merit and out-of-merit local generators will receive this higher price. But that observation is irrelevant in determining how much additional transmission capacity would eliminate the congestion. In the example in the October 24 Order, if there is local in-merit generation of 25 MWs (with total FTRs of 100 MWs), there will be no congestion over the line as long as demand does not exceed 125 MWs. But if demand were to grow to, say, 130 MWs, then 5 MW of local out-of-merit generation would be needed to be dispatched. In this instance, congestion could be fully relieved by expanding transmission capacity by 5 MWs, *i.e.*, by the amount of out-of-merit generation.

4. Cost Overruns

a. Request for rehearing

26. PSEG filed a rehearing request in response to the Commission's July 24 Order raising the issue that cost overruns associated with economic upgrades could result in the cost of the upgrade exceeding the costs of transmission congestion. PSEG also requested the Commission to create a mechanism that would discourage cost overruns. In the October 24 Order, the Commission denied rehearing on this issue, stating that it would "not impose a vague requirement to 'ensure cost efficiency' on PJM's estimating process, when PSEG has not pointed to any specific inefficiencies now existing."¹⁶

27. In its rehearing request to the October 24 Order, PSEG raises similar objections to those raised in its previous rehearing request. According to PSEG, the Commission erred in not incorporating a mechanism into PJM's estimating process that would address cost overruns in the construction process. PSEG states that, without protection from such

¹⁶ October 24 Order at P 27.

overruns, an upgrade could ultimately cost more than the congestion the upgrade seeks to address. PSEG asks the Commission to require the PJM stakeholder process to address this issue.

b. Commission decision

28. The Commission denies rehearing. Our rationale for denial remains the same as that expressed in the October 24 Order. As PSEG recognizes, costs exceeding PJM's estimates may occur in any project, particularly since PJM's estimating process is itself imperfect. Transmission Owners are entitled to collect rates for the cost of construction projects, unless those costs were imprudently incurred.¹⁷ The parties paying the costs of the construction also can reduce the risk of cost overruns by entering into cost sharing arrangements with the transmission owner to allocate the risk of potential cost overruns before the project is begun.

29. The question of whether to proceed with a project may be dependent on how close the estimated costs and benefits are, but this is a matter of judgment. We fail to see how a tariff provision or mechanism could take into account a potential for cost overruns, and PSEG has not presented such a method in its rehearing request. PSEG is of course free to pursue such an issue through PJM's stakeholder process, but the Commission sees no purpose at this point in mandating that PJM begin a process to consider this issue.

5. Impact of the Elimination of RTORs

a. Request for rehearing

30. In the October 24 Order, the Commission denied a rehearing request by PSEG that the Commission had failed to take into account the effect of its decision eliminating Regional Through and Out Rates (RTORs). PSEG's concern was that without RTORs, load within PJM will have to bear the costs of upgrades that primarily benefit through-and-out customers outside PJM. The Commission found that, since the PJM stakeholder process was already addressing this issue, PSEG should work through that process to obtain resolution of its concerns.¹⁸

¹⁷ See *Iroquois Gas Transmission System, L.P.*, 106 FERC ¶ 61,092, at P 18 (2004) (issue of cost overruns set for hearing on prudence).

¹⁸ October 24 Order at P 26.

31. In its rehearing request to the October 24 Order, PSEG raises similar objections to those raised in its previous rehearing request. PSEG now states, however, that the PJM stakeholder process has not addressed the RTOR question, and for that reason, PSEG asks the Commission to require the stakeholder process to do so.

b. Commission decision

32. The Commission denies rehearing. The Commission does not see how construction projects for upgrades will primarily benefit customers outside of PJM. In PJM's cost-benefit analysis, it will be examining the benefits of any project to the customers in the zone subject to congestion, who will be paying for that project; PJM will not be looking at benefits to those outside of PJM. If the benefits of the project to the load in the zone outweigh the congestion costs to the customers in the zone, the construction of that project is justified. It may be true that some projects will not pass the cost-benefit test unless benefits to outside parties are taken into account. In that case, however, the project would not meet PJM's cost-benefit criteria, unless the outside parties are willing to absorb their proportionate share of the costs.

33. Moreover, since the time that PSEG sought rehearing, the Commission has accepted a settlement in a Commission proceeding involving RTORs between PJM and the Midwest Independent Transmission System Operator (MISO), continuing RTORs until December 1, 2004, and establishing a process for the negotiation and settlement of a long-term rate design proposal for the PJM/MISO region. We encourage PSEG and other parties to raise, as part of that process, PSEG's concern about designing a region-wide expansion process that will address the benefits from construction that will inure to customers outside of PJM. It would be premature to direct any additional action until that proceeding is completed.

6. Interim Relief

a. Request for rehearing

34. In the October 24 Order, the Commission rejected requests for relief for the period between the identification of unhedgeable congestion and the date on which an upgrade to address the problem goes into effect. The Commission found that any such interim relief would be inappropriate because, in order to grant transitional relief to customers in a congested area, it would require PJM to surcharge customers not in that congested area.

35. The Muni-Coop Coalition asserts that the Commission erred in denying interim relief to customers who are currently suffering from unhedgeable congestion and will continue to do so until economic upgrades are built. The Muni-Coop Coalition argues that the Commission's finding that granting such relief would improperly shift costs to

other customers unfairly penalizes customers who are no more culpable for their congestion charges than any of the other customers of a system planned under a different regulatory paradigm. The Muni-Coop Coalition further argues that granting interim relief will not necessarily shift costs to other customers, pointing, as an example, to an agreement recently entered into by PJM and Old Dominion Electric Cooperative (ODEC) to explore the possibility of developing a mechanism to obtain interim relief for customers burdened by unhedgeable congestion that would not require PJM to surcharge other customers.

b. Commission decision

36. The Commission denies the request for rehearing. Muni-Coop Coalition's arguments are beyond the scope of this proceeding. Muni-Coop Coalition's contentions are, in essence, asking the Commission to provide relief to customers from congestion. But this proceeding is not about providing immediate relief from congestion to customers: rather, it has the longer-term goal of ultimately providing congestion relief through creating a planning process for economic expansions.

37. Moreover, parties pay congestion costs only when they seek to buy power outside of their area that the transmission grid does not have sufficient capacity to deliver. As a result, PJM must dispatch local generation that is more expensive than the generation the customer sought to use. The customer, to the extent it is not protected by an FTR, must pay to reimburse the local generator that is dispatched to serve that customer.¹⁹ Thus, customers are charged only the costs for the power that their demand has caused to be dispatched.

38. If the customer using that power does not pay for the costs of the generator actually dispatched to create it, then other customers will have to pay increased bills to cover the difference. The Commission encourages parties to develop solutions to their own congestion problems, such as the ODEC-PJM agreement referenced by the Muni-Coop Coalition, but it will not, as a general matter, provide all customers with interim relief from congestion costs while new upgrades are being built.

¹⁹ The Locational Marginal Price (LMP) system does not itself create congestion costs; those costs already existed. The difference is under prior rate designs, these costs were spread across all customers, rather than being charged to the customers whose demand actually resulted in the costs.

7. Transmission owner's refusal to construct upgrades

a. Requests for rehearing

39. In the October 24 Order, the Commission granted a clarification requested by FirstEnergy that if at the end of PJM's RTEP process PJM has determined that an upgrade is necessary, but the transmission owner in question has not agreed to build it, PJM must make a filing with the Commission. The Commission will then "determine whether to institute an individual proceeding to determine whether to require enlargement of facilities under the FPA, or take other steps."²⁰

40. PSEG and the Muni-Coop Coalition state that the Commission erred by not specifying the process it will follow in the event that PJM proposes that a transmission owner construct an upgrade, and the transmission owner refuses. PSEG states that, at the least, the Commission should require the PJM stakeholder process to propose procedures for resolving such conflicts. The Muni-Coop Coalition asks the Commission to clarify that such procedures will be conducted expeditiously, and that the transmission owner in question will be bound by the analysis conducted by PJM and may not relitigate issues already decided by PJM. The Muni-Coop Coalition also asks the Commission to clarify that PJM continues to have the authority to require transmission owners to construct upgrades for reliability.

b. Commission decision

41. The Commission denies rehearing. As the Commission found in the July 24 Order, if at the end of the PJM process, there is no agreement to build an upgrade, PJM must make a filing with the Commission as to the results of its process.²¹ Once such a filing is made, the Commission will determine the appropriate procedures based on the facts of the individual case. Certainly, the PJM stakeholder process can consider whether there are any procedures for resolving such disputes to which the parties can voluntarily agree. With respect to the Muni-Coop Coalition's requested clarification, we clarify that this proceeding addresses only economic construction and does not deal with issues of reliability upgrades as addressed in PJM's current tariff and agreements.

²⁰ October 24 Order at P 20.

²¹ July 24 Order at P 31.

B. Compliance Filings**1. PJM Interconnection, L.L.C., RT01-2-012**

42. PJM made its first compliance filing in response to the October 24 Order on November 24, 2003. PJM has modified section 1.5.7 of Schedule 6 of the Operating Agreement to provide that, prior to the opening of the one-year market window, it will complete an initial cost-benefit analysis and a preliminary allocation of responsibility for the costs of economic upgrades. PJM also revised the definition of gross congestion costs and unhedgeable congestion to be consistent with the Commission's interpretation in the October 24 Order of these congestion measures. PJM asks for an effective date of October 24, 2003, the date of the Commission Order accepting PJM's August 25 compliance filing, as provided by that order.

2. PJM Interconnection, L.L.C., RT01-2-014

43. PJM filed a second compliance filing in response to the October 24 Order on April 21, 2004. This filing includes (1) the proposed method PJM will use to conduct cost-benefit analyses of potential solutions to congestion which exceeds the applicable congestion thresholds; and (2) proposed measures for preventing or mitigating potential attempts to game the economic planning process. PJM proposes an effective date for the of April 21, 2004 (date of the filing).

3. Rulings on Compliance Filings**a. Congestion Threshold Calculations****i. PJM November 24 Compliance Filing**

44. In its November 24 filing, PJM proposes to modify the definition of gross congestion costs in section 1.5.7(b) of Schedule 6 of the Operating Agreement. PJM states that it designed an initial screen (the "Initial Thresholds") that would enable PJM to quickly focus its resources on the analysis of unhedgeable congestion associated with truly significant constraints. PJM states that the initial thresholds are designed as a simple tool for managing the amount of analysis that must be performed on each congestion event, making the economic planning process more efficient as a whole. PJM states that in its experience, well over half of all transmission constraints that occur have relatively low congestion costs. In both August and September 2003, of the transmission constraints that occurred, only a small percentage of them accounted for a great majority of congestion costs.

45. Consistent with the approach described in paragraphs 42-43 of the Commission's October 24 Order, PJM will calculate gross congestion cost as the shadow price of the applicable constraint multiplied by the total affected load, multiplied by the applicable powerflow distribution factor.²² Total gross congestion cost of each constraint will be the sum of the gross congestion cost in all hours of the constraint's duration, and will be accumulated over each occurrence of the constraint.

46. PJM will also adopt the Commission's proposed method of calculating unhedgeable congestion costs. PJM will calculate the hourly unhedgeable congestion cost associated with a constraint as the product of the applicable hourly shadow price and the total affected load during the hour, minus the sum of: the FTRs that were allocated to the affected load as ARRs in the most recent annual ARR allocation; any additional FTRs that could have been available to the total affected load as ARRs in the most recent annual ARR allocation, but were not requested; other long-term FTRs available to the total affected load as ARRs or FTRs from third parties, including merchant transmission providers; and economic local generation. This would then be multiplied by the appropriate powerflow distribution factor.

47. PJM proposes to continue using two cost thresholds when performing analysis, the Initial Thresholds and the Market Thresholds. The Initial Thresholds are set at very low amounts, ensuring that only insignificant congestion events are excluded from the analysis of unhedgeable congestion. PJM wishes to retain the Initial Thresholds because they are an important tool in managing the workload associated with economic planning. The Market Thresholds are intended to reflect amounts of unhedgeable congestion that may justify the costs of economic upgrades designed to mitigate or eliminate congestion. PJM states that it has set the Market Thresholds equivalent to "very conservative measures of the monthly unhedgeable congestion that likely would translate to annual costs roughly equal to the annual revenue requirement needed to recover the estimated cost, based on PJM's experience, of a typical, minimal upgrade to facilities of each operating voltage classification."²³ PJM requests that the Commission accept PJM's proposal to continue to employ the Initial Thresholds, as well as Market Thresholds, in its economic planning analysis.

²² PJM defines the shadow price of a constraint as the incremental reduction in congestion cost achieved by relieving the constraint by one MW, and it defines the powerflow distribution factor as the percentage of power injected at a bus that flows on the constrained transmission facility. (See PJM's August 25, 2003 compliance filing at 7, 10.)

²³ Id. at 12

ii. Commission decision

48. In response to the November 24 compliance filing, DEMEC urges the Commission to (a) require PJM to include the Initial Thresholds and Market Thresholds described in the November 24 compliance report in the tariff, and (b) require more details about PJM's derivation of the congestion cost thresholds, and Allegheny is concerned that PJM's procedures do not include an explanation of how PJM will measure the level of system upgrade required to address a particular level of unhedgeable congestion. National Grid states that the values assigned to the Initial and Market Thresholds are flawed, arbitrary, and unduly restrictive. In its answer, PJM states that it did not believe it was prudent to include the congestion thresholds in the tariff at that time, it now concludes that experience with the economic planning calculations over the past six months has confirmed that the existing thresholds are appropriate, and PJM proposes to include them in Schedule 6 of the Operating Agreement unchanged in its April 21 Compliance filing. The Commission finds that the protesters have not shown that PJM has erred in its development and calculation of congestion and congestion thresholds, and accepts PJM's proposed approach and threshold levels. The calculation methodology and details used to determine congestion levels are consistent with the Commission's direction in the October 24 order. The proposed Initial and Market Thresholds are reasonable, and appropriately identify those congested interfaces where economic upgrades could be beneficial. As PJM gains more experience with the economic upgrade process, we expect PJM to revise and update the thresholds. In order to monitor the economic upgrade process, we direct PJM to summarize and document the status of the RTEP economic upgrade process in its annual reports to the Commission.

49. PSEG argues that PJM's definition of "economic local generation" does not comply with the Commission's October 24 Order. PJM's tariff defines "economic local generation" to mean generating capacity "other than units subject to offer capping."²⁴ PSEG argues that this is in conflict with the Commission's determination that offer capped generators should be considered economic local generation so long as the offer-capped price is in merit, i.e., less than the system-wide price. PJM, in its answer, states that it has intended the phrase "subject to offer capping" to mean only generation capacity that is in fact running out of economic merit order at an offer-capped price. While PJM's answer appears to agree with PSEG's understanding, PJM's current tariff language does not clearly reflect the treatment of offer-capped generators that are operating in-merit. The phrase "subject to offer capping" would generally be understood as referring to all offer-capped units, regardless of whether the offer-capped bid is in or

²⁴ As explained earlier, in calculating the amount of unhedgeable congestion, in-merit local generation will reduce the amount of congestion.

out of merit. Accordingly, we direct PJM to file revisions to its tariff and/or Operating Agreement, as necessary, within 30 days to make clear that "economic local generation" will include all generation whose bids are in merit, including units whose bids may only have come into merit order after offer capping.

50. National Grid objects to inclusion of the powerflow distribution factor in the calculation of congestion because the factor perpetuates the flaws in PJM's original proposal. National Grid states that the Commission criticized the previous PJM proposal for failing to measure the cost of congestion to those not using the path. National Grid argues that by using the powerflow distribution factor, PJM would continue to measure congestion associated only with power that flows over the congested paths, while ignoring the cost of congestion to parties not using the paths. In PJM's proposed methodology for calculating benefits and costs, a major component of the net system benefit would be the estimated unhedgeable congestion cost savings to the affected load, which PJM proposes to calculate based on the following formula:²⁵

$$((\text{Affected Load} \times \text{DFAX}) - (\text{economic local generation} \times \text{DFAX}) - \text{FTR} \times \text{DFAX}) \times \text{Shadow Price}$$

51. In this formula, the term "DFAX" is the powerflow distribution factor (defined above at fn. 23). National Grid contends that a powerflow distribution factor should not be applied because it is used to measure congestion associated only with power that flows on the constrained transmission element.

52. The Commission agrees with PJM that such a factor is appropriate. As PJM notes in its December 29, 2003 Answer, in a multi-node transmission network like PJM's, the appropriate powerflow distribution factor must be used to properly calculate congestion costs, by translating the shadow price of the constraint into the relevant congestion cost component.²⁶ Contrary to National Grid's contention, the powerflow distribution factor

²⁵ See PJM's Compliance Filing, April 21, 2004, at page 10.

²⁶ In transmitting a MW of power from a source to a sink over a path that uses a constrained facility, the congestion charge for the transmission may often be lower than the shadow price of the constraint. That is because only a portion (represented by the applicable powerflow distribution factor, or DFAX) of the transmitted power will flow over the constraint, and other portions may flow over facilities that are not constrained. The congestion charge will reflect a weighted average of the shadow prices of all the facilities used in the transaction (where the weights are the proportions of power, or DFAX, flowing over each facility), and the shadow price of an unconstrained facility is \$0.

in PJM's formula does not reflect actual flow on the constrained transmission facility, while ignoring the costs to others of congestion on the path. Rather it reflects the fact that, on an integrated transmission system, the congestion costs due to a constraint on a particular line would be less than the shadow price. For example, if half the power in a transmission transaction moves over a constrained facility (and thus, the applicable DFAX = 0.5) whose shadow price is \$40/MW and the remaining power flows over unconstrained facilities with a shadow price of \$0, the average of the shadow prices (and thus, the congestion charge) would be \$20 (*i.e.*, \$40 x 0.5).

53. However, we believe that PJM has not described with enough specificity how it will determine the appropriate powerflow distribution factors to be used in the formula. Thus, we will require PJM to make one change in its tariff relating to the powerflow distribution factor. It is our understanding that the percentage of power injected at a bus that flows on a transmission facility depends on both the source and the sink. We presume that PJM intends that the source would be the location of the additional lower-cost generation that would serve that affected load once the transmission expansion is completed, and that the sink would be the location of the load. However, PJM's compliance filing does not specify the source or sink used in determining the value for DFAX in the above formula. We direct PJM to revise its Operating Agreement to clarify, in a compliance filing filed with us within 30 days, the source and sink intended to be used in determining the value for DFAX. If our presumption about the locations of the source and sink are incorrect, we also direct PJM to include in the compliance filing a justification for the source and sink that it intends to use each time it calculates DFAX for a particular constrained transmission facility.

54. National Grid also continues to advocate its redispatch methodology as the proper approach for calculating congestion, and argues that PJM did not comply with Commission direction to respond to this approach. PJM did not need to respond to National Grid's redispatch cost differential methodology because PJM has adopted the Commission's alternative methodology; thus, because the requirement to respond to National Grid was contingent on PJM's possible rejection of the Commission's alternative, PJM is not required to address National Grid's redispatch methodology.

55. Joint Consumer Advocates argues in its protest of PJM's November 24 filing, as it did in its request for rehearing, that PJM should not take available FTRs/ARRs and economic local generation into consideration when it measures unhedgeable congestion. We have addressed this argument on rehearing, and will not address it again here.

b. Scope of Congestion Calculations**i. PJM Compliance Filing**

56. PJM's methodology analyzes the unhedgeable congestion that is specific to each constraint that exceeds analytical thresholds. In the October 24 Order, the Commission expressed concerns that this facility-by-facility approach may underestimate total unhedgeable congestion, and that a more comprehensive analysis might be more efficient. In the November 24 filing, PJM defends its facility-specific analysis. PJM states that it analyzes congestion from each constraint individually because such information "is essential to evaluating whether a potential transmission upgrade will provide a cost-effective solution to the constraint."²⁷ PJM states that this does not, however, mean that each constraint is evaluated in isolation. Cost thresholds are cumulative, because if an upgrade to a particular facility would eliminate congestion on another facility, the cost of congestion on the other facility would be taken into account when determining whether the upgrade would provide sufficient benefits to outweigh its costs.²⁸

57. In the October 24 Order, the Commission also expressed concerns regarding the distinction between recurring and non-recurring causes of unhedgeable congestion in portions of PJM's analysis, and the initiation of a market window when a constraint exceeds both the Initial and Market Threshold in the same month. In its November 24 filing, PJM states that its calculations of gross congestion and unhedgeable congestion include all congestion, regardless of its cause. PJM's methodology only distinguishes

²⁷ November 24 compliance filing at 15

²⁸ PJM has included new language in Schedule 6 of the Operating Agreement to address this point. The new material clarifies that PJM will design transmission upgrades on a comprehensive basis when it deems appropriate, to address multiple constraints or to serve other purposes. In the event an upgrade developed in this manner serves multiple purposes, PJM will allocate cost responsibility to all the market participants that will benefit from the project.

recurring and non-recurring causes of unhedgeable congestion for the purpose of enabling PJM to evaluate the benefits of potential transmission upgrades.²⁹ Thus, PJM believes that this aspect of the methodology is justified.

58. In the October 24 Order, the Commission raised concerns about statements made in PJM's August 25 transmittal letter that PJM will open a market window only when a constraint exceeds both the Initial Threshold and the Market Threshold in the same month, and that this may result in result in significant congestion being left out of the process. PJM states in its November 24 transmittal that "that statement merely reflects PJM's expectation that it will be virtually impossible for a constraint to exceed the Market Threshold for unhedgeable congestion without also exceeding the very low Initial Threshold for gross congestion in the same month." To ensure resolution of the Commission's concern, PJM added language that clarifies when an Initial Threshold is exceeded, PJM will continue that analysis for at least four months. Each time the constraint exceeds the Initial Threshold, a new four-month period for analysis will begin. PJM argues that four months is sufficient to provide experience over an entire season.

ii. Commission decision

59. In their protests of the November 24 compliance filing's provision as to the scope of the congestion threshold calculations, Joint Consumer Advocates and National Grid argue that the calculation of congestion over individual constraints may overlook transmission constraints that individually do not exceed the applicable Initial Thresholds, but which collectively would exceed the Market Threshold for unhedgeable congestion. DEMEC faults PJM for limiting the period to four months during which a constraint can breach the Initial Threshold and the Market Threshold. National Grid states that PJM focuses inappropriately on non-recurring sources of congestion, and asserts that PJM's explanation of non-recurring congestion is ambiguous and requires modification. DEMEC suggests lengthening the process and resume calculating unhedgeable congestion if a constraint exceeds the initial threshold in two consecutive peak periods.

60. PJM's answer to the protests of the November 24 filing addresses the Joint Consumer Advocates' concerns about the focus on single constraints. According to PJM, it intends to evaluate groups of constraints at all steps of the economic planning process

²⁹ PJM states that the cost-benefit analysis of potential upgrades partially depends on projections of future unhedgeable congestion. Unhedgeable congestion due to non-recurring causes should not be included in calculations of the expected benefits of economic upgrades, or else customers could be charged for upgrades that are actually not necessary to resolve recurring congestion events.

to evaluate when a comprehensive solution may potentially be appropriate. PJM has also included language in section 1.5.7(d)(3) of the RTEPP that addresses congestion associated with multiple constraints.³⁰ PJM's response to DEMEC's concerns about limiting the period during which a constraint can breach a threshold is similar. PJM states that there is no need to begin prescribing how the thresholds would be applied in every particular situation. It notes that it has incorporated flexibility in the language in 1.5.7(c)(6) of the RTEPP that would address the situation raised by DEMEC.³¹

61. The Commission accepts PJM's provisions regarding the scope of the congestion calculation. PJM has incorporated language into the RTEPP which gives it flexibility to address congestion across multiple constraints and to lengthen the period over which congestion is measured. The evaluation of congestion involving multiple facilities or non-recurring congestion cannot be easily reduced to a simple formula. PJM's tariff provides it with the flexibility to consider all factors in determining whether congestion is significant enough to warrant opening a market window. One of the benefits of an RTO is that such decisions are being made by a party independent from any specific interest, and we find that PJM's tariff is reasonable in setting forth the general parameters of that determination. The way in which PJM makes these determinations can only be determined through experience with the RTEPP. Consequently, the Commission directs PJM to incorporate into its annual report a review of the RTEPP process and the extent to which cost-effective upgrades were identified based on congestion across multiple constraints or through lengthening of the congestion calculation period. We also direct PJM, in its report as to this aspect of the RTEPP process, to assess whether the four-month window for determining whether a Market Threshold was adequate.

³⁰ New language in the proposed section 1.5.7(d)(3) states "when appropriate in its judgment, the Office of Interconnection may propose an enhancement or expansion that will resolve multiple constraints and/or that will serve other, additional purposes, so long as it determines that the portion of such enhancement or expansion that is attributable to resolving the constraint(s) associated with the pertinent unhedgeable congestion is a cost-effective solution to such constraints."

³¹ New language in the proposed section 1.5.7(c)(6) states "notwithstanding the preceding sentence, however, the Office of the Interconnection at any time may calculate and consider in appropriate cost-benefit analyses unhedgeable congestion associated with a constraint for purposes of developing, pursuant to the last sentence of paragraph (d)(3) below, an economic transmission enhancement or expansion to resolve multiple constraints and/or to serve other, additional purposes."

62. Further, we anticipate that, as PJM implements the RTEPP over time, it will continue to categorize congestion events as non-recurring primarily when they are single events relating to transmission upgrade events. We are also encouraged by PJM's statements, as noted below, in its November 24 compliance filing that its calculations of gross congestion and unhedgeable congestion include all congestion, regardless of its cause, and that its methodology only distinguishes recurring and non-recurring causes of unhedgeable congestion for purposes of evaluating the costs and benefits of potential transmission upgrades.³² We therefore accept the definition currently contained in PJM's tariff. Thus, the extent to which PJM avails itself of the flexibility in this definition will only be determined through experience with the RTEPP; parties (including PJM) should, however, be prepared to revisit this issue in the future, if necessary.³³

c. Cost Allocation

i. PJM Compliance Filing

63. PJM addresses cost allocation issues in both of its compliance filings. In the November 24 filing, PJM states that it will make a preliminary allocation of responsibility for the costs of economic upgrades that it may propose. The cost allocation will be based on the projected benefits of potential upgrades identified by PJM's initial cost-benefit analysis. In its April 21 filing, PJM states that each of its recommendations for construction of an economic upgrade will include a recommended allocation of responsibility to pay charges for the recovery of the upgrade. Subsequently, the methodology for cost allocation with regard to the later one-year cost benefit analysis will be the same as the methodology used with the initial cost benefit analysis. Initially,

³² November 24 compliance filing at 17.

³³ In their protests to the April 21 compliance filing, Constellation and PSEG assert that PJM's method of calculating congestion is not taking sufficiently into account the extent to which customers hedge their risk through bilateral contracts and FTRs/ARRs. In response to Constellation and PSEG's protests of the April 21 filing, PJM states that its calculation methodology was filed in its November 24 filing, rather than its later April 21 filing, and challenges to that methodology in protests to the April 21 filing were therefore untimely. We agree with PJM that Constellation's and PSEG's challenges are untimely. Additionally, we have already addressed the question of whether PJM's definition of recurring versus non-recurring congestion is ambiguous in our rulings on rehearing.

PJM proposes to allocate cost responsibility on a zonal basis. In instances where the load affected by the relevant congestion is located entirely in a single zone of PJM, that zone will be allocated the entire cost responsibility. When the affected load is in more than one zone, PJM will allocate the cost of the upgrades among these affected zones.

ii. Commission decision

64. In protests of the November 24 filing, Allegheny and the Muni-Coop Coalition argue that loads that are hedged with FTRs or bilateral contracts will not realize any benefits from the potential upgrade and consequently should not shoulder any of the costs of the upgrade. Allegheny additionally argues that PJM has not sufficiently explained the mechanism used to determine the beneficiaries of potential upgrades. PJM answers Allegheny's protest by pointing to section 1.5.6(g) of Schedule 6 of the Operating Agreement which states that cost allocation assignments will be based on PJM's "assessment of the contributions to the need for, and benefits expected to be derived from, the pertinent enhancement or expansion by affected Market Participants."

65. In their protests of the April 21 filing, the Muni-Coop Coalition, Allegheny, PSEG, and Chesapeake argue that a disincentive to build will be created if costs are allocated too broadly. Chesapeake argues that PJM is in essence seeking to socialize the costs of all non-market solutions, which will eliminate the possibility of market solutions being found. National Grid and PSEG further argue that PJM's cost allocation method raises the possibility that the method used in the final cost allocation study performed at the close of the market window may be different than that used in the initial cost allocation. The parties state that this potential disconnect would not comply with the Commission's direction in the October 24 Order that PJM provide market participants with information about cost allocation to each transmission owner. DEMEC submits that, if there are benefits from a facility addition or enhancement that flow to multiple zones or the entire system, PJM should also consider allocating costs on a wider basis. National Grid recommends default cost allocation rules.

66. PJM, in its answer, argues that since the Commission has already approved PJM's cost allocation process in prior orders, protests about the details of cost allocation are not properly the subject of the November 24 or April 21 compliance filings.

67. PJM is correct that the Commission has already approved the tariff language in section 1.5.6(g) that addresses the cost allocation method, and therefore the protests go beyond the scope of this compliance filing. Section 1.5.6(g) does not specify that PJM will solely use zonal cost recovery, but rather, that PJM will base cost recovery on its assessment of "the contributions to the need for, and benefits expected to be derived from, the pertinent enhancement or expansion." Thus, in appropriate cases, zonal allocation may not be appropriate.

68. The Commission finds that, as general matter, it would not be inappropriate for PJM to initially allocate costs to all customers in a zone regardless of whether they may currently benefit from the construction because they hold sufficient FTRs/ARRs over the relevant path. In the first place, the RTEP is a long-term process, while FTRs/ARRs are reallocated annually. Therefore, a customer that might have an FTR/ARR today, may not still have such protection when the facilities are built. Moreover, the Commission concludes it is not unreasonable to spread the costs over all parties in the zone, because the construction will provide benefits to all those located in the zone, and the protesting parties have not put forward a better method of allocating costs either on a subzonal basis or to unhedged parties. The need, and method of accounting, for such finer allocation methods can only become apparent after PJM has acquired experience in administering the program.

69. Thus, at this time, we find that zonal allocation is a reasonable default methodology because it assigns responsibility to the zone which will receive the most benefit from the upgrade, and in which insufficient economic infrastructure development occurred in the past. As we had stated in our July 12, 2001 RTO Order, our objective in requiring PJM to incorporate economic upgrades into its RTEPP was to develop a planning process “that gives full consideration to all market perspectives and identifies expansions that are critically needed to support competition as well as reliability needs.”³⁴ Furthermore, FTRs that will be associated with the upgrade will provide value to entities that will bear the cost responsibility.

70. To ensure that cost responsibility is properly allocated, in accordance with section 1.6 of the Operating Agreement, when the PJM Board approves a final RTEP and files this report with the Commission, we direct PJM to include a full description and justification of the cost allocation methodology in its materials determining market participant cost responsibility, and how the cost allocation principles in section 1.5.6(g) of the Operating Agreement are achieved.

71. In its protest to the April 21 compliance filing, National Grid also requests clarification of whether the cost allocation provisions for upgrades required for competition will also apply to upgrades needed for reliability. PJM responds by stating that “except where expressly indicated otherwise, the cost allocation principles described in section 1.5.6(g) of Schedule 6 of the Operating Agreement apply to both reliability-based and economic transmission upgrades that are included in PJM’s Regional Transmission Expansion Plan.” May 27 PJM Answer at 5 fn. 6. Given this current tariff language, the Commission will not order additional clarification.

³⁴ 96 FERC ¶ 61,061 at p. 30

d. Obligation to Build

72. In its protest of the April 21 compliance filing, Allegheny Power requests the Commission to direct PJM to allow transmission owners to decline to build transmission expansions to alleviate unhedgeable congestion when PJM is unable to determine with reasonable specificity the customers who are benefiting from the solution and the amount and location of the unhedgeable congestion it expects to alleviate.

i. Commission decision

73. The Commission will not grant the relief requested by Allegheny Power. PJM's determinations should be based on a detailed analysis of costs and benefits and should not result in uncertainty as to the beneficiaries or the location and amount of congestion it intends to alleviate. If at the end of the process, Allegheny does not believe construction is warranted under the facts, it can bring that issue to the Commission. As we stated in our ruling on rehearing above, if at the end of the PJM process there is no agreement to build an upgrade, PJM will make a filing with the Commission, which will then determine whether to require enlargement of facilities under the FPA or take other steps.

e. Timetable for Cost-Benefit Analysis**i. PJM Compliance Filing**

74. In the October 24 Order, the Commission directed PJM to complete an initial cost-benefit study prior to opening a market window. Although PJM initially proposed a 120-day period for the completion of an initial cost-benefit study in its November 24 filing, PJM states that, after discussing this issue with stakeholders, it has determined that it can provide the initial cost-benefit information within a 60-day time frame that the Commission and others desire. PJM proposes in its April 21 filing to publish the initial cost-benefit assessment to be completed within 60 days after a constraint exceeds the applicable Market Threshold.

ii. Commission decision

75. With regard to both the November 24 and April 21 compliance filings, parties raised concerns about delaying the opening of the market window. In both dockets, the Joint Consumer Advocates, DEMEC, and the Muni-Coop Coalition protested that delaying opening of the market window until after initial cost-benefit and cost-allocation proceedings would unreasonably delay needed system upgrades. These protesters request the Commission reconsider its October order and require the market window to open as soon as the Market Threshold is exceeded. In other challenges to the timing of the opening of the market window, in their protests to the April 21 compliance filing, Constellation and Tangibl urge PJM to close currently-open market windows and refrain

from opening new ones pending ongoing PJM initiatives and the integration of new companies into PJM. PJM states that this is simply a delaying tactic which the Commission should not support.

76. The Commission accepts PJM's revised 60-day schedule for publishing the initial cost-benefit analysis. The shorter period proposed in the April 21 compliance filing is consistent with our direction in the October 24 Order. We reject the protest concerning whether to delay the opening of the market window, or to close currently open market windows and refrain from opening new ones. These issues relate to the October 24 Order, and have been addressed above in the Rehearing section of this order.

f. Initial Cost-Benefit Analysis

i. PJM Compliance Filing

77. PJM proposes in its April 21 filing to conduct an initial cost-benefit assessment to be completed within 60 days after a constraint exceeds the applicable Market Threshold. PJM will determine the transmission constraint that caused the congestion that exceeded the threshold, will estimate the cost of eliminating that limit and the cost-benefit ratio of doing so, and will identify any system upgrades already included in the RTEP that would mitigate this particular constraint. PJM states that the initial cost-benefit analysis will in no way influence or dictate the outcome of the more detailed cost benefit study that PJM will continue throughout the duration of the market window. The initial analysis will provide information on the costs of transmission-related solutions to unhedgeable congestion versus the costs of continuing to incur the costs of congestion, at the earliest feasible time.

ii. Commission decision

78. Commenters raise concerns about the accuracy of the initial cost-benefit study, particularly in areas where secondary transmission limits may be important. PSEG asserts that PJM should have the discretion to conduct a more rigorous analysis in this case. The Muni-Coop Coalition recommends that PJM make interim findings and conclusions available on its website to keep the market as well-informed as possible throughout the market window. National Grid wants PJM's initial analysis to consider benefits over a proposed ten-year timeframe comparable to its annual cost-benefit analysis.

79. PJM responds that the proposed changes are unwarranted. The initial analysis reasonably balances the tradeoff of timeliness and accuracy. However, in response to PSEG and the Muni-Coop Coalition, PJM offers to identify any additional secondary limits that contribute to relevant congestion and post them on its website as soon as

possible during the market window. In response to National Grid, PJM notes that the purpose of the initial analysis is to provide early information to market participants of unhedgeable congestion that might signal a market failure and the cost of a transmission solution. It is not intended as a comprehensive assessment of costs and benefits as provided by the annual analysis.

80. We are satisfied that the initial cost-benefit analysis meets the basic needs of the market participants without further modifications, and we agree with PJM that the approach reasonably balances the tradeoff between timeliness and accuracy. All relevant concerns may not be fully addressed in the 60-day time frame, especially when secondary transmission limits may be important to the conclusion of the cost-benefit assessment. However, we find PJM's offer to identify and post such information as soon as possible a reasonable response and will require that it do so. We direct PJM to modify their tariff to formalize the release of information on secondary transmission limits that contribute in each congestion event for which a market window has been opened, and the associated cost estimates of removing or mitigating each of the additional limits, in a compliance filing within 30 days.

g. Comprehensive Cost-Benefit Analysis

i. PJM Compliance Filing

81. PJM filed its proposed processes and methodologies for completing the comprehensive cost-benefit analysis in the April 21 compliance filing. The comprehensive analysis, developed during the one-year market window, would define net system benefits over a ten-year time frame as the estimated unhedgeable congestion cost savings to the affected load less the sum of: (1) any projected increase in energy costs to other load; (2) changes in congestion costs on other facilities; and (3) congestion costs associated with outages required by the new construction. Using the annual carrying charge rates and depreciation schedules of those responsible for building the upgrade, costs would be estimated as the annual revenue requirement for the required upgrade. As a discount rate, PJM proposes to use the appropriate Schedule 12A rate applicable to the Transmission Owners (TOs) required to build for both benefits and costs. If the present value of net system benefits exceeds the present value of the costs, PJM would recommend adding the project to the RTEP.

ii. Commission decision

82. Several protestors raised concerns with the details of the PJM comprehensive cost-benefit analysis. Cost-benefit analysis, of necessity, depends on a variety of assumptions, and intervenors oppose some of the choices made by PJM. PJM estimates benefits over a ten-year period; Joint Consumer Advocates argues for fifteen years and Allegheny Power

for five years. Tangibl, however, opposes Joint Consumer Advocates' fifteen-year proposal. PJM compares ten years of projected benefits with estimated costs discounted over the projected life of the transmission upgrade; Constellation asks why PJM will conduct a benefit analysis over a 10-year window, when it only plans within a 5-year window with regard to reliability projects, and the Muni-Coop Coalition would, instead, compare actual costs and benefits over the same time period. National Grid states that it is concerned that PJM may use a shorter period of projected benefits in its initial analysis than the 10-year period it proposes to use in its later full-blown analysis. National Grid also asks that PJM place its standards for the appropriate period in its tariff and Operating Agreement. PJM would subtract increases in energy costs to other loads in calculating the net benefits of an upgrade; the Muni-Coop Coalition questions the appropriateness of assuming that costs elsewhere would increase. PJM proposes to use the annual carrying charge rate in Schedule 12A as the discount rate; National Grid argues that this choice includes extraneous components that may distort the results, and urges a discount rate that would reflect only the weighted cost of capital. Constellation's comments emphasize that PJM is required to exercise discretion to account for ongoing market developments in its cost-benefit analyses. For example, developments in PJM's post contingency management program, its geographic expansion, and the introduction of marginal losses – among others – could have important implications for cost-benefit calculations that cannot be readily assessed. Constellation wants PJM to clarify how these factors will be incorporated into its evaluation of non-market solutions to congestion.

83. PJM responds that, with the exception of National Grid's recommendation on changing the discount rate, its critical assumptions are reasonable and should not be changed. PJM disagrees with the Muni-Coop Coalition that it is inappropriate to reflect changes in energy costs in unconstrained areas as a result of an upgrade, although it expects those changes to be nearly zero. With respect to the discount rate, PJM responds that it agrees with National Grid, and subject to Commission approval, proposes to change the discount rate so that it only reflects return on investment. PJM regards Constellation's comments as an unwarranted request to delay the economic planning process. It does not dispute that market developments must be taken into account and that doing so requires judgment, but it stresses that these will always be part of an economic planning process, and that markets and rules are always evolving. PJM states that these realities do not require greater detail that could only result in further delay.

84. A cost-benefit analysis requires numerous assumptions, and with the exception of the discount rate, we find the choices made by PJM reasonable. We accept PJM's proposal to modify the discount rate as suggested by National Grid, accept PJM's

proposed change to paragraph (d)(4)(C) of Schedule 6 of the Operating Agreement,³⁵ and direct PJM to incorporate the new discount rates in their Tariff. We acknowledge that cost-benefit analyses may require adjustments from time to time to account for on-going market developments, as Constellation notes. We do not agree, however, that it would be reasonable to insist on more detail from PJM on how it would account for market developments that are not easily quantifiable or speculative. PJM has defined crucial concepts and laid out a framework for assessing the merits of non-market economic expansions. We are satisfied that the elements of its proposal meet our requirements and will help assure that transmission upgrades support competitive markets. Finally, we do not agree with the Muni-Coop Coalition that PJM assumes that energy costs in unconstrained areas will increase when transmission constraints are removed. We emphasize that a benefit-cost assessment should focus on real resource cost savings overall, not on pecuniary effects. For example, an upgrade that allows lower cost power in an unconstrained area to replace higher cost power in a transmission constrained area should be judged economic, assuming that the cost of serving load overall is reduced by more than the cost of the upgrade

h. Gaming

i. PJM Compliance Filing

85. PJM has included revisions to Part IV of its tariff in its April 21 filing to add provisions that seek to prevent gaming of the economic planning process. The new tariff terms would apply to interconnection requests of projects that enter PJM's queue before or during a market window and which are identified as potential market solutions to unhedgeable congestion events. PJM will designate a project to be a market solution if it would resolve the unhedgeable congestion in whole or part, and has an in-service date of no more than 12 months past the start of service of the recommended upgrade.

86. PJM states that projects designated as market solutions will be provided with expedited timetables for interconnection studies. To accept designation as a potential market solution, a project sponsor will have to enter into a "Development Agreement" with PJM containing specific terms. PJM states, however, that no project will be required to do so. A project that obtains designation as a potential market solution thus will be subject, during the interconnection study process, to both the developmental milestones

³⁵ The discount factor in PJM's present value calculations will be "a rate equal to the total return on investment component included in the annual carrying charge ... stated by the applicable Transmission Owner(s) in Schedule 12A of the PJM Tariff or any successor or similar schedules." PJM May 27 Answer

already established in the tariff, along with those in the Development Agreement. PJM states that these milestones will hamper gaming efforts, as follows.

87. PJM states that interconnection study costs alone may not be enough to prevent gaming behavior, and to ensure that projects are completed (unless they fail due to a true lack of economic merit), PJM proposes to require all projects designated as market solutions, upon execution of an Interconnection Service Agreement (ISA), to provide financial security, even if no Network Upgrades or Attachment Facilities are necessary. If a market solution project which posts security fails to meet a milestone stated in the ISA, PJM will determine the causes of the failure. If the failure could not have been avoided by the exercise of due diligence, PJM will terminate the ISA and refund the security payment. However, if PJM concludes that the failure could have been averted by due diligence, and the developer will stand to gain from the continuing unhedgeable congestion for which the project was designated a market solution, PJM will terminate the ISA and retain the security payment. These funds will be used to compensate affected load. When a market solution fails or is terminated after the market window has closed, PJM will re-evaluate the cost benefit analysis it completed at the end of the window, and act according to the results of that re-evaluation.

ii. Commission decision

88. Except for Constellation, which believes that the anti-gaming measures merely introduce new risks into the market, intervenors generally support PJM's measures to prevent gaming. However, PSEG believes the measures are too vague and PSEG and National Grid propose that that, since projects that are designated "market solutions" have the ability to cut ahead of regulated projects in the queue of projects waiting to be developed, PJM develop specific milestones. PSEG also recommends that PJM file the proposed Development Agreement. The Joint Consumer Advocates would strengthen PJM's anti-gaming measures by increasing the required security. The Muni-Coop Coalition also supports an increase in the security amount to the lesser of \$250,000 or 10 percent of the fixed cost of the facilities. Constellation, by contrast, argues that additional security should not be required of generators in the RTEP queue that are designated as market solutions, since these projects did not seek formal designation as market solutions and PJM should not be allowed to demand more of them or else require them to compete against non-market solutions identified by PJM. PJM responds that, based on intervenor comments, it believes that the proposed anti-gaming measures strike a reasonable compromise among all concerns.

89. The Commission agrees with PJM that the anti-gaming measures are reasonable and require no further changes at this time. Nevertheless, as market participants gain experience with the planning procedures in PJM, unanticipated gaming opportunities may be discovered that will require additional measures. At this stage of implementation, we

conclude that PJM's measures for dealing with gaming concerns are as clearly specified as can reasonably be expected of a new transmission planning and expansion program that has no comparable model elsewhere. Thus, we do not agree with PSEG that the measures are too vague. Specific milestones, as requested by PSEG and National Grid, may prove to be useful, but at this time, we do not find a compelling basis for establishing such milestones. We will require PJM to specifically evaluate these planning procedures and any gaming concerns it may experience in its annual report to the Commission.

The Commission orders:

(A) The requests for rehearing are denied, and the Muni-Coop Coalition's request for clarification is granted, as discussed above.

(B) PJM's compliance filings of November 24, 2003 and April 21, 2004 are accepted, as discussed above.

(C) PJM is directed to summarize and document the status of its upgrade process in its annual reports to the Commission, beginning with its 2005 report.

(D) When PJM's Board approves a final RTEP and files this report with the Commission, PJM is directed to include the material required by this order, including a full description and justification of the cost allocation methodology in its materials determining market participant cost responsibility.

(E) PJM is directed to submit a compliance filing within 30 days to revise its tariff and/or Operating Agreement, as described in this order, including (a) stating which cost-capped units are excluded from the calculation of unhedgeable congestion, (b) revising its Operating Agreement to clarify the source and sink intended to be used in determining the value for DFAX, and (c) stating that PJM will release information on secondary transmission limits that may contribute to each congestion event for which a market window has been opened.

By the Commission. Commissioner Kelly not participating.

(S E A L)

Linda Mitry,
Acting Secretary.