

133 FERC ¶ 61,081  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

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

PJM Interconnection, L.L.C.

Docket No. EL08-47-005

ORDER ON COMPLIANCE FILING

(Issued October 25, 2010)

1. On April 22, 2010, PJM Interconnection, L.L.C. (PJM) submitted revised sheets (Compliance Filing) to Schedule 1 of the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. (Operating Agreement), the parallel provisions of Attachment K - Appendix of the PJM Open Access Transmission Tariff (Tariff), and Schedule 2 of the Operating Agreement (Schedule 2), in compliance with the Commission's March 23, 2010 Order on Compliance Filing.<sup>1</sup> In this order we find that PJM's proposed Tariff provisions provide sufficient detail to establish a just and reasonable methodology for including opportunity costs in mitigated offer prices and complies with the Commission's March 23, 2010 Order. Accordingly, pursuant to section 206 of the Federal Power Act, the Commission will establish this methodology to be effective June 21, 2010.

**I. Background**

2. On May 16, 2008, the Commission granted a Maryland Public Service Commission (Maryland PSC) complaint in part, and eliminated market rule provisions that exempted certain generation resources from energy offer price mitigation.<sup>2</sup> Some of the protesting parties in that proceeding also raised questions about whether, if these exemptions were eliminated, PJM's existing market power screen, the three-pivotal-

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<sup>1</sup> See *PJM Interconnection, L.L.C.*, 130 FERC ¶ 61,230 (2010) (March 23, 2010 Order) (finding that PJM's Tariff proposal failed to provide sufficient detail to establish a just and reasonable methodology for including opportunity costs in mitigated rates, and noting that other parties did not submit acceptable alternatives).

<sup>2</sup> *PJM Interconnection, L.L.C.*, 123 FERC ¶ 61,169, *order on reh'g*, 125 FERC ¶ 61,340 (2008).

supplier test, should be retained as the test for determining whether to mitigate offers. On February 19, 2009, the Commission, in response to the Maryland PSC complaint, found insufficient evidence to meet the section 206 burden to show that the three-pivotal-supplier test is unjust and unreasonable as it relates to assessing the structural competitiveness of the PJM energy market.<sup>3</sup> However, based on the filings in the proceeding, the Commission found, under section 206, that PJM's mitigation procedures were unjust and unreasonable for failing to include opportunity costs in the determination of mitigated offer prices. The Commission also established procedures to determine the just and reasonable method for taking opportunity costs into account in setting mitigated offer prices. The Commission required PJM to make a compliance filing on or before July 31, 2009, that proposed an approach for addressing the incorporation of opportunity costs in mitigated offers. The Commission provided other parties the opportunity to provide comments on the PJM proposal or submit their own specific proposals for resolving this issue within 30 days after that filing.

3. On July 31, 2009, PJM submitted revised sheets to Schedule 1 of the Operating Agreement, the parallel provisions of Attachment K - Appendix of the Tariff, and Schedule 2, in order to comply with the Commission's February 19, 2009 Order.<sup>4</sup> PJM's proposed Tariff provision provided only for inclusion of a resource's unit-specific opportunity costs, "in accordance with the procedures prescribed in the PJM Manuals." However, PJM's proposed Tariff did not describe the methodology for calculating opportunity costs, and the Manuals were not completed at the time of the filing. The Commission found in its March 23, 2010 Order that, while relying on Manuals to develop implementation details and mechanics of implementation may be acceptable, the methodology to be applied in determining the relevant opportunity costs needed to be sufficiently described in the Tariff.<sup>5</sup> The Commission provided PJM and the parties an additional opportunity to file appropriate tariff provisions.

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<sup>3</sup> *PJM Interconnection, L.L.C.*, 126 FERC ¶ 61,145 (February 19, 2009 Order), *order on clarification*, 127 FERC ¶ 61,188 (2009) (May 28, 2009 Clarification Order).

<sup>4</sup> In the May 28, 2009 Clarification Order, the Commission clarified that PJM's compliance filing was not limited to opportunity costs related to energy and environmental limitations. May 28, 2009 Clarification Order, 127 FERC ¶ 61,188 at P 7 ("... the references to these two types of cost in the order were by way of example, and PJM needs to consider all legitimate and verifiable opportunity costs as part of its stakeholder process and its compliance filing."). The Commission also found that it was reasonable for PJM to focus on opportunity costs related to energy and environmental limitations in the July 31, 2009 compliance filing, and to include a plan for developing additional market rules for other types of opportunity costs. *Id.*

<sup>5</sup> March 23, 2010 Order, 130 FERC ¶ 61,230 at P 16.

## II. PJM's Proposal

4. PJM states that the currently effective version of subsection (a) of Schedule 2 of the Operating Agreement delineates the list of components that can be included in determining costs for Market Participants who are obligated to sell energy from operating capacity on the PJM Interchange Energy Market at cost-based rates. "Other incremental operating costs" is one of the components that must be included in this determination. Similarly, subsection (b) of Schedule 2 specifies the list of components, including other incremental operating costs, that can be included in determining costs for Market Participants who are obligated to sell energy on the PJM Interchange Energy Market at cost-based rates.

5. PJM's first proposed revision to Schedule 2 is to combine subsections (a) and (b) given that the two subsections are substantially similar. PJM also proposes clarifications to this new consolidated subsection to: (1) reflect that Market Participants may submit the referenced components of their costs in their cost-based bids if they so choose, but that they are not required to do so; (2) eliminate an unnecessary reference to operating capacity therein; and (3) correctly indicate that the costs for which Market Participants are seeking to recover are costs incurred to produce energy when called on by PJM, not the cost of operating capacity. PJM proposes to revise Schedule 2 of the Operating Agreement to establish a mechanism for determining mitigated bids that include opportunity costs for energy and environmentally-limited resources that are subject to operational limitations imposed by laws or regulations. PJM states that the specific, detailed calculation of opportunity costs is delineated in proposed, revised PJM Manual 15, Section 8: Cost Development Guidelines, and was thoroughly vetted by PJM's stakeholders.

6. Specifically, PJM's proposed Schedule 2 states the following:

Each Market Participant obligated to sell energy on the PJM Interchange Energy Market at cost-based rates may include the following components or their equivalent in the determination of costs for energy supplied to or from the PJM Region:

For generating units powered by boilers

Firing-up cost

Peak-prepared-for maintenance cost

For generating units powered by machines

Starting cost from cold to synchronized operation

For all generating units

Incremental fuel cost

Incremental maintenance cost  
No-load cost during period of operation  
Incremental labor cost  
Other incremental operating costs

For a generating unit that is subject to operational limitations due to energy or environmental limitations imposed on the generating unit by Applicable Laws and Regulations (as defined in the PJM Tariff), the Market Participant may include in the calculation of its "other incremental operating costs" an amount reflecting the unit-specific Energy Market Opportunity Costs expected to be incurred. Such unit-specific Energy Market Opportunity Costs are calculated by forecasting Locational Marginal Prices based on future contract prices for electricity using PJM Western Hub forward prices, taking into account historical variability and basis differentials for the bus at which the generating unit is located for the prior three year period immediately preceding the relevant compliance period, and subtract therefrom the forecasted costs to generate energy at the bus at which the generating unit is located, as specified in more detail in PJM Manual 15, Section 8: Cost Development Guidelines. If the difference between the forecasted Locational Marginal Prices and forecasted costs to generate energy is negative, the resulting Energy Market Opportunity Cost shall be zero.

7. PJM's proposal also includes a provision that, notwithstanding the previous methodology, a Market Participant may submit a request to PJM for consideration and approval of an alternative method of calculating its Energy Market Opportunity Cost if the standard methodology described does not accurately represent the Market Participant's Energy Market Opportunity Cost.

8. In addition, PJM proposes to incorporate a new defined term, "Energy Market Opportunity Cost," to distinguish this type of opportunity cost from the various other categories of opportunity costs that Market Participants may recover in other PJM markets, such as the Regulation Market, the Synchronized Reserve Market and the Reliability Pricing Model, and thereby avoid confusion. This proposed definition would be incorporated as a new section 1.3.28 of the Operating Agreement.

### **III. Notice of Filing and Responsive Pleadings**

9. Notice of this proceeding was published in the *Federal Register*, 75 Fed. Reg. 22,773 (2010), with interventions, comments, or protests due on May 13, 2010. Comments generally supportive of the Compliance Filing were filed by Mirant Parties

(Mirant).<sup>6</sup> Protests were filed by Monitoring Analytics, LLC,<sup>7</sup> and the Maryland PSC. PJM filed a reply to the protests and comments.

#### **IV. Comments**

10. The PJM IMM contends that PJM's proposal is flawed because its proposal to allow a Market Participant to request an alternative method for calculating opportunity costs creates an unnecessary and subjective administrative loophole providing PJM with discretion to override the new rules defining opportunity cost. In addition, the PJM IMM contends that, while the general approach developed by PJM and PJM stakeholders for calculating opportunity cost-based offers is appropriate, the proposal should include identified enhancements that would produce more accurate results. PJM IMM states that PJM does not explain why this loophole is needed after months of effort to craft a new detailed and objective approach. Further, the PJM IMM states that the Compliance Filing does not explain why PJM should displace the PJM IMM from its current role in case-by-case review for opportunity cost adjustments. PJM IMM states that this is inconsistent with the recently instituted practice for other inputs to prospective mitigation, which reserves PJM's ability to make a final determination, but does not substitute PJM for the PJM IMM in the initial review process. The PJM IMM requests that the Commission excise the provision for making case-by-case determinations, but if it chooses to retain it, the Commission should retain the PJM IMM's role in performing the initial review. The PJM IMM also requests that the Commission should require PJM to clarify, consistent with the Commission's direction, that the provisions included in this filing apply only to a unit whose run times are limited due to "energy and environmental" constraints or drop the "energy or" reference.<sup>8</sup>

11. The PJM IMM states that it had proposed specific enhancements to the calculation of opportunity cost-based offers not included in the Compliance Filing that PJM, PJM stakeholders and the PJM IMM developed during the past year. These specific enhancements include: more accurate treatment of minimum run time

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<sup>6</sup> Mirant Energy Trading, LLC; Mirant Potomac River, LLC; Mirant Chalk Point, LLC; and Mirant Mid-Atlantic, LLC.

<sup>7</sup> Monitoring Analytics, LLC filing in its capacity as PJM's Independent Market Monitor (PJM IMM).

<sup>8</sup> In comments filed in response to PJM's July 31, 2009 filing, the PJM IMM raised a concern that an "energy" constraint is not specified and that PJM's use of "energy or environmental constraints" contemplates a broader application than the Commission's use of "energy and environmental limitation."

restrictions, fuel procurement options, and operational characteristics.<sup>9</sup> According to the PJM IMM, with two exceptions, the stakeholders already have approved the inclusion of these enhancements in the market rules. The PJM IMM states that it would be prudent to protect the significant progress achieved to date by obtaining Commission review and acknowledgement for all of the stakeholder approved and pending market rules and not only the contents of the Compliance Filing. Accordingly, the PJM IMM requests that the Commission require modifications to Schedule 2 that would identify each such enhancement and require its inclusion in the market rules. The PJM IMM states that the cost-based offer must include an accurate calculation of opportunity costs since the markets are most efficient when an accurate calculation of the marginal costs of resources with limited run hours results in optimal dispatch.

12. Maryland PSC states that, while not necessarily opposed to including a process for handling requests for exceptions to the standard and objective cost analysis, it expects that exceptions will be infrequent. However, Maryland PSC states, the PJM IMM is the appropriate entity with which Market Participants should have at least an initial discussion, rather than PJM, as this is how the process has operated, without incident, for years. Maryland PSC notes that the Commission did not suggest this change nor did PJM propose this change in the earlier stages of the stakeholder process.

13. Maryland PSC notes that if the Market Participant and the PJM IMM reach agreement, the resolution is submitted to PJM for acceptance; if an agreement cannot be reached, the Market Participant would seek recourse with PJM, and the PJM IMM would retain the right to bring the issue to the Commission. Maryland PSC adds that, while it is true that the Commission recently concluded that PJM retains the ability to make final determinations regarding tariff administration, there is no basis for removing a clearly defined role for the PJM IMM. Thus, Maryland PSC urges the Commission to direct PJM to further revise its Tariff and Operating Agreement to reflect the proposals with regard to the role of the PJM IMM.

14. In response to the PJM IMM's comments, Mirant argues that PJM's Compliance Filing clearly sets forth, in sufficient detail, the method for owners/operators of units subject to energy or environmental limitations due to applicable law and regulations to calculate their opportunity costs. Mirant states that the ability to negotiate an alternative methodology provides no more discretion than is currently contained in the PJM

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<sup>9</sup> The enhancements proposed by the PJM IMM include the following components: rolling time period restrictions, dual fuel inputs, spot or contract monthly fuel flexibility, fuel delivery adder, minimum run time, start up costs, and adjustment for negative margins in calculating three year averages.

Operating Agreement for determining cost-based bids.<sup>10</sup> Mirant asserts that applicable law and regulations can impose a wide variety of restrictions on the operations of units that may not fit neatly into the standard calculation, and, therefore, it is important to maintain the option for a negotiated opportunity cost calculation. Mirant states that some regulations or operating permits impose limitations upon a multi-unit power plant as a whole or upon a Market Participant's entire fleet, and other operating permits may impose limitations on the combinations of units that can run at any time. Mirant states that PJM's Compliance Filing acknowledges that such limitations do not fit into the standard methodology, and an alternative methodology would need to be developed. Mirant believes it is difficult to anticipate all the possible restrictions that may be imposed on plants in the future, and thus it is important to maintain the option of negotiating an alternate methodology.

15. PJM's answer states that the PJM IMM and the Maryland PSC both contend that PJM's referenced proposed revision to Schedule 2 is in conflict with the provisions of PJM Manual 15, in particular section 8.1.1 thereof, which provides, *inter alia*, that: "Requests for recovery of Opportunity Costs not defined in the Operating Agreement of PJM Interconnection, L.L.C. should be submitted to the PJM [IMM] for approval." PJM acknowledges a conflict between (i) its proposed Tariff and Operating Agreement revisions and (ii) the current version of PJM Manual 15; however, it contends that its proposed Tariff and Operating Agreement revisions should control.<sup>11</sup>

16. PJM states that providing the PJM IMM sole authority to approve requests to recover opportunity costs that are not defined in the PJM Operating Agreement is not consistent with Order No. 719.<sup>12</sup> A proposal to provide the PJM IMM with a role in the evaluation and approval of requests for recovery of opportunity costs is currently under review in the stakeholder process. PJM adds, however, that the proposed revisions to provide the PJM IMM a role in the evaluation and approval of requests for recovery of

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<sup>10</sup> See PJM Operating Agreement, Schedule 1, section 6.4.2(a)(iv), Third Revised Rate Schedule FERC No. 24, Superseding First Revised Sheet No. 131B.

<sup>11</sup> PJM also notes that it has been reviewing Manual 15 provisions to determine what revisions are needed relating to (a) its authority to approve offers and rates, and the calculation of opportunity costs, and (b) its sole responsibility to conduct prospective mitigation. PJM Answer at 2.

<sup>12</sup> *Wholesale Competition in Regions with Organized Electric Markets*, Order No. 719, FERC Stats. & Regs. ¶ 31,281 (2008), *order on reh'g*, Order No. 719-A, 74 Fed. Reg. 37,776 (Jul. 29, 2009), FERC Stats. & Regs. ¶ 31,292 (2009), *order on reh'g*, Order No. 719-B, 129 FERC ¶ 61,252 (2009).

opportunity costs have not been approved by PJM management or the PJM Board and therefore may be subject to change.

17. Mirant suggests that appropriate involvement for the PJM IMM in the negotiation process is for Market Participants to first go to the PJM IMM, as outlined by PJM in its answer. Mirant notes that, if the PJM IMM and Market Participant cannot agree, the Market Participants can appeal to PJM for a final determination, as used in other contexts in PJM and consistent with Order No. 719.

18. Mirant avers that the PJM IMM's proposed language changes, which recommend that PJM replace the phrase "energy or environmentally-limited" units in Schedule 2 with the phrase "energy and environmentally-limited" units or drop the "energy or" reference entirely, effectively delete the concept of energy-limited units altogether. Noting that some PJM members support some of the proposals to clarify the opportunity cost calculation, Mirant states that other proposals are more controversial and still under consideration. Mirant urges the Commission to resist efforts to "short-circuit" the PJM stakeholder process, as the clarifications proposed by the PJM IMM can be easily incorporated in the PJM Manual 15 upon stakeholder approval rather than the Tariff. Mirant states that the Commission should accept PJM's compliance filing without alteration.

## V. Discussion

### A. Procedural Matters

19. Rule 213(a)(2) of the Commission's Rules of Practice and Procedure<sup>13</sup> prohibits an answer to a protest unless otherwise ordered by the decisional authority. We will accept PJM's answer because it provided information that assisted us in our decision making process.

### B. Commission Determination

20. The Commission finds that PJM's Tariff proposal establishes a just and reasonable methodology for including opportunity costs in mitigated offer prices and, pursuant to section 206 of the Federal Power Act, the Commission will establish this methodology to be effective June 21, 2010.

21. The PJM IMM states that PJM's proposal contains an unnecessary and subjective administrative loophole providing PJM with discretion to override the new rules defining opportunity cost. The PJM IMM requests that the Commission remove the provision for

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<sup>13</sup> 18 C.F.R. § 385.213(a)(2) (2010).

making case-by-case determinations, but, if it chooses to retain it, the Commission should retain the PJM IMM's role in performing the initial review.

22. The Commission finds that providing a method for a resource to propose an alternative method for determining opportunity costs as set forth in the proposed Schedule 2 is reasonable, because some resources may have energy and environmental limitations that do not fit into the standard methodology. In any event, PJM and its stakeholders have worked diligently to develop a more clearly defined and detailed calculation of opportunity costs; therefore, we believe that such requests for exceptions should be infrequent. PJM states that it supports a role for the PJM IMM with regard to an alternative method for determining opportunity costs and a proposal to provide for the PJM IMM's input as part of PJM's Manual 15 is being considered through the stakeholder process.<sup>14</sup> With regard to the participation of the PJM IMM in providing input into such determinations, Order No. 719 permits the PJM IMM to have a role in providing the inputs for such a process as long as PJM retains the ultimate decision making authority.<sup>15</sup> As the Commission stated in Order No. 719, this would enable PJM to utilize the expertise and software capabilities that the PJM IMM can provide.

23. The PJM IMM requests that we direct PJM to change the proposed tariff language from "energy or environmental limitations" to "energy and environmental limitations" to be consistent with previous Commission statements, or direct PJM to drop the "energy or" from the proposal. As previously noted, in the May 28, 2009 Clarification Order, the Commission clarified that the scope of opportunity costs that must be considered goes beyond only environmental limitations and would include limitations on the amount of energy that may be produced (such as hours of operation restrictions). Eliminating the

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<sup>14</sup> PJM's revised draft of Manual 15 is currently being discussed by its Cost Development Task Force (CDTF) and already incorporates the "Cost and Methodology Approval Process" paragraph that it committed to include in its May 20 Answer to the PJM IMM and Maryland PSC's comments. The revised draft of Manual 15, discussed at the CDTF meeting on July 26, 2010, is *available at* <http://www.pjm.com/~media/committees-groups/task-forces/cdtf/20100726/20100726-item-03a-manual-15-version-15.ashx>.

<sup>15</sup> Order No. 719 FERC Stat. & Regs. ¶ 31,281 at P 375 provides:

the MMU may provide the inputs required by the RTO or ISO to conduct prospective mitigation, including determining reference levels, identifying system constraints, cost calculations and the like. This will enable the RTO or ISO to utilize the considerable expertise and software capabilities developed by their MMUs, and reduce wasteful duplication.

“energy or” term, as proposed by the PJM IMM, would unduly limit the scope of legitimate opportunity costs that should be considered. We therefore find that PJM’s proposed language providing for consideration of costs due to either energy or environmental limitations is appropriate.

24. The PJM IMM states that, while the general approach developed by PJM and PJM stakeholders for calculating opportunity cost-based offers is reasonable, the proposal should include additional, identified enhancements that would produce more accurate results. The PJM IMM has proposed several modifications that it states improves the accuracy of the opportunity cost calculation and would like these modifications to be incorporated into the current PJM proposed revisions. The PJM stakeholders are currently reviewing the PJM IMM’s proposed enhancements to the opportunity cost calculation. While the Commission believes that the PJM IMM’s proposed modifications may have merit, the Commission will not prejudge them while they are still being vetted through the stakeholder process. Any such modifications, though, must be submitted as Tariff revisions.

The Commission orders:

PJM’s proposed Tariff provisions are hereby accepted for filing to become effective June 21, 2010.

By the Commission.

( S E A L )

Nathaniel J. Davis, Sr.,  
Deputy Secretary.