

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

<b>PJM Interconnection, L.L.C.</b>	)	<b>Docket Nos. ER04-539-000</b>
	)	<b>EL04-121-000</b>

**PJM INTERCONNECTION, L.L.C.’s  
ANSWER TO PROTESTS**

Pursuant to Rule 212 of the Rules of Practice and Procedure, 18 C.F.R. § 385.212, PJM Interconnection, L.L.C. (“PJM”) hereby answers protests regarding the filing it submitted on October 26, 2004 in compliance with the Commission’s order in PJM Interconnection, L.L.C., 108 FERC ¶ 61,187 (2004) (“August 10 Order”).<sup>1</sup>

**I. Background**

In compliance with the August 10 Order,<sup>2</sup> PJM filed (1) a Report of the PJM Market Monitor Regarding Offer Capping of Major Transmission Constraints (“Report”) and (2) amendments to the PJM Tariff and the Operating Agreement (i) to revise PJM’s offer capping rules to provide that PJM shall conduct annual competitive analyses of transmission constraints, and if the results of such analyses warrant, specify additional

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<sup>1</sup> While the Commission’s Rules of Practice and Procedure generally do not permit answers to protests (see 18 C.F.R. §385.213(a)(2)), the Commission has made exceptions “where an answer clarifies the issues or assists in creating a complete record.” Idaho Power Co., 95 FERC ¶ 61,482, at 62,717 (2001); see also Cambridge Elec. Light Co., 95 FERC ¶ 61,162, at 61,523 (2001). Here, PJM’s answer clarifies certain issues raised by the protesters, which provides a more complete record to assist the Commission in reaching its decision, and therefore should be permitted.

<sup>2</sup> See August 10 Order at ordering paras. (D) and (C), respectively.

exemptions from its offer capping rules; and (ii) to exempt the “APS South” interface from PJM’s offer capping rules, based on this year’s analysis.<sup>3</sup>

## **II. PJM Provided A Sufficient Market Analysis**

The Commission required PJM to provide “a competitive analysis of whether constraints on the major transmission interfaces into and/or out of AEP, DP&L, and VEPCO should also trigger offer capping as those companies move into PJM.”<sup>4</sup> In the Compliance Filing, PJM provided such an analysis through the PJM Market Monitor’s Report.

Contrary to protesters,<sup>5</sup> PJM provided sufficient information to enable market participants and the Commission to understand the PJM Market Monitor’s analysis. As the PJM Market Monitor stated in the Report, consistent with the Commission’s current market power approach, he performed a delivered price test “focusing on competitive resources available to solve the identified major constraints, including a market share test, a market concentration test and a pivotal supplier test.”<sup>6</sup> The Report sets forth the results of these tests and how those results were derived. For example, the Hirschman-Herfindahl Index (“HHI”) and market share calculations for each of the relevant major

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<sup>3</sup> See PJM Compliance Filing, Docket Nos. ER04-539-001, ER04-539-002, EL04-121-000 (Oct. 26, 2004), at 1-2 (“Compliance Filing”).

<sup>4</sup> August 10 Order at P 76; see also ordering para. (D).

<sup>5</sup> See, e.g., Protest Of The Mirant Companies And Constellation Energy Commodities Group, Inc., Docket Nos. ER04-539-006, EL04-121-002 (Nov. 16, 2004), at 6-9 (“Mirant/Constellation Protest”); Comments Of The Electric Power Supply Association On The PJM Interconnection’s Amendments To The PJM OATT And Operating Agreement And The PJM Market Monitor’s Report On Offer Capping Rules, Docket Nos. ER04-539-001, ER04-539-002, EL04-121-000 (Nov. 16, 2004) (“EPSA Protest”).

<sup>6</sup> Report at P 14.

constraints, as well as the results of a pivotal supplier test for each constraint, are set forth in the Report.<sup>7</sup>

The PJM Market Monitor also explains how these results indicate whether exempting a constraint is appropriate.<sup>8</sup> Specifically, he explained that the results of the delivered price test for the APS South interface were comparable to the results for the currently exempt Western, Central and Eastern Interfaces and thus also should be exempt.<sup>9</sup> As the Report shows, the APS South interface has a maximum market share of 35.8 percent, and an HHI of 2091, both greater than the Western, Central and Eastern interfaces, but there are more than three jointly pivotal suppliers.<sup>10</sup> In contrast, the maximum market shares for the remaining analyzed constraints range from 29.5 percent to 59.8 percent, HHIs range from 2027 to 5195, and in every case there are just one or two jointly pivotal suppliers.<sup>11</sup>

In addition to the detailed explanation presented in the Report, at meetings of the PJM stakeholders (e.g., the November 17, 2004 Market Implementation Committee meeting), the PJM Market Monitor discussed in detail the results of, and the methodology

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<sup>7</sup> See, e.g., Report at PP 16-18.

<sup>8</sup> See, e.g., id.

<sup>9</sup> Id. at P 17. In response to Old Dominion Electric Cooperative's request, PJM clarifies that, as a result of the recent PJM integrations, there are now sufficient generation suppliers with respect to the APS South interface to warrant exempting that interface from offer capping prior to the integration of Virginia Electric and Power Company. See Motion To Intervene And Comments Of Old Dominion Electric Cooperative, Docket Nos. ER04-539-001, ER04-539-006, EL04-121-002 (Nov. 16, 2004), at 6-7 ("ODEC Comments").

<sup>10</sup> Report at P 17.

<sup>11</sup> Id. at PP 17, 18.

used in, his analysis and answered questions.<sup>12</sup> Protesters have raised technical questions regarding the PJM Market Monitor's market power analysis, including requests for further explanations of dfax data, load and supply curve quartiles, and the use of load and supply curve quartiles in the analysis. While PJM believes that it already has provided adequate information, in order to provide additional explanations in these areas, PJM is attaching a declaration of the PJM Market Monitor as Exhibit 1 that may assist the Commission.

It is reasonable for both PJM and the Commission to rely upon the conclusions in the Report. The conclusions, however, necessarily are based on the PJM Market Monitor's economic analysis of highly confidential data regarding generators' offers into the PJM markets. While various parties state that they desire to examine additional data, producing that information to all market participants would be contrary to maintaining a competitive market. It is not the type of data that competitors should share.<sup>13</sup> The market data in question is far different from the type of data individual generation owners provide to the Commission when seeking market based rate authority, which generally is publicly available. The data would include both confidential data regarding individual market participants as well as confidential data regarding interactions among competing market participants. Once it is revealed to market participants exactly how generation resources fit into the supply curve for a particular constraint, that information can never be returned, and its use in day-to-day market competition cannot be controlled.

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<sup>12</sup> The PJM Market Monitor's presentation to the PJM Market Implementation Committee, "Major Transmission Constraints Exemption From Mitigation," November 2004, is available at <http://www.pjm.com/committees/mic/downloads/20041117-item-9-mitigation-exemption.pdf>.

<sup>13</sup> See Operating Agreement § 18.17.

If, however, the Commission desires further explanations of the PJM Market Monitor's analysis, PJM does not oppose a technical conference, as suggested by EPSA.<sup>14</sup>

### **III. The PJM Market Monitor Properly Applied A Pivotal Supplier Analysis**

Contrary to protesters,<sup>15</sup> the PJM Market Monitor did not “misapply” the Commission’s pivotal supplier screen. The Commission’s market power analysis employs two “indicative screens,” the market share screen and the pivotal supplier screen, which, if failed, create a rebuttable presumption of market power.<sup>16</sup> In such event, the presumption optionally can be rebutted through additional analysis including a more rigorous “delivered price test,”<sup>17</sup> which includes market share, market concentration, and pivotal supplier analyses. Here, the PJM Market Monitor went right to the more rigorous delivered price test, which revealed that all of the major transmission constraints failed the market share component of the delivered price test and that all (except the existing exempt Western, Central and Eastern interfaces) had high levels of concentration, exacerbating the impact of the high market shares.<sup>18</sup>

Although the failure of the market share dimension of the delivered price test could reasonably have ended the analysis under the Commission’s market power tests, the PJM Market Monitor then conducted further analysis, consistent with the

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<sup>14</sup> EPSA Protest at 4.

<sup>15</sup> See Mirant/Constellation Protest at 9-11.

<sup>16</sup> AEP Power Mktg., Inc., 107 FERC ¶ 61,018, at P 37 (“AEP Order”), order on reh’g, 108 FERC ¶ 61,026 (2004).

<sup>17</sup> Id. at P 37.

<sup>18</sup> See id. at P 111.

Commission's direction to determine if other factors ameliorate the results of the tests. He performed a pivotal supplier analysis to determine whether each constraint could be exempted from offer capping because of a presence of more than three jointly pivotal suppliers. This further analytical approach is consistent with the three jointly pivotal supplier threshold approved by the Commission, with modifications, in PJM Interconnection, L.L.C., 107 FERC ¶ 61,112, at P 47 (2004). There, the Commission allowed suspension of offer caps in PJM when certain defined conditions -- more than three jointly pivotal suppliers -- exist in a PJM load pocket.<sup>19</sup> Applying this approach to the newer areas of PJM revealed that only one constraint -- the APS South interface -- met the three pivotal supplier test specified in the PJM Tariff such that it should be exempt from offer capping.<sup>20</sup>

Thus, the PJM Market Monitor went beyond the delivered price test, which all constraints failed, to support the exemption of the APS South interface.

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<sup>19</sup> See PJM Tariff Appendix to Attachment K § 6.4.1(e); Operating Agreement Schedule 1 § 6.4.1(e). Old Dominion Electric Cooperative specifically supports the three pivotal supplier test and recommends that “the Commission clarify that the 3 pivotal supplier test is the operative, critical test for determining market power.” ODEC Comments at 6.

<sup>20</sup> Report at PP 17-18, Table 2. Mirant and Constellation argue that four other constraints should not be offer capped because they had HHI results lower than 2500 and the pivotal supplier test “if performed correctly” could be passed. As Mirant and Constellation recognize, HHIs below 2500 indicate lack of market power only when both the pivotal supplier and market share screens are passed. See Mirant/Constellation Protest at 11. These constraints should not be exempted from offer capping because all four failed the market share test and in each case the HHI analysis indicated high levels of concentration. Moreover, the four constraints had only one or two jointly pivotal suppliers, thus failing PJM's three jointly pivotal supplier threshold. Report at P 17.

#### **IV. The Commission Should Not Disturb PJM's General Market Mitigation Rules in this Proceeding**

Some protesters claim that PJM failed to adequately address whether offer capping should be limited to generators that fail the market power test (rather than all units affecting a constraint).<sup>21</sup> The contentions raise a more fundamental question about the effect of the Commission's current market power tests in the context of a single-clearing-price market such as PJM's, and how the Commission expects its market power tests to be applied to such markets. PJM is aware that the Commission is continuing to examine through a generic review the current market power tests and believes that the Commission should address these broader issues generically.

In the interim, the Commission should not disturb PJM's market mitigation framework in this much narrower proceeding. PJM operates a single-clearing-price market. In situations where the market structure screens are failed, PJM's mitigation method is targeted very precisely only to those marginal units that would increase the market price above the competitive level if they were not mitigated. The marginal unit's price in a constrained area sets the price for all units in the constrained area. In this context, even when an individual supplier may pass the market power tests over a particular extended time period, that individual supplier nonetheless may set the market clearing price for all generation in a constrained area on many days and in many hours not specifically examined under the Commission's tests. Because generation availability and load will fluctuate day-to-day and hour-to-hour, there may be many periods when a smaller supplier, if not mitigated, could set the price above competitive levels, if the market as a whole is concentrated and the supplier therefore is not disciplined by others'

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<sup>21</sup> Mirant/Constellation Protest at 12.

behavior. The same immediate and direct impact on the market price does not exist in strictly bilateral markets (such as in non-RTO areas) where there is no single market-clearing price.

The impact of mitigating only suppliers that fail the market power test in a single clearing price market can best be seen by an example. Consider a constraint that over a 4-hour period of a particular day can be relieved by only two suppliers, one with a 90% market share and one with a 10% share. The larger supplier fails the market share test, the market fails the HHI test, and the larger supplier fails the single pivotal supplier test. The small owner passes the market share test and passes the single pivotal supplier test as specified, although it could be pivotal in some hours. The single smaller supplier, if not mitigated when the constraint is binding, could raise market-clearing prices above a competitive level by offering a non-competitively high price, while the larger, mitigated supplier would have no incentive at its mitigated prices to offer enough of its generation to displace the smaller supplier's marginal offer. The smaller supplier could be pivotal in many hours as a result of conditions not represented in the delivered price test.

There are numerous similar situations.<sup>22</sup> Consequently, in PJM's single-clearing-price model, existing market rules place an offer cap on any generator that must be run out of merit order to relieve the constraint and would otherwise set the market price in that hour based on an offer above the competitive level for that unit.<sup>23</sup> In addition, PJM will exempt any constraint from offer capping on an hourly basis if there are more than

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<sup>22</sup> For example, planned and unplanned generation outages can affect market power of remaining generators at any given time, despite contrary indications from the market power tests that did not consider such outages.

<sup>23</sup> There is no mitigation of units for which construction commenced after July 9, 1999.



three jointly pivotal suppliers.<sup>24</sup> This targeted approach to mitigation reasonably reflects the Commission's intention to mitigate only units that would otherwise exercise market power. The Commission's delivered price test provides an overall screen for a market and determines whether a generator should have market-based rate authority generally, while the PJM mitigation rules exempt any generator from mitigation unless it would, based on actual offers in an hour, otherwise increase the market price above the competitive level. Indeed, the Commission's allowing generators to submit market-based offers in organized markets is predicated on the very presence of specific market mitigation rules in such markets.

A broad brush exemption of all generators from offer capping whenever they have low market shares over extended periods, regardless of the level of competition prevailing when constraints arise and regardless of their raising prices above competitive levels, can have the deleterious effect of raising prices to non-competitive levels in single-clearing price markets. Because the Commission likely will address market-based pricing, market screens, and market mitigation more generically in the coming year, and may hold further technical conferences in this area, PJM suggests that the Commission not address the issue of whether to limit offer capping to generators that fail the Commission's market power tests and not address the effects of its market power tests in organized markets with single-clearing-price mechanisms in the narrow context of this PJM proceeding.

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<sup>24</sup> See PJM Interconnection, L.L.C., Compliance Filing, Docket No. EL03-236-000 (July 16, 2004), at 2-3; see also PJM Tariff, Appendix to Attachment K § 6.4.1(e).

**V. Conclusion**

For the reasons stated in the Report and in this answer, the Commission should accept PJM's compliance filing, including the revisions to the PJM market rules to exempt the APS South interface from offer capping, and reject the protests filed in this proceeding.

Respectfully submitted,



Craig Glazer  
Vice President - Government Policy  
PJM Interconnection, L.L.C.  
1200 G Street, N.W., Suite 600  
Washington, D.C. 20005  
(202) 393-7756 (phone)  
(202) 393-7741 (fax)

Barry S. Spector  
Carrie L. Bumgarner  
Wright & Talisman, P.C.  
1200 G Street N.W., Suite 600  
Washington, D.C. 20005  
(202) 393-1200 (phone)  
(202) 393-1240 (fax)

Vincent P. Duane  
Deputy General Counsel  
PJM Interconnection, L.L.C.  
955 Jefferson Avenue  
Norristown, PA 19403  
(610) 666-4367 (phone)  
(610) 666-4281 (fax)

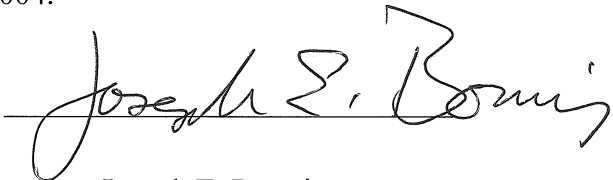
## **Exhibit 1**



4. As a result of the way in which the offer of a unit is defined with respect to relieving a specific transmission constraint, a system price is required. The offer of a unit with respect to a specific constrained facility (effective cost) is a function of the unit's actual offer price per MWh, the effect on the constrained facility of each MWh generated (dfax), and the system price. The exact definition of the effective cost of raising or lowering the output of a unit to control a constraint equals  $[(LMP - Offer)/dfax]$ , where LMP is the system LMP in \$/MWh, Offer is the offer price of the unit in \$/MWh and dfax is the distribution factor.
5. In order to apply the delivered price test, an overall supply curve must be defined and then the relevant, competitive part of the supply curve must be defined. The delivered price test indicates that supply resources with a price up to five percent greater than the market price should be considered when analyzing competitive conditions. As stated in the Report, the delivered price test for each constraint was based on dividing the supply curve associated with each load quartile into four supply quartiles, representing relatively competitive resources within each quartile of the supply curve for each system load condition. This is economic capacity in the terms of the delivered price test.<sup>3</sup> The supply curve quartiles included resources with effective costs up to 445 percent (a minimum of 7 percent and an average of 140 percent) higher than the clearing price, so that this test is extremely conservative compared to the 5 percent threshold specified by the Commission for the delivered price test.<sup>4</sup>
6. Distribution factors are a measure of the impact of a generation resource or a load on a specific constraint. Thus a generation resource located at a constraint might have a distribution factor of 1.0, meaning that every MWh produced by the resource provides one MWh of relief on the constrained facility. A generation resource located on the system with a more tenuous electrical relationship to the constraint might have a distribution factor of 0.5, meaning that every MWh produced by the resource provides one half MWh of relief on the constrained facility.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 6th day of December 2004.



Joseph E. Bowring

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<sup>3</sup> AEP Order at P 109.

<sup>4</sup> AEP Order, Appendix F.

## CERTIFICATE OF SERVICE

I hereby certify that I have this 6<sup>th</sup> day of December 2004 served a copy of this filing upon all PJM members, each state electric utility regulatory commission in the PJM region, and each person designated on the official service list compiled by the Secretary in Docket Nos. ER04-539-001, 002 and EL04-121-000.



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Carrie L. Bumgarner