



Monitoring  
Analytics

**Activities of the  
Market Monitoring Unit  
2010**

Independent Market Monitor for PJM

February 15, 2012

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## **Preface**

This report is posted pursuant to Section VI.C of Attachment M to the PJM Open Access Transmission Tariff (the “PJM Market Monitoring Plan” or “Plan”), which directs the Market Monitoring Unit (also known as the, “MMU,” “Independent Market Monitor for PJM” or “IMM”) “to prepare a detailed public annual report about the Market Monitoring Unit’s activities, subject to protection of confidential, proprietary, and commercially sensitive information and the protection of the confidentiality of ongoing investigations and monitoring activities.”<sup>1</sup>

Originally constituted as an independent division of PJM Interconnection, L.L.C. in 1999, the MMU was established in 2008 as a separate company, Monitoring Analytics, LLC. Monitoring Analytics continues to serve as the PJM MMU under a long term contract. PJM is a regional transmission organization that is responsible for ensuring the reliability of the electric power supply system in 13 states and the District of Columbia. The MMU is responsible for promoting a robust, competitive and nondiscriminatory electric power market in PJM by implementing the PJM Market Monitoring Plan.

The Commission has identified three core functions of MMUs: Monitoring, Reporting and Market Design.<sup>2</sup> MMU activities during 2010 are listed below by core function.

The MMU posts market data, public reports, presentations and market messages on the Monitoring Analytics web page at: <http://www.monitoringanalytics.com>.

## **Monitoring**

### ***Market Surveillance***

The MMU analyzes and monitors all the PJM markets including the Day-Ahead Energy Market, the Real-Time Energy Market, the RPM Auctions, the Regulation Market, the Synchronized Reserve Market, the Day-Ahead Scheduling Reserve Market and the Annual, Monthly, Long Term and Balance of Planning Period Auction Markets in Financial Transmission Rights (FTRs). This ongoing market analysis and monitoring form the basis for all MMU activities.

### ***Market Participant Discussions***

The PJM Market Monitoring Plan provides that, in addition to informing Commission staff, the MMU may “Engage in discussions regarding issues relating to the PJM Market

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<sup>1</sup> PJM OATT. Attachment M, Section VI.C

<sup>2</sup> 125 FERC ¶ 61,071 (Order No. 719)

Rules or FERC Market Rules, in order to understand such issues and to attempt to resolve informally such issues or other issues.”<sup>3</sup> In fulfilling this role in 2010, the MMU monitored participant behavior and discussed relevant matters with FERC staff and with market participants. In addition, the MMU received and investigated confidential complaints. The provision of additional details on these issues is governed by confidentiality rules.

A confidential complaint can reveal flaws in existing rules or procedures. The MMU received confidential complaints and, when appropriate, publicly proposed rule modifications while maintaining market participant confidentiality.

In addition to discussing notice and/or referrals on a confidential basis regarding the activities in the markets, the MMU engaged in numerous discussions with Market Participants in 2010 about issues related to participant behavior in PJM markets.

### ***Communications with Regulators***

The MMU provides information to regulators, subject to compliance with applicable rules protecting confidentiality. In 2010, the MMU:

- Participated in conference calls with the FERC Office of Enforcement regarding current issues.
- Communicated regularly with FERC on market issues and attended scheduled and ad hoc meetings at FERC.
- Provided data in response to requests from FERC’s Office of Enforcement.
- Provided data to the Antitrust Division at the U.S. Department of Justice in response to Civil Investigative Demands (CID) regarding the proposed mergers of Allegheny Energy, Inc. with FirstEnergy Corp., and RRI Energy, Inc. with Mirant Corporation.
- Attended meetings and participated in conference calls with state regulators, state consumer advocates, industrial customers, the Midwest Independent System Operator (MISO) and the Organization of PJM States, Inc. (OPSI) to answer questions and discuss a range of topics including monitoring, capacity markets and PJM market design.
- Testified before the Maryland Public Service Commission in Administrative Docket PC 22, In the Matter of the Reliability Pricing Model and the 2013/2014 Delivery Year Base Residual Auction Results (October 15).

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<sup>3</sup> PJM OATT, Attachment M, §IV.J.1.

- Testified before the New Jersey Assembly Telecommunications and Utilities Committee re: Assembly Bill No. 3442, Construction of New Generating Capacity in New Jersey (December 16).

## Reporting

### ***Reports and Analyses***

The *2009 State of the Market Report*, published on March 11, 2010, and the quarterly reports published on May 14, 2010, August 12, 2010, and November 15, 2010, fulfilled both the tariff reporting requirements and the criteria listed in the Commission policy by providing a comprehensive analysis of the markets within PJM and an assessment of the competitiveness of each market.<sup>4</sup> The reports also provided recommendations regarding retention and enhancement of market rules.

The MMU issued the following reports in 2010:<sup>5</sup>

- Report to the Ohio Public Utility Commission: Congestion in the State of Ohio – January 1, 2008 through December 31, 2009 (January 29, 2010).
- Preliminary Market Structure Screen Results for 2013/2014 RPM Base Residual Auction (February 3).
- *2010 Quarterly State of the Market Report for PJM: January through March* (May 14).
- Analysis of the 2013/2014 RPM Base Residual Auction (July 14).
- Report to the North Carolina State Corporation Commission: Congestion in the Dominion Service Territory in North Carolina – May 1, 2008 through April 30, 2010 (July 15).
- *2010 Quarterly State of the Market Report for PJM: January through June* (August 12).
- Units Subject to RPM Must Offer Obligation (September 13).
- Analysis of the 2013/2014 RPM Base Residual Auction, Revised and Updated (September 15).
- *2010 Quarterly State of the Market Report for PJM: January through September* (November 15).

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<sup>4</sup> OATT. Attachment M § VII.A

<sup>5</sup> Public reports by the MMU are posted at <http://www.monitoringanalytics.com>.

- Bowring Testimony to NJ Assembly re: Assembly Bill No. 3442 (December 16).
- Analysis of the 2009/2010 Third Incremental Auction (December 20).
- Analysis of the 2010/2011 Third Incremental Auction (December 20).
- MMU Activities Report 2009 (December 30).
- Report to the Virginia State Corporation Commission Congestion in the AEP Service Territory in Virginia: October 1, 2008 through September 30, 2010 (December 31).

The MMU issued the following Market Messages in 2010:

- Parameter Limited Schedule Matrix (Period 1, 2010).
- Parameter Limited Schedule Matrix (Period 2, 2010).
- Press Release. *2010 Quarterly State of the Market Report for PJM: January through June* (August 12).
- Members Committee Letter. *2010 Quarterly State of the Market Report for PJM; January through June* (August 12).
- Market Monitoring Unit Notification to PJM Members of Disclosure of Confidential Information Pursuant to Operating Agreement Section 18.17.2(a) (August 26).
- Market Monitoring Unit Notification to PJM Members of Disclosure of Confidential Information Pursuant to Operating Agreement Section 18.17.2(a) (September 22).
- DR as an Unlimited Product (October 22).
- Press Release. *2010 Quarterly State of the Market Report for PJM: January through September* (November 15).
- Members Committee Letter – *2010 Quarterly State of the Market Report for PJM: January through September* (November 15).
- Market Monitoring Advisory Committee Agenda for December 2, 2010 (November 23).

## ***Industry Briefings***

As part of its reporting role, the MMU provided briefings and presentations to industry groups and the Federal Energy Regulatory Commission (FERC). The MMU shared the

results of its analyses, experience and knowledge regarding competitive markets, market monitoring and market power mitigation.

During 2010, the MMU:

- Participated in FERC Office of Enforcement meetings for market monitors.
- Briefed FERC staff on the *2009 State of the Market Report for PJM* (March 11).
- Provided State of the Market Report briefings and presentations to industry press, FERC staff, the Organization of PJM States, Inc. (OPSI) and state commission staffs.
- Speaker: "What Changes Can and Should be Made to RPM over the Next 3 – 5 Years," PJM Long Term Capacity Issues Symposium (January 27).
- Speaker: "Wind Resources in PJM," Cornell Seminar, Cornell University (March 29).
- Speaker: "MA Scarcity Pricing Proposal: Overview of Issues/Approach," and "State of Market Monitoring," OPSI Spring Meeting, Charleston, WV (April 7-8).
- Speaker: "Competition in the PJM Markets: 2009 Overview," Competition in Wholesale Electricity Markets: Meet the Market Monitors, The COMPETE Coalition, Washington, D.C., Capitol Visitors Center (April 20).
- Speaker: "2009 Year in Review," PJM Annual Meeting, White Sulphur Springs, WV (May 3–6).
- Speaker: "PJM Markets and Market Monitoring," PECO Energy Engineer's Day, Keynote Speaker, Malvern, PA (June 10).
- Reviewer: Transmission Reliability Program Peer Review, U.S. Department of Energy, (October 19–20).
- Speaker: "FTR/Virtual Trading Design and Searching for Transparency and Predictability," Platts the Third Annual Nodal Trader Conference, New York, New York, (October 26-27).
- Speaker: "The Status of Spread Bidding and Shortage Pricing in PJM," Platts the Third Annual Nodal Trader Conference, New York, New York, (October 26–27).
- Speaker: "Capacity Resources: Issues and Market Dynamics," EUCI, Baltimore, Maryland, (October 27–28).
- Speaker: "Competitive Auctions and Independent System Operators," Law of Demand Response - Husch Blackwell, Washington, D.C. (December 1).

## Market Design

Attachment M, Section IV.D provides “if the Market Monitoring Unit detects a design flaw or other problem with the PJM Markets, the Market Monitoring Unit shall not effectuate its proposed market design since that is the responsibility of the Office of the Interconnect. The Market Monitoring Unit may initiate and propose, through the appropriate stakeholder processes, changes to the design of such markets, as well as changes to the PJM Market Rules and PJM Tariff. In support of this function, the Market Monitoring Unit may engage in discussions with stakeholders, State Commissions, PJM Management, or the PJM Board; participate in PJM stakeholder meetings or working groups regarding market design matters; publish proposals, reports or studies on such market design issues; and make filings with the Commission on market design issues.”<sup>6</sup>

In Order No. 719 and its order on compliance for PJM, the Commission has emphasized market design as an MMU core function.<sup>7</sup>

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<sup>6</sup> OATT, Attachment M, Section IV.D.

<sup>7</sup> See Order No. 719 at P 357 (“[W]e do expect the MMU to advise the Commission, the RTO or ISO, and other interested entities of its views regarding any needed rule and tariff changes. Likewise, in the event an RTO or ISO files for a proposed tariff change with which the MMU disagrees, we expect the RTO or ISO to inform the Commission of that disagreement, although not necessarily to include a written proposal with its filing.”), codified at 18 C.F.R. § 35.28 (g)(3)(ii)(A) (“The Market Monitoring Unit must perform the following core functions: (A) Evaluate existing and proposed market rules, tariff provisions and market design elements and recommend proposed rule and tariff changes to the Commission-Approved independent system operator or regional transmission organizations, to the Commission’s Office of Energy Market Regulation staff and to other interested entities such as state commissions and market participants”). In its order of December 18, 2009, on PJM’s filing in compliance with Order No. 719, the Commission required additional changes to ensure that the PJM Market Monitoring Plan fully conforms with Order No. 719’s requirements concerning the role of MMUs in market design. 125 FERC ¶61,250 at P 113 (2009) (“PJM’s OATT fails to specify the MMU’s responsibility for evaluating existing and proposed market rules, tariff provisions and market design elements, and for recommending proposed rule and tariff changes to PJM, the Commission’s Office of Energy Market Regulation and to other interested entities (i.e., state commissions and market participants). Attachment M, section IV.C, in this regard, provides only that, if the MMU “detects a design flaw or other problem with the PJM Markets,” it may initiate and propose changes to such market design. This language, however, is limited to “design” issues relating to existing provisions and thus does not address the full scope of the core MMU function addressed by the Commission in Order No. 719.”).



## ***FERC Proceedings***

In 2010, the MMU addressed market design issues on the following topics in proceedings at the FERC:

- **Southern Interface Pricing:** Doc-less Motion to Intervene Out-of-Time of the Independent Market Monitor for PJM, Docket No. ER09-369 (January 9); Answer of the Independent Market Monitor for PJM (January 27).
- **RPM:** Comment of the Independent Market Monitor for PJM, Docket No. ER05-1410-011 et al, (January 9); RPM Must Offer Obligation (June 25).
- **First Energy West Integration:** Motion for Clarification and Reconsideration, Docket No. ER09-1589-001 (January 15).
- **Operating Reserves:** Protest of the Independent Market Monitor for PJM, Docket No. ER09-1569-001 (January 22).
- **Lake Erie Loop Flow:** Motion to Intervene and Comments of the Independent Market Monitor for PJM, Docket No. ER08-1281-004 (February 2); Comments of the Independent Market Monitor for PJM (September 13); Comments of the Independent Market Monitor for PJM (September 15).
- **PJM/PEC JOA:** Motion to Intervene and Comments of the Independent Market Monitor for PJM, Docket No. ER10-713 (February 25); Motion for Leave to Answer and Answer of the Independent Market Monitor for PJM (April 2); Comments and Motion for Technical Conference of the Independent Market Monitor for PJM (July 19).
- **PJM/MISO JOA:** Doc-less Motion to Intervene, Docket Nos. EL10-45 and EL10-46 (March 16).
- **PJM Tariff Clean-Up:** Doc-less Motion to Intervene, Docket No. ER10-893 (March 24); Comments of the Independent Market Monitor for PJM (April 6).
- **Order No. 719 Compliance:** Motion to Cease and Desist and for Shortened Answer Period of the Independent Market Monitor for PJM, Docket No. ER09-1063-000,-003 (April 1); Comments of the Independent Market Monitor for PJM (April 8); Motion for Leave to Answer and Answer of the Independent Market Monitor for PJM (June 1); Motion to Intervene, Docket No. ER11-2074 (November 22).
- **Central Transmission Complaint:** Motion to Intervene of the Independent Market Monitor for PJM, Docket No. EL10-52 (April 5).

- **ConEd Wheel:** Motion to Intervene Out-of-Time and Comments of the Independent Market Monitor for PJM, Docket No. ER08-858 (May 11).
- **Market Transactions:** Doc-less Motion to Intervene, Docket No. ER10-1196 (May 13).
- **Notification of Market Participants:** Doc-less Motion to Intervene, Docket No. ER10-1137 (May 13).
- **Cost-Based Offer Calculation:** Protest of the Independent Market Monitor for PJM, Docket No. EL08-47-005 (May 13); Comments of the Independent Market Monitor for PJM (August 2).
- **DSR:** Comments of the Independent Market Monitor for PJM, Docket No. RM10-17 (May 13); Doc-less Motion to Intervene, Docket No. ER11-2288 (December 9); Protest and Comments of the Independent Market Monitor for PJM (December 20).
- **FRR Integration Auction:** Doc-less Motion to Intervene, Docket No. EL10-60 (May 19).
- **Exelon RMR:** Motion for Leave to Intervene of the Independent Market Monitor for PJM, Docket No. ER10-1418 (July 1); Comments and Motion for Technical Conference of the Independent Market Monitor for PJM (July 15); Motion to Answer and Answer of the Independent Market Monitor for PJM (August 13); Answer of the Independent Market Monitor for PJM (September 13).
- **Station Power:** Doc-less Motion to Intervene, Docket No. ER10-1717 (July 15).
- **Emergency Procedures for Energy-Only Resources:** Doc-less Motion to Intervene, Docket No. ER10-1762 (July 15).
- **Scarcity Pricing:** Protest and Compliance Proposal of the Independent Market Monitor for PJM, Docket No. ER09-1063-004 (July 19), Motion for Leave to Answer and Answer of the Independent Market Monitor for PJM, (August 26), Answer of the Independent Market Monitor for PJM (September 8).
- **Morris Energy V. PSEG:** Doc-less Motion to Intervene, Docket No. EL10-79(August 3), Comments of the Independent Market Monitor for PJM (August 31).
- **Duke Ohio Integration:** Doc-less Motion to Intervention, Docket No. ER10-1562 (August 6).
- **DEO/DEK:** Doc-less Motion to Intervene, Docket No. ER10-2254 (August 25).

- **Opportunity Cost:** Motion for Leave to Answer and Answer of the Independent Market Monitor for PJM, Docket No. EL08-47-006 (September 1).
- **PJM Marginal Loss Allocation:** Motion to Intervene and Comments of the Independent Market Monitor for PJM, Docket No. ER10-2280 (September 2)
- **PJM's Baseline Tariff Filing:** Doc-less Out-of-Time Motion to Intervene, Docket Nos. ER10-2710, ER10-2713, ER10-2715, ER10-2746 (September 20).
- **Capacity Replacement:** Doc-less Motion to Intervene, Docket No. ER10-2971 (October 15).
- **AEP FRR Cost of Service:** Doc-less Motion to Intervene, Docket No. ER11-2183 (December 9).
- **Must Offer:** Doc-less Motion to Intervene, Docket No. ER11-2287 (December 9); Protest and Comments of the Independent Market Monitor for PJM (December 20).

### ***Recommendations Regarding PJM Market Rules***

During 2010, the MMU presented the following information and analysis to PJM Committees:<sup>8</sup>

#### **Cost Development Task Force (CDTF)**

- Opportunity Cost Calculator (April, 19).
- Review of MMU Proposed Approach to Treatment of Negative Margins in Opportunity Cost Calculation (April 19).
- Non-Regulatory Opportunity Cost Component Procedure (June 21).
- Proposed Non-Regulatory Opportunity Cost Component (NROCC) Procedure (June 21).
- CODA: Cost Offer Data Application: Fuel Policy & Fuel Data Entry (July 26).
- Short Term Opportunity Cost Methodology (August 23).
- Manual 15 Changes (August 23).
- Opportunity Cost Methodology (September 20).

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<sup>8</sup> OATT, Attachment M, Section IV.D.

- CODA: Cost Offer Data Application (September 20).
- Cost Offer Data Application (CODA) User Guide (September 20).
- Manual 15 Redline (September 20).
- Opportunity Cost Methodology (October 18).
- Manual 15 Changes (November 8).
- Manual 15 Changes (December 6).
- Variable Operation and Maintenance (December 6).

### **Capacity Market Evolution Committee (CMEC)**

- Panel 3: What Changes Can and Should Be Made to RPM Over the Next 3 to 5 Years (CMEC LCTI) (January 26-27).

### **Finance Committee (FC)**

- Monitoring Analytics Audited Financial Statements for 2008/2009 (May 3).
- Monitoring Analytics Preliminary Budget for 2011 (September 15).

### **Load Management Task Force (LMTF)**

- Guaranteed Load Drop Measurement and Verification (May 20).
- Guaranteed Load Drop Measurement and Verification (June 17).
- Guaranteed Load Drop Measurement and Verification (July 7).
- Guaranteed Load Drop Measurement and Verification (July 28).
- MIC Approved Pilot (September 8).
- Draft Charter (September 8).

### **Members Committee (MC)**

- State of the PJM Market: January through November, 2009 (January 28).
- 2009 State of the Market Report for PJM (March 25).
- State of the PJM Market: January through April, 2010 (June 3).
- State of the PJM Market: January through June, 2010 (August 12).

- Impacts of Proposed Solutions to Manipulation Arising from the Allocation of Marginal Loss Surplus (August 12).
- State of the PJM Market: January through August, 2010 (September 23).
- Proposal: Unlimited Only DR Product to Replace 10x16 Limited Product (November 18).
- Transactions Issues Senior Task force Charter (November 18).
- MMU Position on Demand Response Saturation Issue (November 18).
- MMU Position on Black Start Service Issues (November 18).
- State of the PJM Market: January through September, 2010 (November 18).

### **Market Implementation Committee (MIC)**

- MMU Approach to RPM Must Offer Compliance Filing (February 17).
- MMU Approach to Order 719 Compliance Filing (March 9).
- Day-Ahead and Real-Time Generation and Load Details (June 16).
- Price Responsive Demand (MIC-PRD) (July 8).
- Guaranteed Load Drop Measurement and Verification (July 21).
- RPM BRA Analysis (July 21).
- Day-Ahead and Real-Time Generation and Load Details (August 16).
- Proposed Revisions to Black Start Service Rules (OATT Schedule 6A)(August 18).
- Load Response Programs Measurement and Verification (August 18).
- CODA: Cost Offer Data Application Fuel Policy & Fuel Data Entry (August 18).
- Baseline Methods Pilot Study: Measurement and Verification for Demand Side Programs (September 14).
- LMTF Charter (September 14).
- MMU Proposal on Price Responsive Demand (MIC-PRD)(November 4).
- Manual 18 Redlines (MIC-PRD)(November 4).

- Not Willing to Pay Congestion Transactions (December 7).

## **Markets and Reliability Committee (MRC)**

- Opportunity Cost Calculation PJM Manual Changes, Redlined Version (January 20).
- Opportunity Cost Calculator (January 20).
- Opportunity Cost Calculator (February 24).
- Default ACR Escalation Calculation (February 24).
- MMU Redline Manual 15: Opportunity Cost Calculation (March 17).
- Opportunity Cost Calculator (March 17).
- MMU Approach to Order 719 Compliance Filing (March 17).
- CDTF Walkthrough of Negative Margins (March 17).
- Opportunity Cost Calculator (May 18).
- Manual 15: Cost Development Guidelines (May 18).
- Opportunity Cost Calculator (June 23).
- Non-Regulatory Opportunity Cost Component Procedure (June 23).
- Proposed Non-Regulatory Opportunity Cost Component (NROCC) Procedure (June 23).
- Virtual Transactions and Marginal Loss Surplus Allocations (August 5).
- Analysis of the 2013/2014 RPM Base Residual Auction (August 5).
- Manual 18 Redlines (November 17).
- MMU proposal on Price Responsive Demand (November 17).
- MMU Position on Clarified Must Offer Provisions (November 17).
- IMM Position on Generator Deactivation Issues (November 17).

## **Shortage Pricing Working Group (SPWG)**

- MA Scarcity Pricing Proposal: Price Targets and Related Issues (January 8).

- MA Scarcity Pricing Proposal: Price Targets and Related Issues (February 8).
- Scarcity Revenue Offset (February 18).
- Potential to avoid offer capping via the use of virtual bids (February 18).
- PJM/MA Scarcity Pricing Proposals: High Level Comparison (April 12).
- 719 Filing Requirements: MA Proposal (MRC) (April 21).
- Shortage Pricing Proposal Matrix – Proposal Components (April 30).

## **Other Activities**

### ***OPSI Advisory Committee***

The OPSI Advisory Committee is established pursuant to Section III.G of Attachment M of the OATT, which provides:

“There shall be an OPSI Advisory Committee comprised of five (5) representatives appointed by the Organization of PJM States, Inc. The OPSI Advisory Committee shall meet with the Market Monitoring Unit on a regular basis and as otherwise necessary to receive and discuss information relevant to this Plan. In addition to the specific responsibilities regarding budget and termination set forth in Sections III.E and III.F, the OPSI Advisory Committee may provide advice to the Commission, Market Monitor, the PJM Board, stakeholder committees, and stakeholder working groups regarding any matter concerning the Market Monitor, Market Monitoring Unit or Market Monitoring Plan. Any formal advice shall be in writing and, subject to confidentiality provisions, shall be made publicly available.”

In 2010, the Market Monitor met in public session with the OPSI Advisory Committee on April 7<sup>th</sup> and October 6<sup>th</sup>.

### ***Market Monitoring Unit Advisory Committee***

The Market Monitoring Unit Advisory Committee (“MMUAC”) is established pursuant to Section III.H of Attachment M of the OATT, which provides:

“There shall be an MMU Advisory Committee, chaired by the Market Monitor that is open to all stakeholders and

representatives of Authorized Government Agencies. The MMU Advisory Committee shall act as a liaison between stakeholders and the MMU and shall provide advice from time to time on matters relevant to the MMU's responsibilities under this Plan. The MMU Advisory Committee shall have no authority to direct, supervise, review, or otherwise interfere with the functions of the MMU under this Plan, nor any authority to terminate or propose to terminate the Market Monitor."

The MMUAC succeeds the PJM Market Monitoring Advisory Committee ("MMAC"). The Market Monitor convened a meeting of the MMUAC on December 2, 2010.