

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

PJM Interconnection, L.L.C.	) ) )	Dockets Nos. ER15-623-004 and EL15-29-003
-----------------------------	-------------	--

**COMMENTS OF THE INDEPENDENT MARKET MONITOR FOR PJM**

Pursuant to Rule 211 of the Commission’s Rules and Regulations,<sup>1</sup> Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor for PJM<sup>2</sup> (“Market Monitor”), submits these comments on the filings submitted by PJM Interconnection, L.L.C. (“PJM”) (“July 9<sup>th</sup> Compliance Filings”) in compliance with the Commission order issued June 9, 2015 in the above referenced proceeding (“June 9<sup>th</sup> Order”).<sup>3</sup>

**I. COMMENTS**

**A. Risk Premia**

In the June 9<sup>th</sup> Order, the Commission found that PJM’s definition of Capacity Performance Quantifiable Risk (CPQR) “may be insufficiently narrow to permit resources to include quantifiable and reasonably-supported risks in their Avoidable Cost Rate.” PJM filed revised tariff language in their Compliance filing modifying the definition of CPQR as shown in this redline from the PJM filing:

---

<sup>1</sup> 18 CFR § 385.211 (2014).

<sup>2</sup> Capitalized terms used herein and not otherwise defined have the meaning used in the PJM Open Access Transmission Tariff (“OATT”) or the PJM Operating Agreement (“OA”).

<sup>3</sup> *PJM Interconnection, L.L.C., et al.*, 151 FERC ¶ 61,208.

~~“CPQR (Capacity Performance Quantifiable Risk) consists of the documented and quantifiable and reasonably-supported costs of mitigating the risks of non-performance associated with submission of a Capacity Performance Resource offer (or of a Base Capacity Resource offer for the 2018/19 or 2019/20 Delivery Years), such as insurance expenses associated with resource non-performance risks. ~~solely attributable to risks of being a Capacity Performance Resource. CPQR applies solely for offers for a Capacity Performance Resource.~~ CPQR shall be considered reasonably supported if it is based on actuarial practices generally used by the industry to model or value risk and if it is based on actuarial practices used by the Capacity Market Seller to model or value risk in other aspects of the Capacity Market Seller’s business. Such reasonable support shall also include an officer certification that the modeling and valuation of the CPQR was developed in accord with such practices. Provision of such reasonable support shall be sufficient to establish the CPQR.”~~

In the Market Monitor’s limited request for rehearing on July 6, 2015, the Market Monitor has addressed the deletion of the modifier “documented” from the tariff language.<sup>4</sup> Here the Market Monitor requests that the Commission reject the additional language filed by PJM. As the Market Monitor described in its answer on February 25, 2015, in this proceeding (subsequently corrected on February 27), there are clearly defined sources of risk for a capacity performance resource offer.<sup>5</sup> The competitive offer of a capacity performance resource is based on the mathematical formulation submitted by both the Market Monitor and PJM in their responses to the Commission’s deficiency letter.<sup>6</sup> The sources of risk in capacity performance offers are the uncertainties in the components of the

---

<sup>4</sup> See IMM Request for Rehearing and Motion for Clarification (July 6, 2015) at 7.

<sup>5</sup> See Answer and Motion for Leave to Answer of the Independent Market Monitor for PJM (February 25, 2015) at “I.D Risk Premia in Offer Caps in Capacity Performance” and Appendix B

<sup>6</sup> See Answer and Motion for Leave to Answer of the Independent Market Monitor for PJM (February 27, 2015) at Appendix A: Competitive offer for a capacity performance resource in PJM; PJM’s Response to the Deficiency Letter (Sub-Docket 001, April 10, 2015) at Appendix 1: Overview of Capacity Performance Offer Cap Logic.

competitive offer. Risk arises because the actual unit availability (A), Balancing Ratio (B) and number of performance assessment hours (H) could differ from the expected values used to calculate an offer. Participants can submit documented, reasonably supported risk premia that include the cost of covering these risks, but there is no other source of risk in a CP offer and the tariff should be very clear on this point. The CPQR is not intended to compensate generation owners for all their business and corporate risks nor to reduce the CP capacity market design to the equivalent of cost of service regulation.

PJM's language converts the reasonable conclusion, that CP sellers incur identifiable incremental performance risk associated with taking on a CP obligation, to a significant loophole in offer capping for market power mitigation in the CP capacity market design. PJM's draft language is extraordinarily vague and would be impossible to enforce. Experience in reviewing offer caps for the first CP BRA has already shown that some generation owners want to take a very expansive view of the CPQR with corresponding extremely high CPQR values. PJM's proposed language would facilitate such an expansive reading and would result in much higher offer caps and much higher capacity market clearing prices. A Market Seller Offer Cap (MSOC) to mitigate exercise of market power in RPM is ineffective if such risk premia can be included to increase a unit specific offer cap.

The Market Monitor proposes alternate tariff language for the Commission's consideration in this redline against the initial PJM filing:

"CPQR (Capacity Performance Quantifiable Risk) consists of the **documented, ~~and~~ quantifiable and reasonably-supported** costs of mitigating the risks **of non-performance** associated with submission of a Capacity Performance Resource offer **(or of a Base Capacity Resource offer for the 2018/19 or 2019/20 Delivery Years)**, such as insurance expenses **associated with resource non-performance risks."**

## **B. Responsibility for Market Power Determinations**

The June 9<sup>th</sup> Order (at P 440) directed PJM to establish a process under which resources would be eligible to receive make whole payments if, due to actual constraints,

they operate outside the unit-specific parameter limits. In the July 9<sup>th</sup> Compliance Filing, PJM introduced a process for resources to request to be made whole based on operation outside of the unit-specific parameters. The process proposed by PJM assigns to PJM the role of determining whether an exercise of market power occurred.<sup>7</sup> The process should be designed instead to maintain consistency with the provision in the OATT governing all market power determinations made in PJM markets.<sup>8</sup> The OATT assigns responsibility to the Market Monitor to determine whether participant conduct raises market power concerns.<sup>9</sup> Section 12A of the OATT provides that PJM “determines whether an offer, bid, components of an offer or bid, or decision not to offer a committed resource complies with the PJM Market Rules.” The general specification of roles included in the tariff should be observed in all sections of the tariff that set forth the respective roles of PJM and the Market Monitor on specific matters.

### **C. Operating Parameters and Uplift: Contractual Constraints**

The June 9<sup>th</sup> Order (at P 437) directed PJM to include actual contractual constraints in its determination of unit-specific operational parameters. Currently, generation resources are required to submit cost-based offers with parameters set by the parameter limited schedule matrix, unless, due to operational physical characteristics, resources need exceptions to those parameters. In its compliance filing, PJM included language, as directed by the Commission, to address the contractual constraint determination by the Commission, but also included additional language regarding the use of contractual

---

<sup>7</sup> See OA Schedule 1 § 3.2.3(e).

<sup>8</sup> See OATT § 12A (“The Office of the Interconnection does not make determinations about market power, including, but not limited to, whether the level or value of inputs or a decision not to offer a committed resource involves the potential exercise of market power. Acceptance or rejection of an offer or bid by the Office of the Interconnection does not include an evaluation of whether such offer or bid represents a potential exercise of market power.”).

<sup>9</sup> *Id.*, OATT Attachment M & Attachment M–Appendix.

constraints as a basis for operational parameters. The new language specifies that the determination of whether a contractual constraint is physical or not will be based on whether the generation owner obtained the most flexible gas pipeline transportation contract terms available.<sup>10</sup>

The language in PJM's July 9<sup>th</sup> Compliance Filing highlights the problems of using contractual terms to define operational parameters. For example, PJM is circumscribing all contractual constraints as gas pipeline transportation issues. PJM did not specify how it will determine if a contractual constraint is physical or not for all other types of fuel arrangements or for non-gas fired resources. Gas pipeline transportation is one characteristic of one of the fuel sources of PJM's generation fleet.

PJM will also base its determination on the most flexible contractual terms available to the generation owner. There are multiple ways of qualifying contract terms as flexible. We assume that PJM's goal was only to refer to flexible supply service.

In general terms, the most flexible gas supply service offered by gas pipelines is no notice service. The fact that generation owners could not acquire no notice service from the gas pipeline does not mean that the service is not available. Third parties that have acquired gas pipeline transportation services may be able to offer generation owners more flexible contract terms than the ones offered by the gas pipeline serving the resource. Also, in order for PJM and the Market Monitor to make a proper determination, generation owners would have had to request from their current pipeline and from other existing or proposed pipelines if no notice service could be made available to them. It is unclear how PJM and the Market Monitor will be able to determine what the most flexible contract terms are, while taking into consideration third parties or services that are not yet developed from existing or proposed pipelines.

---

<sup>10</sup> See PJM proposed clarified Operating Agreement Schedule 1 § 6.6 (b).

The best contract terms may only be available during specific periods. A resource may have the option to procure the most flexible terms at the time of the Capacity Market auction, at the start of the corresponding delivery year or any time in between. It is unclear how PJM will determine the most flexible contract terms when the availability of such contracts change over time.

Generation owners, not PJM and not PJM customers, are in the best position to enter into the best contractual terms to meet their performance obligations. Generation resources should not be allowed to have operational parameters based on contractual terms for their cost-based offers. Allowing generation owners to have operating parameters based on contractual limits results in circular logic under which the generating unit's fuel procurement risk is determined by the contract entered into in order to manage the fuel procurement risk that results from the performance obligation. The result is to shift some or all of the fuel procurement risks away from the supplier and to PJM customers through uplift payments, inconsistent with the purpose of the CP design.

#### **D. Balancing Ratio Calculation**

In the June 9<sup>th</sup> Order (at P 178), the Commission directed PJM to “clarify the definition of Net Energy Imports to avoid the distortion of the Balancing Ratio described above for Emergency Action hours limited to a zonal or sub-zonal area, and to reflect the performance calculation for imports from outside an Emergency Action area to ensure proper compensation for Performance Bonus Payments to resources outside the Emergency Action area.” PJM filed compliance tariff revisions clarifying that for Emergency Actions that do not involve the entire PJM Region, imports are not considered in the performance calculations. While this clarification improves the treatment of interchange imports from PJM's neighboring balancing authorities to calculate Balancing Ratio for regions that do not involve the entire PJM region, there is a lack of clarity regarding other terms in the formula. PJM's latest updated definition for Balancing Ratio is:

(All Actual Generation Performance, Storage Resource  
Performance, Net Energy Imports and Demand Response Bonus

Performance) / (All Committed Generation and Storage Capacity); provided, however, that Net Energy Imports shall be included in the calculation of the Balancing Ratio only for any Performance Assessment Hour for which the Emergency Action was declared for the entire PJM Region; and provided further that the Balancing Ratio shall not exceed a value of 1.0.<sup>11</sup>

The Demand Response Bonus Performance component should be removed from the balancing ratio because it cannot be calculated until 75 days after the fact. It is not possible to calculate the Demand Response Bonus Performance in real time, given the current metering requirements for demand resources. The current rules allow CSPs to submit data within 60 days of a Load Management Event.<sup>12</sup> The IMM has recommended that demand resources be required to use five-minute interval meters in order to provide PJM with real time data comparable to that from generation resources.<sup>13</sup>

#### **E. Stop Loss Calculation**

PJM's definition of the annual Non-Performance Charge Limit ("annual stop loss") needs clarification. The annual stop loss is a limit on the total non-performance charges paid by a capacity resource in a delivery year. In PJM's CP filing on December 10, there was a discrepancy between the definition of annual stop loss as written in the proposed tariff language and as stated in the transmittal letter. In the tariff language, it is defined as 1.5 times the Net CONE times the megawatts of Unforced Capacity committed by the resource times 365.<sup>14</sup> In the transmittal letter, it was defined as "1.5 times Net CONE, the sum of which is multiplied by the installed capacity committed by the resource".<sup>15</sup> In the June 9<sup>th</sup>

---

<sup>11</sup> See PJM proposed clarified OATT Attachment DD § 10A(c).

<sup>12</sup> See OATT § 8.7 (Verification).

<sup>13</sup> See Comments, Complaint and Motion to Consolidate of the Independent Market Monitor for PJM, Docket No. EL14-822-000.

<sup>14</sup> See PJM proposed tariff language Attachment DD Section 10A(d).

<sup>15</sup> See Transmittal letter at 40.

Order (at P 114), the Commission noted that the annual stop loss is “equal to 1.5 times Net CONE times the relevant resource’s installed capacity”, as was described in the transmittal letter. The Commission subsequently approved, at P 164, the annual Non-Performance Charge Limit. The correct stop loss is the calculation as defined in the tariff language, not the erroneous description in the transmittal letter. In order to provide clarity, the Market Monitor requests that the Commission clarify that the accepted annual stop loss limit is the definition in the proposed tariff language and is equal to 1.5 times the Net CONE times the megawatts of Unforced Capacity committed by the resource times 365.

There is an additional element of the stop loss definition in PJM’s tariff language that could potentially be misleading and interpreted differently than the way it is intended. PJM’s revised tariff language, as filed in the Compliance filing, in Section 10A(f) is:<sup>16</sup>

(f) The Non-Performance Charges for each Capacity Performance Resource or [sic] (including Locational UCAP from such a resource) for a Delivery Year shall not exceed a Non-Performance Charge Limit equal to 1.5 times the Net Cost of New Entry times the megawatts of Unforced Capacity committed by such resource times 365.....The total Non-Performance Charges for each Base Capacity Resource (including Locational UCAP from such a resource) for a Delivery Year shall not exceed a Non-Performance Charge Limit equal to the total payments due such Capacity Resource or Locational UCAP under section 5.14 of this Attachment DD for such Delivery Year.

The stop loss is a limit on the total net Non-Performance Charges paid back by a capacity resource (both CP and Base resources). It is possible that a resource may over perform and earn bonuses in certain performance assessment hours; and underperform and pays Non-Performance Charges in certain performance assessment hours. The stop loss limit should apply to the net of all Non-Performance Charges less any bonus payments received. It is not simply a limit on exclusively Non-Performance Charges without

---

<sup>16</sup> See PJM’s proposed clarified OATT Attachment DD §10A(f).

considering bonus performance payments received by a resource. While the intent appears to have been to limit the total net Non-Performance Charges, the tariff language is not clear that the limit applies to the net of all Non-Performance Charges in a delivery year. It could be misinterpreted to place a limit only on Non-Performance Charges assessed for underperformance without accounting for any bonus performance payments a resource may have received during other performance assessment hours. The Market Monitor requests that the Commission clarify that the annual Non-Performance Charge Limit applies to the total Non-Performance Charges less any bonus performance payments for a resource in a delivery year.

#### **F. Demand Response**

The expected performance value for base resources for non-summer performance assessment hours is inconsistent between the PJM proposed tariff and training material presented by PJM.<sup>17</sup> In the training material, PJM defines the expected performance for base demand response as zero and the expected performance for base generation or storage as the committed UCAP times the balancing ratio. The approach defined in the training material would provide demand resources the benefit of receiving bonus payments for the first MW of reduction while generation and storage resources would have to generate more than their committed UCAP times the balancing ratio.

According to the proposed PJM tariff language:

Expected Performance is as defined in subsection (c), provided, however, that for purposes of this calculation, Expected Performance shall be zero for any resource that is not a Capacity Resource or Locational UCAP, or that is a Capacity Resource or Locational UCAP, but for which the Performance Assessment Hour occurs outside the resource's capacity obligation period,

---

<sup>17</sup> See slide 52 of PJM Capacity Performance Training, July 8, 2015, which can be accessed at: <http://www.pjm.com/~media/markets-ops/rpm/20150708-capacity-performance-webex-training.ashx>.

including, without limitation, a Base Capacity Demand Resource providing demand response during non-summer months;<sup>18</sup>

The draft tariff language defines the expected performance value to be zero MW for all base resources when the PAH is outside of the resource's capacity obligation period.

To remain consistent with the Tariff language, PJM should ensure that all base resources' expected performance is zero when a PAH occurs outside the June through September period.

But the PJM proposed tariff language means that the obligations of base resources would be significantly less than the obligations of current capacity resources. This did not appear to be PJM's intent. It would be reasonable to define the expected performance for all base resources as the committed UCAP times the balancing ratio. Under this approach, base resources that perform during PAH that occur outside the June through September period would receive bonus performance payments only after providing the base level of MWh.

## II. COMMUNICATIONS

Pursuant to 18 C.F.R. § 385.203(b)(3), the Market Monitor designates the following persons as those to receive all notices and communications with respect to this proceeding:

Joseph E. Bowring  
President  
Monitoring Analytics, LLC  
2621 Van Buren Avenue, Suite 160  
Valley Forge Corporate Center  
Eagleville, Pennsylvania 19403  
(610) 271-8051  
*joseph.bowring@monitoringanalytics.com*

Jeffrey W. Mayes  
General Counsel  
Monitoring Analytics, LLC  
2621 Van Buren Avenue, Suite 160  
Valley Forge Corporate Center  
Eagleville, Pennsylvania 19403  
(610) 271-8053  
*jeffrey.mayes@monitoringanalytics.com*

---

<sup>18</sup> See PJM proposed clarified OATT Attachment DD § 10A(g).

### III. CONCLUSION

The Market Monitor respectfully requests that the Commission afford due consideration to this pleading as the Commission resolves the issues raised in this proceeding.

Respectfully submitted,



---

Jeffrey W. Mayes

Joseph E. Bowring

Independent Market Monitor for PJM

President  
Monitoring Analytics, LLC  
2621 Van Buren Avenue, Suite 160  
Valley Forge Corporate Center  
Eagleville, Pennsylvania 19403  
(610) 271-8051  
*joseph.bowring@monitoringanalytics.com*

General Counsel  
Monitoring Analytics, LLC  
2621 Van Buren Avenue, Suite 160  
Valley Forge Corporate Center  
Eagleville, Pennsylvania 19403  
(610) 271-8053  
*jeffrey.mayes@monitoringanalytics.com*

Dated: July 20, 2015

## CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Eagleville, Pennsylvania,  
this 20<sup>th</sup> day of July, 2015.



---

Jeffrey W. Mayes

General Counsel

Monitoring Analytics, LLC

2621 Van Buren Avenue, Suite 160

Valley Forge Corporate Center

Eagleville, Pennsylvania 19403

(610)271-8053

*jeffrey.mayes@monitoringanalytics.com*