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Honorable Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, D.C. 20426-0001

**Re: PJM Interconnection, L.L.C., Docket No. ER13- 149 -000**

Dear Secretary Bose:

Pursuant to Section 205 of the Federal Power Act, 16 U.S.C. § 824d (2000), and the Commission's Regulations, 18 C.F.R. Part 35 (2007), PJM Interconnection, L.L.C. ("PJM") hereby submits for filing revisions to Schedule 1 of the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. ("Operating Agreement") and to Part I, Schedule 6A, Attachment K-Appendix, Attachment M, Attachment M-Appendix and Attachment DD of the PJM Open Access Transmission Tariff ("Tariff") to incorporate clear, task oriented deadlines in those sections of the Tariff and Operating Agreement addressing the PJM capacity market, energy markets and Black Start resources. The revisions are designed to ensure timely submission of offer data, exception requests and unit-specific requests by market participants, as well as timely responses thereto by PJM and Monitoring Analytics, LLC, PJM's independent market monitor ("IMM"), and to clarify the respective roles and responsibilities of market participants, PJM and the IMM regarding the same. PJM requests that the Commission issue an order accepting the enclosed revisions by no later than December 17, 2012, sixty-two (62) days after the date of this filing, with an effective date of December 17, 2012.

## **I. Procedural Background and Stakeholder Process**

In March 2010, PJM commenced a major undertaking to review its Commission-approved governing documents, including the Tariff and Operating Agreement, to assess PJM's performance in operating in a manner consistent with requirements stated in the referenced documents. This inquiry was designed to determine whether PJM's practices conform to requirements stated in its rules and whether its rules are internally consistent or provide ambiguous direction (the "Quality Project"). The benefits that were intended to be realized as a result of the Quality Project included the assignment of "ownership" of the various requirements to the extent necessary, verification of operational quality, and clarification of regulatory requirement uncertainties.

In the initial phase of the Quality Project, PJM identified over 4,600 PJM requirements in the Commission-approved governing documents that were reviewed. PJM staff painstakingly reviewed each such requirement to determine its priority, and to determine, among other things, whether (a) revisions, corrections or clarifications should be made to make the governing documents to address particular requirements, and (b) PJM needed to implement any new processes or improve existing processes to effectuate particular requirements or ensure compliance. PJM staff concluded that a relatively small number of the over 4,600 requirements reviewed required revisions to be made or processes to be implemented, and has revised its governing documents to make these improvements.

As part of this Quality Project review process, PJM recognized that while the Tariff and Operating Agreement define the respective roles of market participants, PJM

and the IMM, in many instances the Tariff and Operating Agreement fail to define specific deadlines by which offer data, exception requests and unit-specific requests must be submitted to PJM and/or the IMM and the deadlines by which PJM and the IMM must respond to or make its findings or determinations with respect to any such data submissions or requests. Recognizing that this lack of defined deadlines creates Tariff and Operating Agreement uncertainty and compliance risk for PJM, the IMM and market participants, which in turn could disrupt or delay market operations, PJM decided to incorporate clear, task oriented deadlines to ensure timely submission of data, exception requests and unit-specific requests by market participants and timely responses thereto by PJM and the IMM.

To that end, PJM initiated discussions regarding its proposed revisions with the IMM in August 2011. The IMM indicated that it did not agree in every respect with PJM's characterization of the identified problem, but did agree that the review process would be improved if the roles of PJM and IMM were clarified and additional time was provided to the Commission to address issues that may arise in the administration of that process. PJM and the IMM, with periodic review and input from stakeholders, engaged in a constructive effort to develop deadlines and clarify roles that both PJM and the IMM agree include important clarifications and an explicit procedural structure.

PJM first posted its proposed revisions for discussion at the Markets and Reliability Committee ("MRC") meeting held on March 29, 2012 meeting,<sup>1</sup> and thereafter posted revised versions of the proposed revisions to take into account stakeholder

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<sup>1</sup> See PJM's proposed revisions posted on PJM's Web site at <http://www.pjm.com/~media/committees-groups/committees/mrc/20120329/20120329-first-read-item-03-quality-project-imm-pjm-market-participant-process-revisions.ashx>.

comments and discussions with the IMM at almost every MRC meeting held until August 23, 2012 meeting,<sup>2</sup> including a conference call scheduled for the sole purpose of discussing the proposed revisions. PJM presented the revisions to the PJM Members Committee ("MC") on September 27, 2012.<sup>3</sup>

Additionally, PJM met with the IMM to seek its input regarding the proposed Tariff and Operating Agreement revisions on numerous occasions since August 2011. The purpose of these meetings was to (a) ensure that the IMM was fully informed of PJM's proposals and its rationale therefor, (b) give the IMM an opportunity to express any concerns regarding the proposed revisions, and (c) solicit suggestions for additional process improvement revisions. In adding more precision to timing and definition of process, PJM and IMM additionally identified opportunity to clarify, more substantively, their respective roles when considering the submission of market participant requests and evaluating both the compliance of such requests with PJM's rules and the determination as to whether such requests might raise market power concerns. Both PJM and the IMM expect such clarification as to role and responsibility will improve, for the benefit of all stakeholders and the Commission, the performance of evaluation process associated with requested sell offers, bids and unit specific offers in both energy and capacity markets. PJM has authority to advise the Commission that the IMM supports this filing.

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<sup>2</sup> See PJM's proposed revisions posted on PJM's Web site at <http://www.pjm.com/~media/committees-groups/committees/mrc/20120823/20120823-item-03-quality-project-imm-pjm-market-participant-information-process-draft-tariff-and-oa-revisions.ashx>.

<sup>3</sup> See PJM's proposed revisions posted at <http://www.pjm.com/~media/committees-groups/committees/mc/20120927/20120927-item-03-quality-project-imm-pjm-market-participan-process-revisions.ashx>.

## **II. Proposed Revisions**

### **A. Incorporation of Clear, Task Oriented Deadlines for RPM Auctions**

The primary purpose of this filing is to incorporate clear, task oriented deadlines to ensure timely submission of offer data, exception requests and other unit-specific requests by market participants and specify advance deadlines for responses thereto by PJM and the IMM. Establishing deadlines for these respective responsibilities decreases the compliance risk for failure to timely submit data and issue determinations, which in turn decreases the possibility of market disruptions or delays. Furthermore, establishing specific deadlines helps to ensure that requests are duly considered by providing sufficient time to IMM and PJM to review cost and offer data, consider requests, attempt to come to agreement on components of costs, and make determinations well in advance of the date on which decisions regarding offers and requests must be final.

For these reasons, PJM proposes the following deadlines for Reliability Pricing Model (“RPM”) Auctions. First, Capacity Market Sellers must submit their offer data, exception requests, requests for alternative maximum EFORds and to remove a resource from Capacity Resource status, requests for unit-specific Avoidable Cost Rates and exceptions to the RPM must-offer requirement by no later than one hundred twenty (120) days prior to the commencement of the auction offer period. The IMM must issue its findings regarding the same by no later than ninety (90) days prior to the commencement of the offer period for the applicable RPM Auction. By no later than eighty (80) days prior to the commencement of the offer period for the applicable RPM Auction, the Capacity Market Seller must notify PJM and the IMM of the level of the Market Seller Offer Cap to which it agrees to commit, whether it agrees with the IMM’s

determination of the alternative maximum EFORD and whether it disagrees with the determination of requests to remove a resource from Capacity Resource status. PJM's determination is due by no later than sixty five (65) days prior to the commencement of the auction offer period.

Establishing a deadline of one hundred twenty (120) days prior to the commencement of the offer period for the applicable RPM Auction for the submission of offer data, exception requests, etc. will eliminate last minute requests for exceptions to the must-offer requirement and to remove resources from the Capacity Resource status list, which PJM and IMM staff do not have adequate time to review or consider immediately prior to or during the RPM Auction offer period. Requiring PJM to provide its determination by no later than sixty five (65) days prior to the commencement of the offer period for the applicable RPM Auction ensures that the Market Participant and IMM are afforded adequate time to seek a Commission determination in a timely manner.<sup>4</sup> Additionally, imposing such a deadline on PJM will allow the IMM and Market Participants to submit their petitions (or referrals) to the Commission for resolution more than sixty (60) days prior to the clearing of such auctions, and it gives the Commission more time than it is typically currently afforded in which to issue its determination, rather than subjecting the Commission to the filing of emergency petitions requesting expedited review and determination.

PJM, the IMM and stakeholders have discussed how far back from an RPM Auction deadlines could be set. There is a consensus that moving the deadlines for

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<sup>4</sup> PJM concedes, however, that if the matter brought by complaint is set for hearing, the timeframe provided would not realistically allow for that hearing to be completed prior to the Base Residual Auction. This procedural challenge for the Commission exists today and, if anything, is ameliorated by this filing creating strong disincentive for a party to delay until the eve of the auction before filing with the Commission as is possible under today's Tariff.

participant cost data further in advance of one hundred twenty (120) days prior to the commencement of an auction offer period could affect the efficiency and accuracy of cleared market prices. The current auction design creates prices that will be charged three years in the future based on expectations at the time of the auction. Offer caps should reflect those expectations. If offer caps are locked in too far in advance of the auction, the data and information on which those offer caps are based could become stale. At one hundred twenty (120) days prior to the annual May Base Residual Auction, available actual 12-month cost data includes the first three quarters of the preceding calendar year and the last quarter of the calendar year occurring two years prior to the date on which the cost data must be submitted, e.g. for the May 2013 Base Residual Auction actual cost data for the fourth quarter of 2011 and the first through third quarters of 2012. This is generally acceptable, but there is reluctance to push the time frame back further.

With the foregoing in mind, it is PJM's expectation that the IMM and Capacity Market Sellers will submit their petitions (or referrals) to the Commission well in advance, preferably at least sixty one (61) days prior to the closing of the offer period for the affected RPM Auction, to ensure that the Commission has at least sixty (60) days to consider the petition or referral before the auction is cleared. This timeframe is consistent with the sixty (60) day period of time by which the Commission must act on tariff filings submitted under Section 205 of the Federal Power Act. Otherwise, the Capacity Market Seller increases the risk of not receiving a determination on their petitions before auction clearing. This is particularly important since PJM has indicated on many occasions that, absent a Commission directive otherwise, PJM will not

postpone the clearing of an RPM Auction pending the issuance of a Commission decision on the matter.

To be clear, PJM recognizes the Commission is not obligated to act on any such petition within a sixty (60) day period and, depending on the complexity of the issues raised therein, even this extended period may not be sufficient for the Commission to render its findings. Accordingly, nothing in the proposed revisions or this transmittal letter is meant to convey or imply that the Commission will issue its findings prior to the close of the RPM Auction offer period.

Further, the Commission has previously determined it will not require a Regional Transmission Organization or Independent System Operator to re-run its markets to address a Market Participant's concerns because doing so would create market uncertainty and would require resolving complex issues relating to the treatment of resources that did or did not clear in the original and any re-run auction.<sup>5</sup> PJM and the Commission desire, and the business interests of participants depend on, finality in the wholesale energy and capacity markets.<sup>6</sup>

At the IMM's request, rather than using rolling deadlines for the IMM and PJM's determinations with respect to offers, exception requests and the like, the proposed deadlines are fixed deadlines based on the date on which the offer period for the

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<sup>5</sup> *Astoria Generating Company L.P. and TC Ravenswood, LLC v. New York Independent System Operator, Inc.*, 140 FERC ¶ 61,189 (2012) at P 141.

<sup>6</sup> *DC Energy LLC, et al. v. PJM Interconnection, LLC*, 138 FERC ¶61,165 (2012) at P 101; *PPL EnergyPlus, LLC v. New York Independent System Operator*, 115 FERC ¶61,383 (2006) at P 30 (The Commission declined to issue refunds to PPL because "the Commission must balance the goals of allowing PPL relief . . . while at the same time ensuring that granting such relief will not undermine confidence in markets."); *Midwest Independent Transmission System Operator, Inc.*, 117 FERC ¶ 61,113 (2006) at P 95 ("the Commission has declined refunds in instances when refunds 'would create substantial uncertainty in the . . . markets and would undermine confidence in them,' and when 'customers cannot effectively revisit their economic decisions.'")



applicable RPM Auction commences. The IMM explained that using fixed deadlines facilitates efficient and timely management of the review process.

Finally, PJM proposes to establish an October 30<sup>th</sup> deadline by which it must file updated default Avoidable Cost Rates with the Commission.

**B. Incorporation of Clear, Task Oriented Deadlines for Black Start Service Revenue Requirements**

The revisions to Section 17 of Schedule 6A of the Tariff proposed in this filing incorporate deadlines by which requests for Black Start Service revenue requirements must be submitted, the IMM and Black Start Unit owner must attempt to come to agreement on the level of the components of the Black Start Service revenue requirements, the IMM must notify the Black Start Unit owner of its determination with respect to the request and the Black Start Unit owner must notify PJM of the Black Start Service revenue requirements that it chooses to use. PJM also proposes to incorporate into the Tariff the June 1<sup>st</sup> effective date for the annual calculation of Black Start Service revenue requirements since, while it has always been PJM's practice to use June 1<sup>st</sup> as the effective date, such date was not specified in the Tariff. The revisions also incorporate a new requirement for the Black Start Unit owner to provide a copy of its Black Start Service revenue requirement request and data to PJM and to notify PJM and the IMM whether it agrees or disagrees with the IMM's determination on the level of the components of the Black Start Service revenue requirements, with deadlines therefor.

In Section 18 of Schedule 6A, PJM proposes to stipulate that the first business day in May shall be the applicable date on which the average of forward prices for the fuel burned in Black Start Units and the Moody's Utility Index for bonds rated Baa1 are

determined. Finally, at the request of one stakeholder, PJM clarifies in Section 17 that: “Notwithstanding the foregoing, the deadlines set forth in this Section 17 shall not apply to a Black Start Unit owner’s election to select a new method of recovery for its Fixed BSSCC.” This revision is intended to address the situation in which a Black Start Unit owner applies for a new rate to recover black start capital costs after June 1<sup>st</sup> and makes clear that the June update does not hinder a unit changing from a Base Formula Rate to a Capital Cost Recovery Rate or vice versa.

**C. Incorporation of Clear, Task Oriented Deadlines for Frequently Mitigated Units, Associated Units and Unit-Specific Parameter Limited Schedules Requests**

In Section 6.4.2(b) and (c) of Attachment K-Appendix of the Tariff, the parallel provisions of Schedule 1 of the Operating Agreement, and Article II, Section A of Attachment M-Appendix of the Tariff, PJM proposes to incorporate a deadline of the 21<sup>st</sup> day of each month by which the IMM must issue its notice to Market Sellers that a generating unit qualifies for the offer price cap specified in Section 6.4.2(a)(iii) because it has been deemed to be a Frequently Mitigated Unit or an Associated Unit.

In Section 6.6(e) of Attachment K-Appendix of the Tariff, the parallel provisions of Schedule 1 of the Operating Agreement, and Section Article II, Section B of Attachment M-Appendix of the Tariff, PJM proposes to incorporate deadlines by which the IMM must notify a generation resource owner and PJM of its determination regarding requests for exceptions to the values specified in the Parameter Limited Schedule Matrix or the parameters defined in Section 6.6, the generation resource owner must notify PJM and the IMM of the parameter limited schedule values it will use for its offers, and PJM must notify the generation resource owner whether its exception request is approved or denied. The proposed revisions also impose a requirement on generation

resource owners to notify the IMM and PJM of a material change in the facts relied upon to support an exception request, and makes clear that PJM and the IMM may issue their findings and determinations with regard to whether an exception request is still acceptable based on this new information.

PJM also proposes to change its parameter limited schedule exception process from a bi-annual process to an annual process, consistent with stakeholder discussions currently underway.<sup>7</sup>

#### **D. Default for Missed Deadlines**

The Tariff already contains provisions allowing Market Participants and IMM to file a petition with the Commission should PJM violate its Tariff by failing to meet one of its defined deadlines. However, in certain circumstances the Tariff is unclear with respect to what happens when a deadline has been missed. Rather than remaining silent on this issue, PJM has incorporated specific language addressing the issue. For example, if a Capacity Market Seller fails to timely submit a request for an exception to the must-offer requirement, it will only be granted such exception upon receiving an Order from the Commission waiving the deadline by which a request for an exception to the must-offer requirement must be submitted to PJM and the IMM. In another example, if no determination is received from the IMM on a Capacity Market Seller's requested Market Seller Offer Cap at least ninety (90) days prior to the commencement of the offer period for the applicable RPM Auction, PJM will make the determination of the level of the Market Seller Offer Cap, which shall be deemed final.<sup>8</sup>

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<sup>7</sup> See <http://www.pjm.com/~media/committees-groups/committees/mic/20120314/20120314-item-02a-parameter-limited-schedules-presentation.ashx>.

<sup>8</sup> PJM proposes this revision because as the Commission explained in Order No. 719, PJM, as the public utility, retains the ultimate responsibility for Tariff implementation, including making the final determination

## **E. Revisions to Clarify PJM, IMM and Market Participants' Roles and Responsibilities**

PJM and the IMM also recognized that it would be beneficial to all stakeholders and the Commission to clarify the respective roles of PJM and the IMM in evaluating market participants' offers, bids, exception requests and unit-specific requests to minimize confusion and/or disagreements in the future. PJM conferred with the IMM regarding this issue and together arrived at a consensus on a set of general provisions that serve this purpose.

First, PJM proposes to add a new Section 12A to Part I of the Tariff to incorporate general provisions explaining PJM's compliance review process. Throughout the Tariff and Operating Agreement there are references to PJM making determinations regarding whether an exception request is acceptable, whether a bid or offer is acceptable and in general whether a market participant's actions are consistent with the Tariff, Operating Agreement and PJM Manuals. However, nowhere in these agreements is there a definitive explanation as to PJM's exact role in making this determination. Consequently, PJM proposes to incorporate revisions to clarify, among other things, that in making its determinations, it is considering whether an offer, bid, components of an offer or bid, decision not to offer, or exception request is compliant with the PJM Market Rules set forth in the Tariff, Operating Agreement and PJM Manuals. The proposed revisions also make clear that PJM does not make determinations of market power. Of course, PJM does perform the formulaic application

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whether the Market Seller Offer Cap is appropriate and is in conformity with Tariff requirements. See *Wholesale Competition in Regions with Organized Electric Markets*, Order No. 719, III FERC Stats. & Regs., Regs. Preambles ¶ 31,281 (2008) ("Order No. 719") at P 361, *as amended*, 126 FERC ¶ 61,261, *order on reh'g*, Order No. 719-A, III FERC Stats. & Regs., Regs. Preambles ¶ 31,292, *reh'g denied*, Order No. 719-B, 129 FERC ¶ 61,252 (2009).

of its market power mitigation tools, such as the three pivotal supplier test and the Market Structure Test pursuant to the provisions of Section 6 of Attachment DD of the Tariff.

In addition, the Tariff revisions put Market Participants on notice that if an offer or bid is consistent with the requirements of the Tariff, PJM will accept that offer or bid even if the IMM has made a finding that the offer or bid raises market power concerns, and that PJM's acceptance of the offer or bid does not take into consideration whether that offer or bid represents the potential exercise of market power. In other words, even if PJM accepts the offer or bid, if the IMM believes the offer or bid raises market power concerns it may address with the Commission its concerns that the offer or bid nonetheless reflects the exercise of market power. The tariff language intends to clarify that it would be improper for a market participant to characterize PJM's evaluation of Tariff compliance as a determination of market power that contradicts (or supports) determinations on market power issues made by the IMM. In the case of RPM auctions, the revisions recognize that the IMM can address such concerns with the Commission through the filing of a complaint because in the case of these auctions, a process is provided to allow sufficient time for the Commission and stakeholders to consider such a pleading in an orderly manner.

Accordingly, PJM proposes to incorporate into both new Section 12A of Part I of the Tariff and Section 5.8 of Attachment DD of the Tariff provisions explaining that Market Participants have exclusive responsibility for their bids and offers in the PJM markets and have exclusive liability for any adverse findings at the Commission related to the same, to ensure that Market Participants understand that PJM shall not be held

responsible or accountable for accepting a bid or offer that is consistent with the Tariff, but which the Commission later determines resulted in the exercise of market power. PJM also inserted into those sections a general provision setting forth the criteria that Market Participants must meet in order to submit any offer or bid they choose into the PJM energy or capacity markets, unless PJM determines such offer or bid is non-compliant with PJM's rules.

Second, PJM proposes revisions to Attachment M – Appendix that are intended to clarify the IMM's role and authority with respect to reviewing data, exception requests and unit-specific requests submitted by Market Participants in PJM's energy and capacity markets. PJM proposes to add a new Section D-1 to Article IV of Attachment M of the Tariff to incorporate general provisions explaining the IMM's compliance review process, as well as a new Section E-1 to Article IV of Attachment M to incorporate provision regarding the IMM's market power review process. The Tariff and Operating Agreement make reference throughout to the IMM reaching determinations and issuing findings as to exception requests, offers, levels of offers and cost inputs. However, nowhere in these agreements is there a definitive explanation of the bases for the IMM's determinations. Therefore, PJM proposes to incorporate general provisions into Attachment M to clarify, among other things, that in making its determinations, the IMM is considering whether an exception request, offer, level of offer or cost inputs raises market power concerns, including whether an offer, level of offer or decision not to offer a resource may constitute physical or economic withholding (prohibited manipulative behavior is, in this construct, a subset of the behavior constituting an exercise of market power). PJM also proposes to revise the Tariff to specify further that the IMM will refer

potential misconduct to the Commission and may petition or initiate other regulatory proceedings, including (as noted earlier) the filing of a complaint, concerning the appropriate calculation of the level of an input to an offer or bid, where the potential exercise of market power is related to a Sell Offer submitted in an RPM Auction.

Finally, PJM proposes to add a new Article XII to Attachment M of the Tariff and a provision in proposed new Section 12A of Part I of the Tariff to specify that written notice provided by the IMM or PJM to Market Participants regarding their offers, bids, exceptions requests and other market activity may be given via a letter, email or posting in an internet-based application. This is to make clear that Market Participants understand that the IMM's notification to Capacity Market Sellers of its determination regarding a requested unit-specific Avoidable Cost Rate by inserting a value in the IMM's ACR internet-based application, for example, shall be deemed to be written notice to the Capacity Market Seller.

#### **F. Elimination of the Preliminary Market Structure Screen**

The Preliminary Market Structure Screen ("PMSS") provisions in Sections 6.2(a), 6.3(a) and 6.7(b) of Attachment DD of the Tariff, as well as Article II, Section D of Attachment M-Appendix, are being deleted at the request of the IMM which advised that the PMSS no longer needs to be run since all resources fail the screen. Therefore, the IMM requested that the requirement to run the PMSS be eliminated. PJM supports the elimination of the requirement to run the PMSS given that retaining the requirement will cause the IMM staff to unnecessarily expend time and resources applying the PMSS to reach an obvious outcome. However, PJM and the IMM agree that the concept of the Unconstrained LDA Group that is currently defined in the PMSS provisions of Article II, Section D.1 of Attachment M-Appendix of the Tariff should be retained. Therefore, PJM

has created a new definition of Unconstrained LDA Group which it has incorporated into a new Section 2.68 of Attachment DD.

**G. Elimination of RPM Transition Period Provisions**

Section 17 of Attachment DD of the Tariff prescribes the rules to be applied during the Transition Period in which PJM's Reliability Pricing Model was phased in, including for the 2007/2008 through 2011/2012 Delivery Years the timing of the RPM Auctions, the Locational Deliverability Areas that must be established, market mitigation provisions and an assessment of the performance of the Reliability Pricing Model. Given that the 2007/2008 through 2011/2012 Delivery Years have concluded, and thus the Transition Period has been completed, the entirety of Section 17 is being deleted, as is a portion of Section 6.4(a) of Attachment DD of the Tariff which only applies to Market Seller Offer Caps during the first three Delivery Years of the Transition Period.

**H. Elimination of Requirement that PJM File a Complaint When an Offer Cap or EFORD Result in an Increase of Greater than Five Percent in Zonal Capacity Price**

The IMM suggested that PJM delete the entirety of Section 6.4(d) of Attachment DD and Article II, Section A.5 of Attachment M-Appendix of the Tariff, as well a portion of Section 6.6(d) of Attachment DD because they require PJM to apply to the Commission for an order, on an expedited basis, directing a Capacity Market Seller to submit a Sell Offer or EFORD consistent with PJM's determination thereof, or to offer a resource into an RPM Auction, and that PJM postpone clearing the applicable RPM Auction pending the Commission's decision on the matter, to the extent the Sell Offer or EFORD submitted by the Capacity Market Seller in the RPM Auction, or its failure to submit a resource in an RPM Auction, result in an increase of greater than 5% in any Zonal Capacity Price determined through such auction compared to the Office of the



Interconnection's determinations. The IMM advised that with the proposed revisions submitted in this filing to clarify the IMM and PJM's respective roles in ensuring that cost-based offers are competitive and to allow for sufficient time for PJM, the IMM or a Market Participant to apply to the Commission for relief, the provisions requiring PJM to apply to the Commission for such an order and postpone clearing the applicable RPM Auction pending the Commission's decision are now obsolete. The IMM was also concerned that including a 5% impact threshold for non competitive offers could be misleading about the potential significance of offers below that rather high threshold. PJM agrees and therefore proposes to delete these provisions.

#### **I. RPM Minimum Offer Price Rule**

In this filing PJM proposes revisions to Section 5.14(h) of Attachment DD concerning requests for exceptions to the RPM Minimum Offer Price Rule ("MOPR") to eliminate the requirement that a Capacity Market Seller request that PJM review an "adverse" finding of the IMM on its exception request because PJM believes that it has a duty to review all MOPR exception requests. Moreover, the provisions incorrectly suggest that PJM and IMM reviews are duplicative and sequential when they are instead conducted for different purposes. For that reason, PJM submits revisions to Section 5.14(h) that require it to do so.

PJM has also extended the deadlines by which the Capacity Market Seller must submit a MOPR exception request and the IMM and PJM must render their findings with respect to the exception request. As discussed earlier herein, the new deadline requirements are intended to give sufficient time to the IMM and market participants to submit their disputes to the Commission well in advance of the clearing of such auctions, and gives the Commission a reasonable amount of time in which to issue its

determination, rather than subjecting the Commission to the filing of emergency petitions requesting expedited review and determination.

At the IMM's request, PJM proposes to require that Capacity Market Sellers notify PJM and the IMM by no later than sixty (60) days prior to the commencement of the applicable RPM Auction of the minimum offer level of the Seller Offer to which it agrees to commit. This requirement is necessary to give PJM and the IMM sufficient advance notice of the Capacity Market Seller's intentions so that an informed decision can be made about whether raising the issue with the Commission is necessary and appropriate under the circumstances.<sup>9</sup>

PJM has also incorporated into Article II, Section D of Attachment M-Appendix provisions discussing the IMM's role and responsibility with respect to requests for exceptions to the Minimum Offer Price Rule into Article II, Section D of Attachment M-Appendix, and has revised Section 5.14(h) of Attachment DD and Article II, Section D of Attachment M-Appendix to make clear that as part of their reviews of such requests, the IMM and PJM will not only advise a Capacity Market Seller whether its requested Sell Offer is acceptable, if the requested Sell Offer is not acceptable they will calculate and provide to the Capacity Market Seller the minimum acceptable Sell Offer based on the data and documentation provided to support the request.

#### **J. Must-offer requirement correction**

Finally, PJM files herewith a revision to Section 6.6(g) of Attachment DD to correct an error therein which resulted from the deletion of the words "entered into after

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<sup>9</sup> PJM also proposes a similar eighty (80) advance notice deadline by which a Capacity Market Seller must notify the IMM and PJM whether it has reached agreement with the IMM on the level of the Market Seller Offer Cap and alternative maximum EFORD to which it agrees to commit.

March 26, 2009” in a filing PJM submitted in Docket No. ER11-2287-000 on December 2, 2010. In that filing, PJM proposed to clarify the circumstances in which a resource would qualify for an exception to the must-offer requirement because it is “reasonably expected to be physically unable to participate in the relevant auction.” PJM proposed, and the Commission accepted, the following revision to Section 6.6(g):

A Generation Capacity Resource that does not qualify for submission into an RPM Auction because it is not owned or controlled by the Capacity Market Seller for a full Delivery Year is not subject to the offer requirement hereunder; provided, however, that a Capacity Market Seller planning to transfer ownership or control of a Generation Capacity Resource during a Delivery Year pursuant to a sale or transfer agreement ~~entered into after March 26, 2009~~ shall be required to satisfy the offer requirement hereunder for the entirety of such Delivery Year and may satisfy such requirement by providing for the assumption of this requirement by the transferee of ownership or control under such agreement.

This revision was in error and should not have been made because the March 26, 2009 date was incorporated into Section 6.6(g) at the Commission’s direction.

In that regard, in an order issued on March 29, 2009 in Docket Nos. ER05-1410, EL05-148 and ER09-412, the Commission directed PJM to incorporate into the Tariff language “to ensure that an owner who plans to transfer ownership or control during the Delivery Year is required to satisfy the must offer requirement for the entire Delivery Year and to allow this obligation to be met by providing for the assumption of this commitment by any transferee of ownership/control in the relevant agreement.”<sup>10</sup> This directive was in response to an IMM concern expressed in comments it filed in the same dockets on January 9, 2009 in which it indicated that:

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<sup>10</sup> *PJM Interconnection, L.L.C.*, 126 FERC ¶ 61,275 (2009) at P159.

The Market Monitor is concerned that the tariff should clarify that an owner who plans to transfer ownership or control during the Delivery Year is required to satisfy the must offer requirement for the entire Delivery Year and that this obligation can be met by providing for the assumption of this commitment by any transferee of ownership/control in the relevant agreement. The rules should not allow exceptions to the must-offer requirement, and it would avoid confusion on this issue in the future for PJM and the Commission to put owners on notice regarding this potential exposure if future transactions omit this consideration.

On April 27, 2009, PJM submitted its compliance filing in Docket No. ER09-412-003 to add the requested clarification to Section 6.6 of Attachment DD, stating in its transmittal letter that: "Consistent with the IMM's comment, this provision puts parties on notice that they must address the must-offer requirement in their future agreements (entered into after the March 26, 2009 Order) to transfer ownership or control of PJM Capacity Resources." The March 26, 2009 date has obvious significance and therefore should not have been deleted in PJM's December 2, 2010 filing in Docket No. ER11-2287-000. Accordingly, PJM proposes in this filing to reinsert the words the words "entered into after March 26, 2009" in Section 6.6(g) of Attachment DD.

### **III. Process Issues Concerning Filing of Complaints with the Commission**

The proposed Tariff provisions and this transmittal letter reference the possibility of the IMM filing complaints with the Commission against individual Market Participants ahead of RPM Auctions. The Commission has not published detailed guidance on whether market monitors should use the process of a complaint to raise market concerns they may have, and if so, how to address certain questions that uniquely arise from such action, including the treatment of confidential data that likely will be associated with such complaints. The proposal filed here by PJM anticipates the

possibility for the IMM to bring a complaint ahead of the closing of an RPM Auction because PJM believes, if sufficient time is afforded to the Commission, questions such as the proper treatment of confidential data can be adequately managed. Indeed, PJM and its IMM will continue to discuss steps that can be taken to anticipate and prepare for such circumstances, so that mechanisms are proposed to address confidentiality at the time any hypothetical complaint might be filed so as to allow the Commission to move forward in a timely manner on any such complaints. PJM and the IMM pledge to seek input from stakeholders on the proposed mechanisms to protect confidentiality in the event of an IMM files a complaint as contemplated by this filing. There is no reason, however, for the Commission not to accept PJM's proposed Tariff revisions on this subject now, given that the Commission and litigants have generally established procedures to address confidentiality in litigated matters and the commitment that such procedures will be considered and modified, as needed, to address particular circumstances raised by a potential IMM complaint as provided in this filing.

#### **IV. Stakeholder Review**

PJM presented the revisions to the Operating Agreement to stakeholders for endorsement at the August 23, 2012 MRC meeting and for approval at the September 27, 2012 Members Committee meeting. Following discussion, the MRC endorsed the proposed Operating Agreement revisions by acclamation with no objections and one abstention<sup>11</sup> and the Members Committee approved the revisions by acclamation with no objections and fifteen abstentions.

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<sup>11</sup> See Minutes of August 23, 2012 MRC meeting posted at <http://www.pjm.com/~media/committees-groups/committees/mrc/20120927/20120927-draft-minutes-mrc-20120823.ashx>.

PJM discussed the proposed revisions to the Tariff and requested stakeholder comments and noted areas of continuing discussion regarding certain proposed revisions at each meeting at which the proposed revisions were presented on the agenda, but did not seek stakeholder endorsement therefor because stakeholders had previously indicated to PJM and the IMM that they did not object to the implementation of the proposed deadlines and that they preferred that PJM and the IMM have the substantive discussions and attempt to come to agreement concerning the wording of the proposed Tariff revisions. Nevertheless, while stakeholder approval is not required for revisions to the Tariff and was not sought in this case, PJM expressly and on numerous occasions asked for and received input from stakeholders to the extent they had questions or concerns regarding PJM's proposed revisions. In fact, PJM made revisions to the Tariff based on the feedback it received from stakeholders. At no time at the referenced MRC or Members Committee meetings did any PJM Member make a motion requesting that PJM take a stakeholder vote seeking their endorsement of PJM's proposed Tariff revisions.

PJM and the IMM advised stakeholders at the September 27, 2012 Members Committee meeting that they would continue to discuss and attempt to reach agreement on all of the proposed process improvement Tariff revisions and that PJM would post an updated version of the proposed revisions for stakeholder review and comment prior to submitting this filing with the Commission. PJM posted the updated Tariff revisions on October 10, 2012.<sup>12</sup> PJM did not make any changes to the Operating Agreement

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<sup>12</sup> See Updated proposed market rule changes posted on PJM's website at <http://www.pjm.com/~media/committees-groups/committees/mc/20120927/20120927-item-03-quality-project-imm-pjm-market-participant-process-revisions-final-tariff-revisions.ashx>.

revisions that were approved by stakeholders at the September 27, 2012 Members Committee meeting. No stakeholders have contacted PJM since the posting of the updated revisions to express any concerns or provide any feedback with regard to PJM's proposed market rule changes.

**V. Effective Date**

PJM proposes an effective date of December 17, 2012. This effective date is desired because the new market rules impose upon Market Participants an early January deadline by which they must submit data to PJM and the IMM to support their May 2013 Base Residual Auction Sell Offers.

**VI. Description of Submittal**

PJM encloses with this transmittal letter electronic versions of the revisions to the Operating Agreement and Tariff in both marked (showing the changes) and clean forms.

**VII. Correspondence**

The following individuals are designated for inclusion on the official service list in this proceeding and for receipt of any communications regarding this filing:

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## **VIII. Service**

PJM has served a copy of this filing on all PJM Members and on all state utility regulatory commissions in the PJM Region by posting this filing electronically. Electronic service is permitted as of November 3, 2008, under the Commission's regulations<sup>13</sup> pursuant to Order No. 714<sup>14</sup> and the Commission's Notice of Effectiveness of Regulations issued on October 28, 2008, in Docket No. RM01-5-000. In compliance with these regulations, PJM will post a copy of this filing to the FERC filings section of its internet site, located at the following link: <http://www.pjm.com/documents/ferc-manuals/ferc-filings.aspx> with a specific link to the newly-filed document, and will send an e-mail on the same date as this filing to all PJM Members and all state utility regulatory commissions in the PJM Region<sup>15</sup> alerting them that this filing has been made by PJM today and is available by following such link. PJM is also serving electronic copies of this filing on all persons listed on the Commission's official service list for these proceedings.

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<sup>13</sup> See 18 CFR §§ 35.2, 154.2, 154.208 and 341.2.

<sup>14</sup> Federal Energy Regulatory Commission, Order No. 714, 124 FERC ¶ 61,270.

<sup>15</sup> PJM already maintains, updates and regularly uses e-mail lists for all PJM members and affected commissions.



#### IV. **Conclusion**

For the reasons discussed herein, PJM requests that the Commission accept the proposed revisions to PJM's Tariff and RAA.

Respectfully submitted,

A handwritten signature in blue ink, reading "s/ Jacquelyn B. Hugee".

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# Attachment A

## Revisions to the PJM Open Access Transmission Tariff and PJM Operating Agreement

(Marked / Redline Format)

Section(s) of the  
PJM Open Access Transmission Tariff  
(Marked / Redline Format)

## **12A PJM Compliance Review**

The Office of the Interconnection 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 Office of the Interconnection has the final authority to determine whether an offer, bid or decision not to offer a committed resource complies with the PJM Market Rules. The Office of the Interconnection may accept an offer, bid or decision not to offer a committed resource regardless of whether the Market Monitoring Unit has made a finding that such conduct raises market power concerns, unless the Commission issues an order determining that the offer or bid must be rejected prior to the clearing of the relevant RPM Auction.

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.

A market participant may submit any offer or bid that it chooses or make a decision not to offer a committed resource, provided that the Office of the Interconnection determines that: (i) the market participant has participated in the review process conducted by the Market Monitoring Unit (without regard to whether an agreement is obtained) if required by the Tariff; (ii) offer is no higher, in the case of seller market power, or lower, in the case of buyer side market power, than the level to which the market participant has committed or agreed in the course of its participation in such review process; and (iii) the offer is compliant with the Tariff and PJM Manuals. The market participant assumes exclusive responsibility for any adverse findings at the Commission related to its offer.

The Office of the Interconnection has the exclusive authority to administer the Tariff. The Office of the Interconnection has the exclusive authority to implement the PJM Market Rules, except with respect to Attachment M and the Attachment M-Appendix and related provisions in the PJM Manuals. The Market Monitoring Unit has the exclusive authority to perform the functions set forth in Attachment M and the Attachment M-Appendix. The Office of the Interconnection shall oversee compliance with PJM Market Rules and may take action on compliance issues and/or request that the Market Monitoring Unit take action on compliance issues.

When the Tariff requires the Office of the Interconnection to provide written notice to or communication with a Market Participant, such notice or communication shall include, but not be limited to, a letter, email or posting to a Market Participant's account in the internet-based application designated by the Office of the Interconnection.

## **SCHEDULE 6A**

### **Black Start Service**

References to section numbers in this Schedule 6A refer to sections of this Schedule 6A, unless otherwise specified.

To ensure the reliable restoration following a shut down of the PJM transmission system, Black Start Service is necessary to facilitate the goal of complete system restoration. Black Start Service enables Transmission Provider and Transmission Owners to designate specific generators called Black Start Units whose location and capabilities are required to re-energize the transmission system following a system-wide blackout. The Transmission Provider shall administer the provision of Black Start Service. PJMSettlement shall be the Counterparty to the purchases and sales of Black Start Service.

### **TRANSMISSION CUSTOMERS**

1. All Transmission Customers and Network Customers must obtain Black Start Service through the Transmission Provider, with PJMSettlement as the Counterparty, pursuant to this Schedule 6A.

### **PROVISION OF BLACK START SERVICE**

2. A Black Start Unit is a generating unit that has equipment enabling it to start without an outside electrical supply or a generating unit with a high operating factor (subject to Transmission Provider concurrence) with the demonstrated ability to automatically remain operating, at reduced levels, when disconnected from the grid. A Black Start Unit shall be considered capable of providing Black Start Service only when it meets the criteria set forth in the PJM manuals. For the purposes of this Schedule 6A, the expected life of the Black Start Unit shall take into consideration expectations regarding both the enabling equipment and the generation unit itself.

3. A Black Start Plant is a generating plant that includes one or more Black Start Units. A generating plant with Black Start Units electrically separated at different voltage levels will be considered multiple Black Start Plants.

4. The Transmission Provider, in conjunction with the Transmission Owners, are responsible for developing a coordinated and efficient system restoration plan that identifies all of the locations where Black Start Units are needed. The PJM Manuals shall set forth the criteria and process for selecting or identifying the Black Start Units necessary to commit to providing Black Start Service at the identified locations. No more than three Black Start Units at a Black Start Plant will be eligible for compensation under this Schedule 6A, unless specifically approved by the Transmission Provider as an exception. No Black Start Unit shall be eligible to recover the costs of providing Black Start Service in the PJM Region unless it agrees to provide such service for a term of commitment established under section 5 or 6 below.

5. Owners of Black Start Units selected to provide Black Start Service in accordance with section 4 and electing to forego any recovery of new or additional Black Start Capital Costs shall

commit to provide Black Start Service from such Black Start Units for an initial term of no less than two years and authorize the Transmission Provider to resell Black Start Service from its Black Start Units. The term commitment shall continue to extend until the Black Start Unit owner, or the Transmission Owner, with the consent of the Transmission Provider, or the Transmission Provider, with the consent of the Transmission Owner, provides written, one-year advance notice of its intention to terminate the commitment.

6. Owners of Black Start Units selected to provide Black Start Service in accordance with section 4 and electing to recover new or additional Black Start Capital Costs shall commit to provide Black Start Service from such Black Start Units for a term based upon the age of the Black Start Unit or the longest expected life of the Incremental Black Start Capital Cost, as set forth in the applicable CRF Tables in Paragraph 18. For those Black Start Units that elect to recover new or additional Black Start Capital Costs in addition to a prior, FERC-approved cost recovery rate, the applicable commitment period shall be the longer of the FERC-approved recovery period or the applicable term of commitment as set forth in the CRF Tables in Paragraph 18. Either the Transmission Provider, with the consent of the Transmission Owner, or the Transmission Owner, with the consent of the Transmission Provider, may terminate the commitment with one year advance notice of its intention to the Black Start Unit owner, but the Transmission Owner shall reimburse the Black Start Unit owner for any amount of unrecovered Fixed Black Start Service Costs over a period not to exceed five years. A Black Start Unit owner may terminate the provision of Black Start Service with one year advance notice (or its commitment period may be involuntarily terminated pursuant to the section 15 below). Such Black Start Unit shall forego any otherwise existing entitlement to future revenues collected pursuant to this Schedule 6A and fully refund any amount of the Black Start Capital Costs recovered under a FERC-approved rate (recovered on an accelerated basis pursuant to the provisions of section 17(i)) in excess of the amount that would have been recovered pursuant to section 18 during the same period. At the conclusion of the term of commitment established under this section 6, a Black Start Unit shall commence a new term of commitment under either section 5 or 6, as applicable.

6A. In the event that a Black Start Unit fails to fulfill its commitment established under section 5 to provide Black Start Service, receipt of any Black Start Service revenues associated with the non-performing Black Start Unit shall cease and, for the period of the unit's non-performance, the Black Start Unit owner shall forfeit the Black Start Service revenues associated with the non-performing Black Start Unit that it received or would have received had the Black Start Unit performed, not to exceed revenues for a maximum of one year.

In the event that a Black Start Unit fails to fulfill its commitment established under section 6 above, such unit shall forego any otherwise existing entitlement to future revenues collected pursuant to this Schedule 6A and fully refund any amount of the Black Start Capital Costs recovered under a FERC-approved rate (recovered on an accelerated basis pursuant to the provisions of section 17(i)) in excess of the amount that would have been recovered pursuant to section 18 during the same period, but such unit remains eligible to establish a new commitment under section 5 or 6.

### **Performance Standards and Outage Restrictions**

7. Black Start Units must have the capabilities listed below. These capabilities must be demonstrated in accordance with the criteria set forth in the PJM manuals and will remain in effect for the duration of the commitment to provide Black Start Service.

- a. A Black Start Unit must be able to close its output circuit breaker to a dead (de-energized) bus within 90 minutes of a request from the Transmission Owner or the Transmission Provider.
- b. A Black Start Unit must be capable of maintaining frequency and voltage under varying load.
- c. A Black Start Unit must be able to maintain rated output for a period of time identified by each Transmission Owner's system restoration requirements, in conjunction with the Transmission Provider.

8. Each owner of Black Start Units or Black Start Plants must maintain procedures for the start-up of the Black Start Units.

9. If a Black Start Unit is a generating unit with a high operating factor (subject to Transmission Provider concurrence) with the ability to automatically remain operating at reduced levels when disconnected from the grid, this ability must be demonstrated in accordance with the criteria set forth in the PJM manuals.

10. No more than one Black Start Unit at a Black Start Plant may be subject to planned maintenance at any one time. This restriction excludes outages on common plant equipment that may make all units unavailable. A Black Start Unit not currently designated as critical and on the same voltage level may be substituted for a Black Start Unit that is subject to a planned outage to permit a concurrent planned outage of another critical Black Start Unit at the Black Start Plant to begin. The Black Start Unit used as a substitute must have had a valid annual test within the previous 12 months.

11. Concurrent planned outages at multiple Black Start Plants within a zone may be restricted based on Transmission Owner requirements for Black Start Service availability. Such restrictions must be predefined and approved by Transmission Provider in accordance with the PJM manuals.

### **Testing**

12. To verify that they can be started and operated without being connected to the Transmission System, Black Start Units designated as critical shall be tested annually in accordance with the PJM manuals. The Black Start Unit owner shall determine the time of the annual test.

13. Compensation for energy output delivered to the Transmission System during the annual test shall be provided for the Black Start Unit's minimum run time at the higher of the unit's

cost-capped offer or real-time Locational Marginal Price plus start-up and no-load costs for up to two start attempts, if necessary. For Black Start Units that are generating units with a high operating factor (subject to Transmission Provider's concurrence) with the ability to automatically remain operating at reduced levels when disconnected from the grid, an opportunity cost will be provided to compensate the unit for lost revenues during testing.

14. To receive Black Start Service revenues, a Black Start Unit must have a successful annual test on record with the Transmission Provider within the preceding 13 months.

15. If a Black Start Unit fails the annual test, the unit may be re-tested within a ten-day period without financial penalty. If the Black Start Unit does not successfully re-test within that ten-day period, monthly Black Start Service revenues will be forfeited by that unit from the time of the first unsuccessful test until such time as the unit passes an annual test. If the Black Start Unit owner determines not to make the necessary repairs to enable the Black Start Unit to pass the annual test, the Black Start Unit owner will have failed to fulfill its commitment pursuant to section 5 or section 6, whichever is applicable, of this Schedule 6A and will be subject to the additional forfeiture of revenues set forth in section 6A.

### **Revenue Requirements**

16. The annual Black Start Service revenue requirement shall be the sum of the annual Black Start Service revenue requirements for each generator that is designated as providing Black Start Service and has provided the Transmission Provider with a calculation of its annual Black Start Service revenue requirements. A separate line item shall appear on the participants' Transmission Provider bill for Black Start Service charges and credits.

17. Black Start Service revenue requirements for each Black Start Unit shall be based, -at the election of the owner, on either (i) a FERC-approved rate for the recovery of the cost of providing such service for the entire duration of the commitment term set forth in either section 5 or 6, as applicable, or (ii) the formula rates set forth in section 18 of this Schedule 6A for the commitment term set forth in Paragraph 5 or 6 as applicable. Each generator's Black Start Service revenue requirements shall be an annual calculation. Requests for Black Start Service revenue requirements and for changes to the Black Start Service revenue requirements must be submitted to the Market Monitoring Unit for review and analysis, with supporting data and documentation, pursuant to section III of Attachment M – Appendix and the PJM Manuals, with a copy to the Office of the Interconnection, by no later than May 3 of each year. The Market Monitoring Unit and the ~~generator~~ Black Start Unit owner shall attempt to come to agreement on the level of each component included in the Black Start Service revenue requirements by no later than May 14 of each year. By no later than May 21 of each year, the Black Start Unit owner shall notify the Office of the Interconnection and the Market Monitoring Unit in writing whether it agrees or disagrees with the Market Monitoring Unit's determination of the level of each component included in the Black Start Service revenue requirements. The Black Start ~~Service generator~~ Unit owner may also submit Black Start Service revenue requirements that it chooses to the Office of the Interconnection by no later than May 21 of each year, provided that (i) it has participated in good faith with the process described in this section and in section III of Attachment M - Appendix, (ii) the Black Start Service revenue requirements are no higher than



the level defined in any agreement reached by the Black Start ~~Service-generatorUnit~~ owner and the Market Monitoring Unit that resulted from the foregoing process, and (iii) the Black Start Service revenue requirements are accepted by the Office of the Interconnection subject to the criteria set forth in the Tariff and PJM Manuals.

~~In the event that the Black Start Service-generator owner and Market Monitoring Unit cannot agree on the level of each component included in the calculation of the Black Start Service revenue requirements, and the Black Start Service-generator owner submits its own values to the Office of the Interconnection that are inconsistent with the Market Monitoring Unit's determination,~~ The Office of the Interconnection shall determine whether to accept such the values submitted by the Black Start Unit owner subject to the requirements of the Tariff and the PJM Manuals by no later than May 27. If the Office of the Interconnection does not accept the values submitted by the Black Start ~~Service-generatorUnit~~ owner in such case, the Black Start ~~Service-generatorUnit~~ owner may file its proposed values with the Commission for approval. Pursuant to section III of Attachment M - Appendix, if the Office of the Interconnection accepts the Black Start Service revenue requirements submitted by the Black Start ~~Service-generatorUnit~~ owner in such case, the Market Monitoring Unit may petition the Commission for an order that would require the Black Start ~~Service-generatorUnit owner~~ to utilize the values determined by the Market Monitoring Unit or the Office of the Interconnection or such other values as determined by the Commission. The annual calculation of Black Start Service revenue requirements shall become effective on June 1 of each year, except that n~~No~~ change to a Black Start Service revenue requirement shall become effective until the existing revenue requirement has been effective for at least twelve months. Notwithstanding the foregoing, the deadlines set forth in this section 17 shall not apply to a Black Start Unit owner's election to select a new method of recovery for its Fixed BSSC.

18. The formula for calculating a generator's annual Black Start Service revenue requirement is:

$$\{(Fixed\ BSSC) + (Variable\ BSSC) + (Training\ Costs) + (Fuel\ Storage\ Costs)\} * (1 + Z)$$

For units that have the demonstrated ability to operate at reduced levels when automatically disconnected from the grid, the formula is revised to:

$$(Training\ Costs) * (1 + Z)$$

~~w~~Where:

#### **Fixed BSSC**

Black Start Units with a commitment established under Paragraph 5 shall calculate Fixed BSSC or "Fixed Black Start Service Costs" in accordance with the following Base Formula Rate:

#### **Base Formula Rate:**

### **Net CONE \* Black Start Unit Capacity \* X**

Where:

“Net CONE” is the then current installed capacity (“ICAP”) net Cost of New Entry (expressed in \$/MW year) for the CONE Area where the Black Start Unit is located.

“Black Start Unit Capacity” is the Black Start Unit’s installed capacity, expressed in MW.

“X” is the Black Start Service allocation factor unless a higher or lower -value is supported by the documentation of the actual costs of providing Black Start Service. For such units qualifying as Black Start Units on the basis of demonstrated ability to operate at reduced levels when automatically disconnected from the grid, X shall be zero. For Black Start Units with a commitment established under section 5, X shall be .01 for Hydro units, .02 for Diesel or CT units.

Black Start Units with a commitment established under Paragraph 6 above shall calculate Fixed BSSC or “Fixed Black Start Service Costs” in accordance with one of the following formulas, as applicable:

#### **Capital Cost Recovery Rate – NERC-CIP Specific Recovery**

$$(\text{Net Cone} * \text{Black Start NERC-CIP Unit Capacity} * X) + (\text{Incremental Black Start NERC-CIP Capital Costs} * \text{CRF})$$

Where:

“Net Cone” is the then current installed capacity (“ICAP”) net Cost of New Entry (expressed in \$/MW year) for the CONE are where the Black Start Unit is located.

“Black Start NERC-CIP Unit Capacity” is the Black Start Unit’s installed capacity, expressed in MW, but, for purposes of this calculation, capped at 100 MW for Hydro units, or 50 MW for Diesel or CT units.

“Incremental Black Start NERC-CIP Capital Cost” are those capital costs documented by the owner -or accepted by the Commission for the incremental equipment solely necessary to enable a Black Start Unit to maintain compliance with mandatory Critical Infrastructure Protection Reliability Standards- (as approved by the Commission and administered by the applicable Electric Reliability Organization).

“CRF” or “Capital Recovery Factor” is equal to the levelized CRF as set forth in the applicable CRF Table set forth below.

A Black Start Unit may elect to terminate forward cost recovery under this Capital Cost Recovery Rate – NERC-CIP Specific Recovery at any time and seek cost recovery under the Capital Cost Recovery Rate, pursuant to the terms and conditions set forth below.

### **Capital Cost Recovery Rate**

(FERC-approved rate) + (Incremental Black Start Capital Costs \* CRF)

Where:

“FERC-approved rate” is the Black Start Unit’s current FERC-approved recovery of costs to provide Black Start Service, if applicable. To the extent that a Black Start Unit owner is currently recovering black start costs pursuant to a FERC-approved rate, that cost recovery will be included as a formulaic component for calculating the Black Start Unit’s annual revenue requirement pursuant to this paragraph 18. However, under no circumstances will PJM or the Black Start Unit owner restructure or modify that existing FERC-approved rate without FERC approval.

“Incremental Black Start Capital Costs” are the new or additional capital costs documented by the owner or accepted by the Commission for the incremental equipment solely necessary to enable a unit to provide Black Start Service in addition to whatever other product or services such unit may provide. Such costs shall include those incurred by a Black Start Unit owner in order to meet NERC Reliability Standards that apply to Black Start Units solely on the basis of the provision of Black Start Service by such unit. However, Incremental Black Start Capital Costs shall not include any capital costs that the Black Start Unit owner is recovering for that unit pursuant to a FERC-approved recovery rate.

“CRF” or “Capital Recovery Factor “ is equal to the levelized CRF based on the age of the Black Start Unit, which is modified to provide Black Start Service, as present in the CRF Table below:

Age of Black Start Unit	Term of Black Start Commitment	Levelized CRF
1 to 5	20	0.125
6 to 10	15	0.146
11 to 15	10	0.198
16+	5	0.363

Or:

Optionally, a Black Start Unit owner may elect to apply an alternative Capital Recovery Factor, in lieu of the age-based CRF Table listed above, which is based upon to the expected Capital Improvement Lifespan of the new or additional capital improvements (as determined by the applicable depreciation period of the capital improvement, as published from time to time by the US Internal Revenue Service). The applicable term of Black Start Service commitment shall be equal to the Capital Improvement Lifespan. In the event that the Black Start Unit seeks recovery of capital improvements that are included in more than one category of Capital Improvement Lifespan (as set forth below), its applicable commitment to provide black start service for such Black Start Unit shall be the longest expected life of those new or additional capital improvements.

Capital Improvement Lifespan (Years)	Levelized CRF
16-20	0.125
11-15	0.146
6-10	0.198
1-5	0.363

In those circumstances where a Black Start Unit owner has elected to recover Incremental Black Start Capital Costs, in addition to a FERC-approved recovery rate, its applicable term of commitment shall be the greater of: (i) the FERC-approved recovery period, or; (ii) the applicable term of commitment as established by the CRF Tables above.

After a Black Start Unit has recovered its allowable Incremental Black Start Capital Costs -or Incremental Black Start NERC-CIP Capital Costs, as provided by the applicable Capital Cost Recovery Rate, and has satisfied its applicable commitment period required under Paragraph 6, the Black Start Unit shall be committed to providing black start in accordance with Paragraph 5 of this Schedule 6A and calculate its Fixed BSSC in accordance with the Base Formula Rate.

### **Variable BSSC**

All Black Start Units shall calculate Variable BSSC or “Variable Black Start Service Costs” in accordance with the following formula:

$$\text{Black Start Unit O\&M} * Y$$

Where:

“Black Start Unit O&M” are the operations and maintenance costs attributable to supporting Black Start Service and must equal the annual variable O&M outlined in the PJM Cost Development Guidelines set forth in the PJM Manuals. Such costs shall include those incurred by a Black Start Owner in order to meet NERC Reliability Standards that apply to the Black Start Unit solely on the basis of the provision of Black Start Service by unit.

“Y” is 0.01, unless a higher or lower value is supported by the documentation of costs. If a value of Y is submitted for this cost, a (1-Y) factor must be applied to the Black Start Unit’s O&M costs on the unit’s cost-based energy schedule, calculated based on the Cost Development Guidelines in the PJM Manuals.

For units qualifying as Black Start Units on the basis of a demonstrated ability to operate at reduced levels when automatically disconnected from the grid, there are no variable costs associated with providing Black Start Service and the value for Variable BSSC shall be zero.

### **Training Costs:**

All Black Start Units shall calculate Training Costs in accordance with the following formula:

50 staff hours/year/plant\*75/hour

### **Fuel Storage Costs:**

Black Start Units that cannot use oil for fuel shall calculate Fuel Storage Costs or “FSC” as zero. Black Start Units that can use oil for fuel shall calculate Fuel Storage Costs in accordance with the following formula:

$$\{ \text{MTSL} + [(\# \text{ Run Hours}) * (\text{Fuel Burn Rate})] \} * (\text{12 Month Forward Strip} + \text{Basis}) * (\text{Bond Rate})$$

Where:

Run Hours are the actual number of hours a Transmission Provider requires a Black Start Unit to run. Run Hours shall be at least 16 hours or as defined by the Transmission Owner restoration plan, whichever is less.

“Fuel Burn Rate” is actual fuel burn rate for the Black Start Unit.

“12-Month Forward Strip” is the average of forward prices for the fuel burned in the Black Start Unit traded the first business day on or following May 1.

“Basis” is the transportation costs from the location referenced in the forward price data to the Black Start Unit plus any variable taxes.

“Bond rate” is the value determined with reference to the Moody's Utility Index for bonds rated Baa1 reported the first business day on or following May 1.

“MTSL” is the “minimum tank suction level” and shall apply where no direct current pumps are available for the Black Start Unit.

For units qualifying as Black Start Units on the basis of a demonstrated ability to operate at reduced levels when automatically disconnected from the grid, there are no associated fuel storage costs and the value for FSC shall be zero.

## **Z**

Z shall be an incentive factor solely for Black Start Units with a commitment established under section 5 above and shall be ten percent. For those Black Start Units that elect to recover new or additional Black Start Capital Costs under section 6 above, the incentive factor, Z, shall be equal to zero.

At least every two years, PJM shall review the formula and its costs components set forth in this section, and report on the results of that review to stakeholders.

19. Transmission Provider or its agent shall have the right to independently audit the accounts and records of each Black Start Unit that is receiving payments for providing Black Start Service.
20. PJM shall notify its Members when a Black Start Unit seeks to recover new or additional Black Start NERC-CIP Capital Costs under Paragraph 18 no later than thirty (30) days prior to the effective date of the recovery. At the written request of any PJM Member, made simultaneously to the Market Monitoring Unit and PJM, with notice to the Black Start Unit owner, the Market Monitoring Unit shall make available to the PJM Member for inspection at the offices of the Market Monitoring Unit, all data supporting the requested new or additional NERC-CIP specific Capital Costs. The Black Start Unit owner may elect to attend this review. In all cases, the supporting data is to be held confidential and may not be distributed.
21. The Market Monitoring Unit shall include a Black Start Service summary in its annual State of the Market report which will set forth a descriptive summary of the new or additional Black Start NERC-CIP Capital Costs requested by Black Start Units, and include a list of the types of capital costs requested and the overall cost of such capital improvements on an aggregate basis such that no data is attributable to an individual Black Start Unit.

## **Credits**

22. Monthly credits are provided to generators that submit to the Transmission Provider their annual revenue requirements established pursuant to section 17 of this Schedule 6A. The generator's monthly credit is equal to 1/12 of its annual Black Start Service revenue requirement for eligible critical Black Start Units.
23. Revenue requirements for jointly owned Black Start Units will be allocated to the owners based on ownership percentage.
24. Transmission Provider shall not compensate generators for Black Start Service unless they meet the Transmission Provider criteria for Black Start Service and the criteria for Black Start Service in the Applicable Standards and provide Transmission Provider with all necessary data in accordance with this Schedule 6A and the PJM manuals.

## Charges

25. Zonal rates will be based on Black Start Service capability of generation units nominated by each transmission zone and allocated to network service customers and point-to-point reservations.
26. Revenue requirements for Black Start Units nominated by a Transmission Owner as critical (regardless of zonal location) will be allocated to the nominating Transmission Owner's zone.
27. Purchasers of Black Start Service shall be charged for such service in accordance with the following formulae.

Monthly Charge for a purchaser receiving Network Integration Transmission Service or Point-to-Point Transmission Service to serve Non-Zone Load = Allocation Factor \* Total Generation Owner Monthly Black Start Service Revenue Requirement

Monthly Charge for a purchaser receiving Network Integration Transmission Service or Point-to-Point Transmission Service to serve Zone Load = Allocation Factor \* Zonal Generation Owner Monthly Black Start Service Revenue Requirement \* Adjustment Factor

Where:

Purchaser serving Non-Zone Load is a Network Customer serving Non-Zone Network Load or a Transmission Customer where the Point of Delivery is at the boundary of the PJM Region.

Zonal Generation Owner Monthly Black Start Service Revenue Requirement is the sum of the monthly Black Start Service revenue requirements for each generator nominated by the Transmission Owners in that zone.

Total Generation Owner Monthly Black Start Service Revenue Requirement is the sum of the Zonal Generation Owner Monthly Black Start Service Revenue Requirements for all Zones in the PJM Region.

Allocation Factor is the monthly transmission use of each Network Customer or Transmission Customer per Zone or Non-Zone, as applicable, on a megawatt basis divided by the total transmission use in the Zone or in the PJM Region, as applicable, on a megawatt basis.

For Network Customers, monthly transmission use on a megawatt basis is the sum of a Network Customer's daily values of DCPZ or DCPNZ (as those terms are defined in Section 34.1) as applicable, for all days of the month.

For Transmission Customers, monthly transmission use on a megawatt basis is the sum of the Transmission Customer's hourly amounts of Reserved Capacity for each day of the month (not curtailed by PJM) divided by the number of hours in the day.

Adjustment Factor is determined as the sum of the total monthly transmission use in the PJM Region on a megawatt basis, exclusive of such use by Network Customers and Transmission Customers serving Non-Zone Load, divided by the total monthly transmission use in the PJM Region on a megawatt basis.

In the event that a single customer is serving load in more than one Zone, or serving Non-Zone Load as well as load in one or more Zones, or is both a Network Customer and a Transmission Customer, the Monthly Charge for such a customer shall be the sum of the Monthly Charges determined by applying the appropriate formulae set forth in this Schedule 6A.



## ATTACHMENT K

### **Transmission Congestion and Loss Charges and Credits**

#### **Preface.**

This Attachment and Attachment K – Appendix specify the manner in which all Transmission Customers, Network Customers, and Transmission Owners using the Transmission System to serve their Native Load Customers and Market Participants submitting virtual bids and offers will be charged for the costs of congestion and losses on the Transmission System, the manner in which all FTR holders share in the allocation of revenues received as Transmission Congestion Charges, and the manner in which Network Service Users, Market Participants in the PJM Interchange Energy Market and Transmission Customers share in the allocation of Transmission Loss Charges. In addition, Attachment K - Appendix incorporates into the Tariff for ease of reference the provisions of Schedule 1 of the Operating Agreement (“Schedule 1”). Capitalized terms used in this Attachment which are not defined in the Tariff or in the Attachment, but which are defined in Schedule 1 shall have the meanings set forth in Schedule 1.

## **6.4 Offer Price Caps.**

### **6.4.1 Applicability.**

(a) If, at any time, it is determined by the Office of the Interconnection in accordance with Sections 1.10.8 or 6.1 of this Schedule that any generation resource may be dispatched out of economic merit order to maintain system reliability as a result of limits on transmission capability, the offer prices for energy from such resource shall be capped at the levels specified below. If the Office of the Interconnection is able to do so, such offer prices shall be capped only during each hour when the transmission limit affects the schedule of the affected resource, and otherwise shall be capped for the entire Operating Day. The energy offer prices as capped shall be used to determine any Locational Marginal Price affected by the offer price of such resource.

(b) The energy offer price by any generation resource requested to be dispatched in accordance with Section 6.3 of this Schedule shall be capped at the levels specified below. If the Office of the Interconnection is able to do so, such offer prices shall be capped only during each hour when the affected resource is so scheduled, and otherwise shall be capped for the entire Operating Day. The energy offer prices as capped shall be used to determine any Locational Marginal Price affected by the price of such resource.

(c) Generation resources subject to an offer price cap shall be paid for energy at the applicable Locational Marginal Price.

(d) [Reserved for Future Use]

(e) Except for the overall \$1,000 energy offer cap, offer price caps under section 6.4 of this Schedule shall be suspended for a generation resource with respect to transmission limit(s) for any hour in which (1) there are not three or fewer generation suppliers available for redispatch under subsection (a) that are jointly pivotal with respect to such transmission limit(s), and (2) the generation resource's owner, when combined with the two largest other generation suppliers, is not pivotal ("three pivotal supplier test").

(f) For the purposes of conducting the three pivotal supplier test in subsection (e), the following applies:

(i) All megawatts of available incremental supply for which the power distribution factor ("dfax") has an absolute value equal to or greater than the dfax used by the Office of the Interconnection's system operators when evaluating the impact of generation with respect to the constraint ("effective megawatts") will be included in the available supply analysis at costs equal to the cost-based offers of the available incremental supply adjusted for dfax ("effective costs"). The Office of the Interconnection will post on the PJM website the dfax value used by operators with respect to a constraint when it varies from three percent.

(ii) The three pivotal supplier test will include in the definition of the relevant market incremental supply up to and including all such supply available at an effective cost equal

to 150% of the cost-based clearing price calculated using effective costs and effective megawatts and the need for megawatts to solve the constraint.

(iii) Offer price caps will apply on a generation supplier basis (i.e. not a generating unit by generating unit basis) and only the generation suppliers that fail the three pivotal supplier test will have their units that are dispatched with respect to the constraint offer capped. A generation supplier for the purposes of this section includes corporate affiliates. Supply controlled by a generation supplier or its affiliates by contract with unaffiliated third parties or otherwise will be included as supply of that generation supplier; supply owned by a generation supplier but controlled by an unaffiliated third party by contract or otherwise will be included as supply of that third party. A generation supplier's units are offer capped if, when combined with the two largest other generation suppliers, the generation supplier is pivotal.

(iv) In the Day-ahead Energy Market, the Office of the Interconnection shall include price sensitive demand and virtual bids and offers as demand or supply, as applicable, in the relevant market.

#### **6.4.2 Level.**

(a) The offer price cap shall be one of the amounts specified below, as specified in advance by the Market Seller for the affected unit:

(i) The weighted average Locational Marginal Price at the generation bus at which energy from the capped resource was delivered during a specified number of hours during which the resource was dispatched for energy in economic merit order, the specified number of hours to be determined by the Office of the Interconnection and to be a number of hours sufficient to result in an offer price cap that reflects reasonably contemporaneous competitive market conditions for that unit;

(ii) The incremental operating cost of the generation resource as determined in accordance with Schedule 2 of the Operating Agreement and the PJM Manuals ("incremental cost"), plus 10% of such costs;

(iii) For units that are frequently offer capped ("Frequently Mitigated Unit" or "FMU"), the following shall apply:

(a) For units that are offer capped for 60% or more of their run hours, but less than 70% of their run hours, the offer price cap will be either (i) incremental cost plus 10% or (ii) incremental cost plus \$20 per megawatt-hour;

(b) For units that are offer capped for 70% or more of their run hours, but less than 80% of their run hours, the offer price cap will be either (i) incremental cost plus 15%, not to exceed incremental cost plus \$40 per megawatt-hour, or (ii) incremental cost plus \$30 per megawatt-hour;

(c) For units that are offer capped for 80% or more of their run hours, the offer price cap will be (i) incremental costs plus 10%; (ii) incremental cost plus \$40 per megawatt-hour; or (iii) the agreed unit-specific going forward costs of the affected unit as reflected in an agreement entered pursuant to subsection (iv), below; or

(iv) An amount determined by agreement between the Office of the Interconnection and the Market Seller, provided that, if the Office of the Interconnection and the Market Seller cannot reach agreement after sixty (60) days from the commencement of negotiations, then the Market Seller may submit the rates, terms, and conditions of its proposed offer cap to the Commission for resolution.

(b) For purposes of section 6.4.2(a)(iii), a generating unit shall qualify for the specified offer cap upon issuance of written notice from the Market Monitoring Unit that it is a “Frequently Mitigated Unit” or “FMU” because it was offer capped for the applicable percentage of its run hours, determined on a rolling 12-month average basis, effective with a one month lag, by no later than the 21st day of each month pursuant to Section II.A of Attachment M-Appendix.

(c) Any generating unit, without regard to ownership, located at the same site as a Frequently Mitigated Unit qualifying under Sections 6.4.2(a)(iii) shall become an “Associated Unit” upon issuance of written notice from the Market Monitoring Unit by no later than the 21st day of each month pursuant to Section II.A of Attachment M-Appendix, that it meets all of the following criteria:

1. The unit has the identical electric impact on the transmission system as the FMU;

2. The unit (i) belongs to the same design class (where a design class includes generation that is the same size and utilizes the same technology, without regard to manufacturer) and uses the identical primary fuel as the FMU or (ii) is regularly dispatched by PJM as a substitute for the FMU based on differences in cost that result from the currently applicable FMU adder;

3. The unit (i) has an average daily cost-based offer, as measured over the preceding 12-month period, that is less than or equal to the FMU’s average daily cost-based offer adjusted to include the currently applicable FMU adder or (ii) is regularly dispatched by PJM as a substitute for the FMU based on differences in cost that result from the currently applicable FMU adder.

The offer cap for an associated unit shall be equal to the incremental operating cost of such unit, as determined in accordance with Schedule 2 of the Operating Agreement and the PJM Manuals, plus the applicable percentage adder or dollar per megawatt-hour adder as specified in Section 6.4.2(a)(iii)(a), (b), or (c) for the unit with which it is associated.

(d) For purposes of section 6.4.2(a)(iii)(c), the unit-specific going forward costs determined by agreement between the Office of the Interconnection and the Market Seller shall

include only the costs included in the Deactivation Avoidable Cost Rate, excluding costs associated with the Avoidable Project Investment Recovery Rate (APIR), set forth in section 115 of the PJM Tariff. Any costs that would be capitalized according to generally accepted accounting principles, associated carrying costs, or other fixed costs shall not be included. The agreement shall further provide that (i) in order for such costs to qualify for inclusion in the amounts determined by the agreement, the Market Seller must agree to provide to PJM relevant cost data concerning fuel, operating and maintenance, and other avoidable costs, (ii) the maintenance practices and incurrence of expense at the unit shall be subject to audit by the Office of the Interconnection, and (iii) the unit owner agrees to operate the unit in accordance with Good Utility Practice.

(e) Any agreement entered pursuant to section 6.4.2(a)(iv) shall be filed with the Commission and shall be effective only upon acceptance of the agreement for filing by the Commission; provided however, that agreements to reflect unit-specific going forward costs in accordance with section 6.4.2(a)(iii) shall be filed with the Commission for informational purposes only and shall be effective the day following the date of the informational filing.

(f) Market Participants shall have exclusive responsibility for preparing and submitting their offers on the basis of accurate information and in compliance with the FERC Market Rules, inclusive of the level of any applicable offer cap, and in no event shall PJM be held liable for the consequences of or make any retroactive adjustment to any clearing price on the basis of any offer submitted on the basis of inaccurate or non-compliant information.

## **6.6 Minimum Generator Operating Parameters – Parameter Limited Schedules**

(a) Generation resources shall submit and be subject to pre-determined limits on non-price offer parameters (“parameter limited schedules”) under the following circumstances:

(i) The Operating Reserve markets fail the three pivotal supplier test. When this subsection applies, the parameter limited schedule shall be the less limiting of the defined parameter limited schedules or the submitted offer parameters.

(ii) The Office of the Interconnection: (i) declares a Maximum Generation Emergency; (ii) issues an alert that a Maximum Generation Emergency may be declared (“Maximum Generation Emergency Alert”); or (iii) schedules units based on the anticipation of a Maximum Generation Emergency or a Maximum Generation Emergency Alert for all, or any part, of an Operating Day.

(b) Parameter limited schedules shall be defined for the following parameters:

- (i) Turn Down Ratio;
- (ii) Minimum Down Time;
- (iii) Minimum Run Time;
- (iv) Maximum Daily Starts;
- (v) Maximum Weekly Starts.

(c) The following table specifies default parameter limited schedule values, by technology type, for generation resources:

### Parameter Limited Schedule Matrix

Parameter	Minimum Down Time (Hrs)	Minimum Run Time (Hrs)	Maximum Daily Starts	Maximum Weekly Starts	Turn Down Ratio = Economic Maximum MW / Economic Minimum MW
Small Frame CT and Aero CT Units - Up to 29 MW ICAP	2.0 or Less	2.0 or Less	2 or More	14 or More	1.0 or More
Medium Frame CT and Aero CT Units - 30 MW to 65 MW ICAP	2.0 or Less	3.0 or Less	2 or More	14 or More	1.0 or More
Medium-Large Frame CT Units - 65 MW to 125 MW ICAP	3.0 or Less	5.0 or Less	2 or More	14 or More	1.0 or More
Large Frame CT Units - 135 MW to 180 MW ICAP	4.0 or Less	5.0 or Less	2 or More	14 or More	1.0 or More
Combined Cycle Units	4.0 or Less	6.0 or Less	2 or More	11 or More	1.5 or More
Petroleum and Natural Gas Steam Units - Pre-1985	7.0 or Less	8.0 or Less	1 or More	7 or More	3.0 or More
Petroleum and Natural Gas Steam Units - Post-1985	3.5 or Less	5.5 or Less	2 or More	11 or More	2.0 or More
Sub-Critical Coal Units	9.0 or Less	15.0 or Less	1 or More	5 or More	2.0 or More
Super-Critical Coal Units	84.0	24.0 or Less	1 or More	2 or ore	1.5 or More

(d) Upon receipt of proposed revised parameter limited schedule values from the Market Monitoring Unit, prepared in accordance with the procedures for periodic review included in section II.B.1 of Attachment M - Appendix, the Office of the Interconnection shall file to revise the parameter limited schedule matrix in section 6.6(c) above accordingly. In the event that the Office of the Interconnection disagrees with the values proposed for revising the matrix, the Office of the Interconnection shall file the values that it determines are appropriate.

(e) The Market Monitoring Unit shall calculate and provide generation resources unit-specific default values in accordance with section II.B of Attachment M - Appendix. Generation resources having the ability to operate on multiple fuels may submit a parameter limited schedule associated with each fuel type. In addition, a generation resource may obtain an exception from the unit-specific values ~~for the period defined in section II.B of Attachment M - Appendix~~ due to physical operational limitations that prevent the resource from meeting the minimum parameters by submitting a request for a period exception or persistent exception to the Office of the Interconnection, which shall promptly provide a copy of said request and to the Market Monitoring Unit ~~Pursuant to section II.B of Attachment M - Appendix, exception requests for period 1, which begins on April 1, must be received by the Market Monitoring Unit~~

by no later than February 28, ~~and exception requests for period 2, which begins on October 1, must be received by the Market Monitoring Unit by no later than August 31. To ensure that an exception request is received by the Market Monitoring Unit by the referenced deadline, the generation resource should submit the request to the Office of the Interconnection at least two business days prior thereto.~~ Each generation resource must supply the required historical unit operating data in support of the exception request, and if the exception requested is based on new physical operational limits for the resource for which some or all historical operating data is unavailable, the generation resource may also submit technical information about the physical operational limits for period exceptions of the resource to support the requested parameters. The Market Monitoring Unit shall evaluate such request in accordance with the process set forth in Section II.B of Attachment M - Appendix. A generation resource (i) must submit a parameter limited schedule value consistent with its agreement under such process, or, (ii) if it has not agreed with the Market Monitoring Unit on an appropriate parameter limited schedule value, may submit its own determination of an appropriate value to the Office of the Interconnection and to the Market Monitoring Unit, by no later than April 8. Each exception request must indicate the expected duration of the requested exception including the termination date thereof. The proposed parameter limited schedule value submitted by the generation resource owner is subject to approval of the Office of the Interconnection pursuant to the requirements of the Tariff and the PJM Manuals. The Office of the Interconnection may engage the services of a consultant with technical expertise to evaluate the exception request. After it has completed its evaluation of the exception request, the Office of the Interconnection shall notify the generation resource owner in writing, with a copy to the Market Monitoring Unit, whether the exception request is approved or denied, by no later than April 15. The effective date of the exception, if approved by the Office of the Interconnection, shall be no earlier than May 1. The Office of the Interconnection's determination for an exception shall continue for the period requested and, if requested, for such longer period as the Office of the Interconnection may determine is supported by the data. A generation resource owner shall notify the Market Monitoring Unit and the Office of the Interconnection of a material change to the facts relied upon by the Market Monitoring Unit and/or the Office of the Interconnection to support a parameter limited schedule exception pursuant to Section 6.7 of Schedule 1 of the Operating Agreement (or the Commission in support of its approval). The Market Monitoring Unit shall make a determination, and simultaneously notify the Office of the Interconnection and the generation resource owner, of its determination whether the existing exception should continue, the exception should be revised or that no exception is supported by the data. The Office of the Interconnection shall notify the generation resource owner in writing, with a copy to the Market Monitoring Unit, of its determination whether the exception can continue, must be revised or is no longer supported by the data given the material change in the facts relied upon to support the exception. If the Office of the Interconnection determines that the exception is no longer supported by the data, the values specified in the parameter limited schedule matrix shall apply. If the generation resource owner does not submit a complete temporary exception request to the Office of the Interconnection and the Market Monitoring Unit and the resource does not clear in the Day-ahead Energy Market, the resource schedule shall be returned to its previous parameter limits.

The Office of the Interconnection and Market Monitoring Unit will review the operations of the generation resource after each of the first three full years of operation to verify the requested



parameters. PJM will not accept the exception thereafter if it is not supported by the operating data.

(f) On a daily basis each generation resource may submit notification to the Office of the Interconnection of changed physical operational limitations at such generation resources that require a temporary exception to the otherwise applicable parameter limited schedule value. Each generation resource must supply the required operating data necessary to support the exception consistent with the requirements set forth in the PJM Manuals. Such exceptions may not continue past the next period (as described in section II.B of Attachment M - Appendix). Temporary exception requests shall be subject to acceptance by the Office of the Interconnection upon submission by a generation resource, and shall be subject to further subsequent review of the continuation of the exception by the Office of the Interconnection and the Market Monitoring Unit. Based on the further review and determination by the Office of the Interconnection and the Market Monitoring Unit, the generation resource may (i) continue to submit a parameter limited schedule value consistent with the Market Monitoring Unit's determination or, (ii) if dissatisfied with the Market Monitoring Unit's determination, continue to submit a parameter limited schedule value to the Office of Interconnection inconsistent with the Market Monitoring Unit's determination subject to acceptance by the Office of the Interconnection, with or without prior approval of the Commission.

If the Office of the Interconnection denies an exception request, in whole or in part, the generation resource may contest the denial through the PJM Dispute Resolution Process set forth in this Agreement, in which case the generation resource shall continue to submit a parameter limited schedule value as determined during the exception process until the issue has been resolved. If physical conditions at the generation resource change, such that the exception is no longer required, the generation resource is required to so inform the Office of the Interconnection and the exception shall be terminated.

If during the period that an exception agreed to by the Market Monitoring Unit applies (or is approved by the Commission), there is a material change to the facts relied upon by the Market Monitoring Unit to support such exception (or the Commission in support of its approval), the generation resource shall bring the change to the attention of the Market Monitoring Unit (or the Commission) for a determination as to whether the exception continues to be appropriate.

## **ATTACHMENT M**

### **PJM MARKET MONITORING PLAN**

References to section numbers in this Attachment M refer to sections of this Attachment M, unless otherwise specified.

#### **I. OBJECTIVES**

The objectives of this PJM Market Monitoring Plan are to maintain an independent Market Monitoring Unit that will objectively monitor, investigate, evaluate and report on the PJM Markets, including, but not limited to, structural, design or operational flaws in the PJM Markets or the exercise of market power or manipulation in the PJM Markets. The Market Monitoring Unit shall have responsibility for implementing the Plan. In the event of any conflict between a provision in the Plan and a provision of the PJM Market Rules, the provision of the Plan shall control.

#### **II. DEFINITIONS**

Unless the context otherwise requires, for purposes of this Plan, capitalized terms shall have the meanings given below or in Section I of the PJM Tariff.

(a) **“Authorized Government Agency”** means a regulatory body or government agency, with jurisdiction over PJM, the PJM Market, or any entity doing business in the PJM Market, including, but not limited to, the Commission, State Commissions, and state and federal attorneys general.

(b) **“Commission”** means the Federal Energy Regulatory Commission.

(c) **“Corrective Action”** means an action set forth in section IV.I of this Plan.

(d) **“FERC Market Rules”** mean the market behavior rules and the prohibition against electric energy market manipulation codified by the Commission in its Rules and Regulations at 18 CFR §§ 1c.2 and 35.37, respectively; the Commission-approved PJM Market Rules and any related proscriptions or any successor rules that the Commission from time to time may issue, approve or otherwise establish.

(e) **“Market Monitor”** means the head of the Market Monitoring Unit.

(f) **“Market Monitoring Unit” or “MMU”** means the organization that is responsible for implementing this Plan, including the Market Monitor.

(g) **“Market Monitoring Unit Advisory Committee” or “MMU Advisory Committee”** means the committee established under Section III.H.

(h) **“Market Participant”** means an entity that generates, transmits, distributes, purchases, or sells electricity, ancillary services, or any other product or service provided under the PJM Tariff or Operating Agreement within, into, out of, or through the PJM Region.

“Market Participant” shall not include an Authorized Government Agency that consumes energy for its own use but does not purchase or sell energy at wholesale.

(h-1) **“Market Violation”** means a tariff violation, violation of a Commission-approved order, rule or regulation, market manipulation, or inappropriate dispatch that creates substantial concerns regarding unnecessary market inefficiencies, as defined in 18 C.F.R. § 35.28(b)(8).

(i) **“OPSI Advisory Committee”** means the committee established under Section III.G.

(j) **“PJM”** means PJM Interconnection, L.L.C., including the Office of the Interconnection as referenced in the PJM Operating Agreement.

(k) **“PJM Board”** means the Board of Managers of PJM or its designated representative, exclusive of any members of PJM Management.

(l) **“PJM Entities”** mean PJM, including the Market Monitoring Unit, the PJM Board, and PJM’s officers, employees, representatives, advisors, contractors, and consultants.

(m) **“PJM Liaison”** means the liaison established under Section III.I.

(n) **“PJM Management”** means the officers, executives, supervisors and employee managers of PJM.

(o) **“PJM Manuals”** mean those documents, including business rules, produced by PJM that describe detailed PJM operating and accounting procedures that are made publicly available in hard copy and on the Internet.

(p) **“PJM Markets”** mean the PJM Interchange Energy and Capacity Markets, including the RPM auctions, together with all bilateral or other wholesale electric power and energy transactions, capacity transactions, ancillary services transactions (including black start service), transmission transactions and any other market operated under the PJM Tariff or Operating Agreement within the PJM Region.

(q) **“PJM Market Rules”** mean the rules, standards, procedures, and practices of the PJM Markets set forth in the PJM Tariff, the PJM Operating Agreement, the PJM Reliability Assurance Agreement, the PJM Consolidated Transmission Owners Agreement, the PJM Manuals, the PJM Regional Practices Document, the PJM-Midwest Independent Transmission System Operator Joint Operating Agreement or any other document setting forth market rules.

(r) **“PJM Operating Agreement”** means the Amended and Restated Operating Agreement of PJM on file with the Commission.

(s) **“PJM Regional Practices Document”** means the document of that title that compiles and describes the practices in the PJM Markets and that is made available in hard copy and on the Internet.

(t) **“PJM Reliability Assurance Agreement”** means the Reliability Assurance Agreement among Load Serving Entities in the PJM Region on file with the Commission.

(u) **“PJM Tariff”** means the Open Access Transmission Tariff of PJM on file with the Commission.

(v) **“PJM Transmission Owners Agreement”** means the PJM Consolidated Transmission Owners Agreement on file with the Commission.

(w) **“Plan”** means the PJM market monitoring plan set forth in this Attachment M.

(x) **“State”** means the District of Columbia and any state or commonwealth in the PJM Region.

(y) **“State Commission”** means any state regulatory agency having jurisdiction over retail electricity sales in any State in the PJM Region.

### **III. MARKET MONITORING UNIT**

**A. Establishment:** PJM shall establish or retain a Market Monitoring Unit to perform the functions set forth in this Plan.

**B. Composition:** The Market Monitoring Unit shall be comprised of personnel having the experience and qualifications necessary to implement this Plan. In carrying out its responsibilities, the Market Monitoring Unit may retain such consultants, attorneys and experts as it deems necessary.

**C. Independence:** The Market Monitoring Unit shall be independent from, and not subject to, the direction or supervision of any person or entity, with the exception of the PJM Board as specified in Section III.D, and the Commission. No person or entity shall have the right to preview, screen, alter, delete, or otherwise exercise editorial control over or delay Market Monitoring Unit actions or investigations or the findings, conclusions, and recommendations developed by the Market Monitoring Unit that fall within the scope of market monitoring responsibilities contained in this Plan. Nothing in this section shall be interpreted to exempt the Market Monitoring Unit from any applicable provision of state or federal law.

#### **D. Role of PJM Board:**

1. The PJM Board shall have the authority and responsibility:

a. To review the budget of the Market Monitoring Unit, consistent with the budget processes and requirements set forth in Section III.E.

b. To propose to terminate, retain by contract renewal or replace the Market Monitoring Unit, consistent with the requirements of Section III.F.

2. The PJM Board and the Market Monitor shall meet and confer from time to time on matters relevant to the discharge of the PJM Board's and the Market Monitoring Unit's duties under this Plan.

3. Other than the matters set forth in Sections III.D.1 and D.2, the PJM Board shall have no responsibility for, or authority over, the Market Monitoring Unit.

**E. Budget:**

1. **Preparation:** The Market Monitor shall prepare a budget each year of its expenses on an accrual basis in accordance with generally accepted accounting principles that is sufficient to cover the anticipated actual costs to perform the services under this Plan, including, but not limited to, salary and benefits, rent and utilities, interest, depreciation and other operating expenses.

2. **Review:** The Market Monitor shall, not later than September 15, submit a draft budget to the Finance Committee, OPSI Advisory Committee, and PJM Board for review and comment. The draft budget shall include total labor compensation, non-employee labor expense, current full-time employee and contractor head count, depreciation expense, interest expense, technology expense, other expense and capital spending, including a level of supporting detail consistent with that provided by PJM in its annual budget review to the Finance Committee. The draft budget shall also be made available for inspection by the PJM members. The Finance Committee, OPSI Advisory Committee, and PJM Board shall have until October 15 to request changes in the budget. The Market Monitor shall consider those requests and, if they are not accepted by the Market Monitor, it shall provide, in writing, to the foregoing and to PJM members, an explanation of the reasons they are not acceptable. If, after discussing requested changes with such entities, there is no remaining dispute over such requested changes, the mutually agreeable budget shall go into effect on January 1 of the subsequent year.

3. **Commission Action:** If despite the foregoing process, there remains a dispute regarding the budget, PJM shall, not later than November 1, file the Market Monitor's proposed budget with the Commission for resolution of the dispute. PJM shall accompany such filing with an explanation of the nature of the dispute and any position of the PJM Board on such dispute. Any interested person may also file comments on such dispute. The fact that PJM is submitting the dispute for Commission review shall not be deemed to provide the views of the PJM Board any special weight, nor subject them to any special burden of proof. If the Commission has not taken action by December 31, the Market Monitor's proposed budget, filed by PJM, shall take effect, subject to any subsequent Commission order.

4. **Intra-year Amendments to the Budget:** If the Market Monitor requires an intra-year amendment to the budget to perform its functions under the Plan, it shall provide the proposed amendment, the reasons for the proposed amendment and reasonable supporting detail to the Finance Committee, OPSI Advisory Committee and the PJM Board for review and comment, and if any dispute regarding such proposed amendment remains 30 days thereafter, PJM shall file the proposed budget amendment with the Commission for resolution of the dispute. The proposed budget amendment and supporting explanation shall also be made available for inspection by the PJM members.

5. **Rates:** The Market Monitor's approved budget shall be collected pursuant to Schedule 9-MMU of the PJM Tariff.

**F. Term and Termination:**

1. **Term:** Upon the effective date of this revised Attachment M, there shall be a contract between PJM and the Market Monitoring Unit that has an initial term of six (6) years. Upon the expiration of that initial six (6) year term, the contract may be renewed for subsequent term(s) of three (3) years if both parties agree. If the PJM Board does not agree to renew the contract at the end of its term, it may propose to terminate the contract pursuant to the standards and processes set forth below.

2. **Standards for Proposed Termination:**

a. **Termination During Contract Term.** During the term of any contract with the Market Monitoring Unit, the PJM Board may propose to terminate the contract as follows:

(1) During the first three (3) years following the effective date of this revised Attachment M, the PJM Board may propose to terminate the contract with the Market Monitoring Unit upon a determination of willful misconduct or gross negligence by the Market Monitoring Unit.

(2) Following the expiration of this initial three (3) year period, the PJM Board may, during the term of any contract with the Market Monitoring Unit (or any successor Market Monitoring Unit), propose to terminate the contract with the Market Monitoring Unit upon a determination that the Market Monitoring Unit has not adequately performed its functions set forth in this Plan.

b. **Termination at End of Contract Term.** At the end of the term of any contract with the Market Monitoring Unit, the PJM Board may propose to terminate the contract with the Market Monitoring Unit (or any successor Market Monitoring Unit) (1) upon a determination that the Market Monitoring Unit has not adequately performed the functions set forth in this Plan, or (2) pursuant to an open, nondiscriminatory and transparent request for proposals.

3. **Process for Proposed Termination and Replacement:**

a. **Notice.** If the PJM Board proposes to terminate the contract with the Market Monitoring Unit pursuant to the standards set forth in Section III.F.2, it shall provide one hundred twenty (120) days prior notice to the

Market Monitoring Unit, the OPSI Advisory Committee, MMU Advisory Committee and the PJM members.

b. Contents of Notice. The notice shall include the following information:

(1) If the PJM Board proposes to terminate the contract with the Market Monitoring Unit based on willful misconduct or gross negligence, it shall set forth in detail the conduct that supports such determination and shall propose an open and transparent process (such as a request for proposals) for selecting a new Market Monitoring Unit.

(2) If the PJM Board proposes to terminate the contract with the Market Monitoring Unit because it has not adequately performed its functions under this Plan, it shall set forth in detail the performance deficiencies that support that determination and shall propose an open and transparent process (such as a request for proposals) for selecting a new Market Monitoring Unit.

(3) If the PJM Board proposes to conduct a request for proposals to determine whether to replace the Market Monitoring Unit at the end of a contract term, it shall propose an open, nondiscriminatory and transparent request for proposals and shall allow the existing Market Monitoring Unit to submit a bid or proposal in that process. Any such notice shall set forth in detail the criteria applicable to such request for proposals. Such criteria shall be subject to comment as provided in Section III.F.3.c and subject to approval by the Commission.

c. Comments on the Notice. Within forty-five (45) days of any such notice, the Market Monitoring Unit, the OPSI Advisory Committee, MMU Advisory Committee, any PJM member or any stakeholder may provide advice or comment to the PJM Board regarding the proposed termination and/or the proposed process for selecting a new Market Monitoring Unit. The PJM Board shall take such advice or comment into account in reaching a final determination as to whether to propose to terminate the contract with the Market Monitoring Unit and, if so, the process for selecting a new Market Monitoring Unit.

d. FERC Filing. Upon the expiration of the one hundred twenty (120) day prior notice period, the PJM Board may, after considering the advice and comment provided pursuant to Section III.F.3.c, propose in a filing to FERC that the contract with the Market Monitoring Unit be terminated. Any such proposal shall include a detailed explanation of the reasons therefor, including an explanation of why the standards set forth in Section III.F.2 have been satisfied, and an open, nondiscriminatory and

transparent process for selecting a new Market Monitoring Unit. The Market Monitoring Unit, OPSI Advisory Committee and any interested stakeholder may submit to FERC such comments, protests or other documents and advice as appropriate on such filing.

e. Termination. The contract with the Market Monitoring Unit shall not be terminated until (1) FERC has reviewed a termination proposal by the PJM Board and any comments or protests submitted by interested parties thereon (including the OPSI Advisory Committee), (2) FERC has made a finding that the PJM Board has demonstrated that termination is justified pursuant to the standards set forth in Section III.F.2 above, (3) FERC has approved a process for selecting a new Market Monitoring Unit, and (4) a new Market Monitoring Unit has been selected pursuant to such FERC-approved process.

**G. OPSI Advisory Committee:** 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.

**H. Market Monitoring Unit Advisory Committee:** 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.

**I. PJM Liaison:** PJM may appoint an employee to act as liaison with the Market Monitoring Unit. The function of the liaison will be to facilitate communications between PJM employees and the Market Monitoring Unit, as defined in Section V.E.

#### **IV. MARKET MONITORING UNIT FUNCTIONS AND RESPONSIBILITIES**

**A. General:** The Market Monitoring Unit shall objectively monitor the competitiveness of PJM Markets, investigate violations of FERC or PJM Market Rules, recommend changes to PJM Market Rules, prepare reports for the Authorized Government Agencies and take such other actions as are specified in this Plan.



**B. Monitored Activities:** The Market Monitoring Unit shall be responsible for monitoring the following:

1. Compliance with the PJM Market Rules.
2. Actual or potential design flaws in the PJM Market Rules.
3. Structural problems in the PJM Markets that may inhibit a robust and competitive market.
4. The potential for a Market Participant to exercise market power or violate any of the PJM or FERC Market Rules or the actual exercise of market power or violation of the PJM or FERC Market Rules.
5. PJM's implementation of the PJM Market Rules or operation of the PJM Markets, as further set forth in Section IV.C.
6. Such matters as are necessary to prepare the reports set forth in Section VI.

**C. Monitoring of PJM:** The Market Monitoring Unit shall monitor PJM's implementation of the PJM Market Rules and operation of the PJM Markets. If the Market Monitoring Unit disagrees with the implementation of the PJM Market Rules or the operation of the PJM Markets, the Market Monitoring Unit may so advise PJM. Excepting matters governed by Section IV.I, if the disagreement cannot be resolved informally, the Market Monitoring Unit may inform the Commission, Authorized Government Agencies, or the PJM members. The Market Monitoring Unit shall have no authority to direct PJM to modify its operation of the PJM Markets or implementation of the PJM Market Rules.

**C-1. Monitoring of ITCs:** The Market Monitoring Unit shall monitor the services provided by the independent transmission companies (ITCs), and the ITC-PJM relationship, to detect any problems that may inhibit a robust and competitive market. Transactions utilizing the ITC Transmission Facilities shall be subject to the authority of the Market Monitoring Unit on the same basis as transactions involving any other Market Participant using other portions of the Transmission System. This provision is also found in Section 12.1 of Attachment U of the PJM Tariff.

**D. Monitoring of PJM Market Rules, PJM Tariff and Market Design:** PJM is responsible for proposing for approval by the Commission, consistent with tariff procedures and applicable law, changes to the PJM Market Rules, PJM Tariff and design of the PJM Markets. The Market Monitoring Unit shall evaluate and monitor existing and proposed PJM Market Rules, PJM Tariff provisions, and the design of the PJM Markets. However, 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 Interconnection. 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. The Market Monitoring Unit may also recommend changes to the PJM Market Rules and PJM Tariff provisions to the staff of the Commission's Office of Energy Market Regulation, State Commissions, and the PJM Board.

**D-1. Market Monitoring Unit Compliance Review:** The Market Monitoring Unit shall monitor compliance with PJM Market Rules and shall take action on compliance issues. The Market Monitoring Unit has the exclusive authority to perform the functions set forth in Attachment M and the Attachment M-Appendix. If the Market Monitoring Unit detects a Market Violation involving potential misconduct, it shall, if the applicable criteria are met, refer the matter in accordance with Section IV.I of Attachment M. If the Market Monitoring Unit detects a compliance issue and determines that there is an issue about the proper and lawful application of a rule, and the Market Monitoring Unit makes a preliminary determination that no misconduct is evident and the issue involves a difference about the appropriate calculation of the level of an input, the Market Monitoring Unit may file a petition or initiate other regulatory proceedings addressing the issue. The Market Monitoring Unit may, where it deems appropriate, submit a confidential referral and initiate a public regulatory proceeding concerning the same underlying matter.

**E. Mitigation:** The Market Monitoring Unit may, consistent with the PJM Market Rules, recommend to PJM that it take specific mitigation action that PJM is authorized to take under the PJM Market Rules to address market behavior or conditions. The Market Monitoring Unit shall not, however, have authority to require modification of PJM operational decisions, including dispatch instructions. If PJM does not accept the Market Monitoring Unit's recommendations regarding mitigation actions, the Market Monitoring Unit may report its mitigation recommendation to the Authorized Government Agencies, Commission staff, State Commissions or the PJM members, as the Market Monitoring Unit deems appropriate. Nothing in this Plan shall be deemed to supersede any authority the Market Monitoring Unit may have under the PJM Market Rules, nor shall anything in this Plan preclude any person or entity from seeking to modify such authority in a filing with the Commission.

**E-1. Market Monitoring Unit Market Power Review:** Determinations about market power are the responsibility of the Market Monitoring Unit under Attachment M and Attachment M - Appendix. The Market Monitoring Unit shall review all proposed sell offers for a determination of whether they raise market power concerns. The Market Monitoring Unit shall determine whether the level of offer or cost inputs raises market power concerns. The Attachment M-Appendix sets forth the Market Monitoring Unit's role in evaluating these offer or cost inputs. The Market Monitoring Unit and market participants shall, in accordance with the applicable procedures and as set forth elsewhere in the Tariff, attempt to come to agreement about the level or value of offers or cost inputs. The Market Monitoring Unit shall make a determination about whether offer or cost inputs or a decision not to offer a committed resource is physical or economic withholding or otherwise involves a potential exercise of market power. In the event that a market participant determines to use an offer or cost input at a level or value that the Market Monitoring Unit has found to involve a potential exercise of market power, the

Market Monitoring Unit may file a petition or initiate other regulatory proceedings addressing the issue. If the potential exercise of market power is related to a Sell Offer submitted in an RPM Auction, the Market Monitoring Unit may file a complaint with the Commission addressing the issue. If, at the time of filing, market prices that have been settled and posted could be impacted by the subject of the complaint, the Market Monitoring Unit shall refrain from requesting relief from the Commission that would upset such market prices and shall limit the requested relief to appropriate restitution and/or penalties from the implicated market participant or participants.

**F. Studies or Reports for State Commissions:** Upon request in writing by the OPSI Advisory Committee, the Market Monitoring Unit may, in its discretion, provide such studies or reports on wholesale market issues, including wholesale market transactions occurring under a state-administered auction process, as may affect one or more states within the PJM area. Any such request for such a study or report, as well as any resulting study or report, shall be made simultaneously available to the public, with simultaneous notice to PJM members, subject to the protection of confidential information.

**G. Participation in Stakeholder Processes:** The Market Monitoring Unit may, as it deems appropriate or necessary to perform its functions under this Plan, participate (consistent with the rules applicable to all PJM stakeholders) in stakeholder working groups, committees or other PJM stakeholder processes.

**H. Referrals to State Commissions:** If during the ordinary course of its activities the Market Monitoring Unit discovers evidence of wrongdoing (other than minor misconduct) that the Market Monitor reasonably believes to be within a State Commission's jurisdiction, the Market Monitoring Unit shall report such information to the State Commission(s).

**I. Corrective Actions**

1. **Required Notice and Referral to Commission of Suspected Market Violations:** Immediately upon determining that it has identified a significant market problem or a potential Market Violation by a Market Participant or PJM that may require (a) further inquiry by the Market Monitoring Unit, (b) referral for investigation by the Commission and/or (c) action by the Commission, the Market Monitoring Unit shall notify the Commission's Office of Enforcement (or any successor), either orally or in writing. Nothing in this Section IV.I.1 shall limit the ability of the Market Monitoring Unit to engage in discussions with any such Market Participant as provided in Section IV.J.1.

In addition to the notification requirement above, where the Market Monitoring Unit has reason to believe, based on sufficient credible information, that the behavior of a Market Participant or PJM may require investigation, including but not limited to suspected Market Violations, the Market Monitoring Unit will refer the matter to the Commission's Office of Enforcement (or any successor) in the manner described below.

Such a referral shall be in writing, non-public, addressed to the Commission's Director of the Office of Enforcement, with a copy directed to the Commission's Director of the Office of Energy Market Regulation and the General Counsel, and should include, but need not be limited

to, the following sufficient credible information to warrant further investigation by the Commission:

- a. The name(s) of and, if possible, the contact information for, the Market Participants that allegedly took the action(s) that constitute that alleged Market Violation(s);
- b. The date(s) or time period during which the alleged Market Violation(s) occurred and whether the alleged wrongful conduct is ongoing;
- c. The specific rule, regulation, and/or tariff provision(s) that were allegedly violated or the nature of any inappropriate dispatch that may have occurred;
- d. The specific act(s) or conduct that allegedly constituted the Market Violation;
- e. The consequences to the market resulting from the act(s) or conduct, including, if known, an estimate of economic impact on the market;
- f. If the Market Monitoring Unit believes that the act(s) or conduct constituted a violation of the anti-manipulation rule of 18 C.F.R. § 1c.2, a description of the alleged manipulative effect on market prices, market conditions, or market rules; and
- g. Any other information that the Market Monitoring Unit believes is relevant and may be helpful to the Commission.

The referral may be transmitted to the Commission electronically, by fax, by mail or by courier. The Market Monitoring Unit may also provide the Commission with oral notice of the alleged Market Violation in advance of the submission of a written, non-public referral. Following the submission of such a referral, the Market Monitoring Unit will continue to inform the Commission staff of any information relating to the referral that it discovers within the scope of its regular monitoring function, but it shall desist from, and not independently undertake any investigative steps regarding, the alleged Market Violation or referral except at the express direction of the Commission or Commission staff. The Market Monitoring Unit must also respond to requests of the Commission for additional information in connection with the alleged Market Violation that it has referred. The Market Monitoring Unit is not precluded from continuing to monitor for any repeated instances of the activity in question by the same or other Market Participants, which activity would constitute new Market Violations.

The foregoing notwithstanding, a clear, objectively identifiable violation of the following PJM Market Rules, which provide for an explicit remedy that has been accepted by the Commission and can be administered by PJM, shall not be subject to the provisions of this Section IV.I.1:

- a. Default in obligations to the Office of the Interconnection by a Market Participant in violation of Section 1.7.10(a)(v) of Attachment K – Appendix of the PJM Tariff.

b. Default in obligations to the Office of the Interconnection by a Market Participant in violation of Section 1.7.19B(e) of Attachment K – Appendix of the PJM Tariff.

c. Failure of a Capacity Market Seller or Locational UCAP Seller to obtain replacement Unforced Capacity to the extent a Generation Capacity Resource that it committed for a Delivery Year is unavailable due to a planned or maintenance outage that occurs during the Peak Season without approval of the Office of the Interconnection, in violation of Section 9(b) of Attachment DD of the PJM Tariff.

d. Failure of an Electric Distributor to maintain the required underfrequency relays in violation of Schedule 7, Section 2 of the PJM Operating Agreement.

e. Failure to submit data to the Office of the Interconnection in conformance with Schedule 11 (Data Submittals) of the Reliability Assurance Agreement.

f. Failure of Black Start Units to fulfill their commitment to provide Black Start Service under Schedule 6A the PJM Tariff.

**2. Required Referral to Commission of Perceived Market Design Flaws and Recommended Tariff Changes:**

The Market Monitoring Unit is to make a referral to the Commission in all instances where the Market Monitoring Unit has reason to believe market design flaws exist that it believes could effectively be remedied by rule or PJM Tariff changes. The Market Monitoring Unit must limit distribution of its identifications and recommendations to PJM and to the Commission in the event it believes broader dissemination could lead to exploitation, with an explanation of why further dissemination should be avoided at that time.

All referrals to the Commission relating to perceived market design flaws and recommended PJM Tariff changes related thereto are to be in writing, whether transmitted electronically, by fax, mail, or courier. The Market Monitoring Unit may alert the Commission orally in advance of the written referral.

The referral should be addressed to the Commission's Director of the Office of Energy Market Regulation, with copies directed to both the Director of the Office of Enforcement and the General Counsel.

The referral must include, but need not be limited to, the following information:

- a. A detailed narrative describing the perceived market design flaw[s];
- b. The consequences of the perceived market design flaws, including, if known, an estimate of economic impact on the market;
- c. The rule or PJM Tariff revisions that the Market Monitoring Unit believes could remedy the perceived market design flaw; and

d. Any other information the Market Monitoring Unit believes is relevant and may be helpful to the Commission.

Following a referral to the Commission, the Market Monitoring Unit must continue to notify and inform the Commission of any additional information regarding the perceived market design flaw, its effects on the market, any additional or modified observations concerning the rule or PJM Tariff changes that could remedy the perceived design flaw. The Market Monitoring Unit must also notify and inform the Commission of any recommendations made by the Market Monitoring Unit to PJM, stakeholders, Market Participants or State Commissions regarding the perceived design flaw, and any actions taken by PJM regarding the perceived design flaw.

**J. Additional Market Monitoring Unit Authority:** In addition to notifications and referrals under Sections IV.I.1 and IV.I.2, respectively, the Market Monitoring Unit shall have the additional authority described in this section, as follows:

1. Engage in discussions regarding issues relating to the PJM Market Rules or FERC Market Rules, in order to understand such issues and to attempt to resolve informally such issues or other issues.

2. Excepting matters governed by Section IV.I, file reports and make appropriate regulatory filings with Authorized Government Agencies to address design flaws, structural problems, compliance, market power, or other issues, and seek such appropriate action or make such recommendations as the Market Monitoring Unit shall deem appropriate. The Market Monitoring Unit shall make such filings or reports publicly available and provide simultaneous notice of the existence of reports to the PJM members and PJM, subject to protection of confidential information.

3. Consult with Authorized Government Agencies concerning the need for specific investigations or monitoring activities.

4. Consider and evaluate a broad range of additional enforcement mechanisms that may be necessary to assure compliance with the PJM Market Rules. As part of this evaluation process, the Market Monitoring Unit shall consult with Authorized Government Agencies and other interested parties.

5. Report directly to the Commission staff on any matter.

**K. Confidentiality:**

1. All discussions between the Market Monitoring Unit and Market Participants concerning the informal resolution of compliance issues initially shall remain confidential, subject to the provisions in subsection IV.K.3.

2. Except as provided in subsection IV.K.3, in exercising its authority to take Corrective Actions, the Market Monitoring Unit shall observe the confidentiality provisions of the PJM Operating Agreement and Attachment M - Appendix.

3. Notwithstanding anything to the contrary in this Plan or the PJM Operating Agreement and Attachment M - Appendix, the Market Monitoring Unit: (a) may disclose any information to the Commission in connection with the reporting required under Sections IV.I.1 and IV.I.2 of this Plan, provided that any written submission to the Commission that includes information that is confidential under the PJM Operating Agreement or Attachment M - Appendix shall be accompanied by a request that the information be maintained as confidential, and (b) may make reports or other regulatory filings pursuant to Section IV.J or V of this Plan if accompanied by a request that information that is confidential under the PJM Operating Agreement or Attachment M - Appendix be maintained as confidential.

## **V. INFORMATION AND DATA**

A. **Primary Information Sources:** The Market Monitoring Unit shall rely primarily upon data and information that are customarily gathered in the normal course of business of PJM and such publicly available data and information that may be helpful to accomplish the objectives of the Plan, including, but not limited to, (1) information gathered or generated by PJM in connection with its scheduling and dispatch functions, its operation of the transmission grid in the PJM Region or its determination of Locational Marginal Prices, (2) information required to be provided to PJM in accordance with the PJM Market Rules and (3) any other information that is generated by, provided to, or in the possession of PJM. The foregoing information shall be provided to the Market Monitoring Unit as soon as practicable, including, but not limited to, real-time access to scheduling, dispatch and other operational data.

B. **Other Information Requests:** If other information is required from a Market Participant, the Market Monitoring Unit shall comply with the following procedures:

1. **Request for Additional Data:** If the Market Monitoring Unit determines that additional information is required to accomplish the objectives of the Plan, the Market Monitoring Unit may make reasonable requests of the entities possessing such information to provide the information. Any such request for additional information will be accompanied by an explanation of the need for the information and the Market Monitoring Unit's inability to acquire the information from alternate sources.

2. **Failure to Comply with Request:** The information request recipient shall provide the Market Monitoring Unit with all information that is reasonably requested. If an information request recipient does not provide requested information within a reasonable time, the Market Monitoring Unit may initiate such regulatory or judicial proceedings to compel the production of such information as may be available and deemed appropriate by the Market Monitoring Unit, including petitioning the Commission for an order that the information is necessary and directing its production. An information request recipient shall have the right to respond to any such petitions and participate in the proceedings thereon.

3. **Information Concerning Possible Undue Preference:** Notwithstanding subsection V.B.1, if the Market Monitoring Unit requests information relating to possible undue preference between Transmission Owners and their affiliates, Transmission Owners and their affiliates must provide requested information to the Market Monitoring Unit within a reasonable time, as specified by the Market Monitoring Unit; provided, however, that an information request

recipient may petition the Commission for an order limiting all or part of the information request, in which event the Commission's order on the petition shall determine the extent of the information request recipient's obligation to comply with the disputed portion of the information request.

4. **Confidentiality:** Except as provided in Section IV.K.3 of this Plan, the Market Monitoring Unit shall observe the confidentiality provisions of the PJM Operating Agreement and Attachment M - Appendix with respect to information provided under this section if an entity providing the information designates it as confidential.

C. **Complaints:** Any Market Participant or other interested entity may at any time submit information to the Market Monitoring Unit concerning any matter relevant to the Market Monitoring Unit's responsibilities under the Plan, or may request the Market Monitoring Unit to make inquiry or take any action contemplated by the Plan. Such submissions or requests may be made on a confidential basis. The Market Monitoring Unit may request further information from such Market Participant or other entity and make such inquiry as the Market Monitoring Unit considers appropriate. The Market Monitoring Unit shall not be required to act with respect to any specific complaint unless the Market Monitoring Unit determines action to be warranted.

D. **Collection and Availability of Information:** The Market Monitoring Unit shall regularly collect and maintain under its sole control the information that it deems necessary for implementing the Plan. A Market Participant shall have sole responsibility to make available to the Market Monitoring Unit any information that the Market Monitoring Unit deems reasonably necessary to document, verify or investigate a claim or request by such Market Participant. All load reduction data are subject to audit by the Market Monitoring Unit. The Market Monitoring Unit shall make publicly available a detailed description of the categories of data collected by the Market Monitoring Unit. To the extent it deems appropriate and upon specific request, the Market Monitoring Unit may release other data to the public, consistent with the obligations of the Market Monitoring Unit and PJM to protect confidential, proprietary, or commercially sensitive information as provided in Attachment M - Appendix and the PJM Operating Agreement.

E. **Access to Personnel and Facilities:** The Market Monitoring Unit shall have access to PJM personnel and facilities as necessary to perform the functions set forth in this Plan. If the Market Monitoring Unit seeks data or other information from PJM personnel, it may contact the appropriate personnel that may be in possession of such data or information. If the Market Monitoring Unit seeks a formal opinion or position on a matter from PJM, it shall contact the PJM Liaison or appropriate senior management official to provide such opinion or position.

F. **Market Monitoring Indices:** The Market Monitoring Unit shall develop, and shall refine on the basis of experience, indices or other standards to evaluate the information that it collects and maintains. Prior to using any such index or standard, the Market Monitoring Unit shall provide PJM members, Authorized Government Agencies, and other interested parties an opportunity to comment on the appropriateness of such index or standard. Following such opportunity for comments, the decision to use any index or standard shall be solely that of the Market Monitoring Unit.



G. **Evaluation of Information:** The Market Monitoring Unit shall evaluate, and shall refine on the basis of experience, the information it collects and maintains, or that it receives from other sources, regarding the operation of the PJM Markets or other matters relevant to the Plan. As so evaluated, such information shall provide the basis for reports or other actions of the Market Monitoring Unit under this Plan.

## **VI. REPORTS**

A. **Reports:** The Market Monitoring Unit shall prepare and submit contemporaneously to the Commission, the State Commissions, the PJM Board, PJM Management and to the PJM Members Committee, annual state-of-the-market reports on the state of competition within, and the efficiency of, the PJM Markets, and quarterly reports that update selected portions of the annual report and which may focus on certain topics of particular interest to the Market Monitoring Unit. The quarterly reports shall not be as extensive as the annual reports. In its annual, quarterly and other reports, the Market Monitoring Unit may make recommendations regarding any matter within its purview. The annual reports shall, and the quarterly reports may, address, among other things, the extent to which prices in the PJM Markets reflect competitive outcomes, the structural competitiveness of the PJM Markets, the effectiveness of bid mitigation rules, and the effectiveness of the PJM Markets in signaling infrastructure investment. These annual reports shall, and the quarterly reports may include recommendations as to whether changes to the Market Monitoring Unit or the Plan are required. In addition, the Market Monitoring Unit shall provide to the PJM Board, in a timely manner, copies of any reports submitted to Authorized Government Agencies pursuant to Section VI.B. The Market Monitoring Unit may from time-to-time prepare and submit additional reports to the Commission, the PJM Board and PJM Members Committee as the Market Monitoring Unit may deem appropriate in the discharge of its responsibilities under the Plan.

B. **Reports to Authorized Government Agencies:** The Market Monitoring Unit shall contemporaneously submit to the Authorized Government Agencies the reports provided to the PJM Board pursuant to Section VI.A. Subject to applicable law and regulation and any other applicable provisions of the PJM Operating Agreement or PJM Tariff, the Market Monitoring Unit shall, to the extent practicable, respond to reasonable requests by Authorized Government Agencies other than the Commission for reports, subject to protection of confidential, proprietary and commercially sensitive information, the protection of the confidentiality of ongoing inquiries and monitoring activities, and the availability of resources.

C. **Public Reports:** The Market Monitoring Unit shall 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. The Market Monitoring Unit may, instead of filing a separate report, include the referenced material in a report filed pursuant to Section VI.A hereof.

D. **State Commission Tailored Requests for Information:** Subject to the confidentiality restrictions of Attachment M – Appendix, Section I.D. of the PJM Tariff and Section 18.17.4 of the PJM Operating Agreement, the Market Monitoring Unit may provide, at its discretion, information regarding general market trends and the performance of the PJM

Markets in response to a State Commission's tailored request for information unless the requested information is designed to aid state enforcement actions or impinges upon the confidentiality rules of the Federal Energy Regulatory Commission with regard to referrals.

The Market Monitoring Unit shall provide to any Market Participant whose information has been requested, or who may be affected by the release of the requested information, written notice, which shall include electronic communication, of a State Commission's tailored request for information as soon as possible, but not later than two (2) business days after the receipt of the request. If the request for tailored information seeks to obtain Confidential Information, the requirements and limitations of Section I.D. of Attachment M – Appendix shall apply. If the request for tailored information seeks to obtain information that is not Confidential Information, if the Market Participant whose information has been requested or who may be affected by the release of the requested information objects to the request or any portion thereof, it shall be given the opportunity to contest the request and to provide a contextual explanation to supplement the information produced by the Market Monitoring Unit so long as the providing of the contextual explanation does not unduly delay the release of the information to the State Commission. To register its objection, the Market Participant must request, in writing, within four (4) business days following the Market Monitoring Unit's receipt of the request, a conference with the State Commission to resolve differences concerning the scope or timing of the tailored request for information; provided, however, nothing herein shall require the State Commission to participate in any conference. Any party to the conference may seek assistance from FERC staff in resolution of the dispute or terminate the conference process at any time. Should such conference be refused or terminated by any participant or should such conference not resolve the dispute, then the Market Participant whose information has been requested or who may be affected by the release of the requested information, may file a complaint with the FERC pursuant to Rule 206 objecting to the request for tailored information within ten (10) business days following receipt of written notice from any conference participant terminating such conference. Any complaints filed at the FERC objecting to a particular request for tailored information shall be designated by the party as a "fast track" complaint and each party shall bear its own costs in connection with such FERC proceeding.

If no complaint challenging the request for tailored information is filed within the ten (10) business day period defined above, the Market Monitoring Unit shall utilize its best efforts to respond to the request for tailored information promptly. If a complaint is filed, and the Commission does not act on that complaint within ninety (90) days, the complaint shall be deemed denied and the Market Monitoring Unit shall use its best efforts to respond to the request for tailored information promptly. Notwithstanding the foregoing, if the Market Monitoring Unit determines, in its discretion, that responding to the State Commission's request for tailored information is unreasonably burdensome and/or will interfere with the Market Monitoring Unit's ability to carry out its core functions based on time and resource availability of its staff, the Market Monitoring Unit may decline such a request.

E. **IMM Staff Availability:** The Market Monitoring Unit shall make one or more staff members available for regular conference calls, which may be attended telephonically or in person, by FERC Commission staff, State Commission staff, representatives of PJM, and Market Participants.

## **VII. AUDIT**

The Market Monitoring Unit shall annually (a) document, and advise PJM of, Market Monitoring Unit's actual expenses for the prior year by no later than March 15, and provide a copy of such documentation to the Finance Committee, and (b) provide audited financial statements of the Market Monitoring Unit of revenues and expenses related solely to the services provided to PJM, audited by a nationally recognized independent third party auditor selected by the Market Monitor, by no later than May 15. The audit report shall include, but not be limited to, a review of whether MMU expenditures were for purposes consistent with the functions set forth in this Plan and shall include documentation at a level of supporting detail consistent with that required in Section III.E above. The audit report shall be provided to the PJM Board, Finance Committee, Market Monitoring Unit, OPSI, OPSI Advisory Committee, PJM and PJM members subject to the protection of confidential information. The requirement that the Market Monitoring Unit annually document and advise PJM of its expenses for the prior year is also found in subsection (e) of Schedule 9-MMU.

## **VIII. LIMITATION OF LIABILITY**

Any liability of PJM arising under or in relation to this Plan shall be subject to this Section VIII. The PJM Entities shall not be liable to any Market Participant, any party to the PJM Operating Agreement, any customer under the PJM Tariff, or any other person subject to this Plan in respect of any matter described in or contemplated by this Plan, as the same may be amended or supplemented from time to time, including but not limited to liability for any financial loss, loss of economic advantage, opportunity cost, or actual or consequential damages of any kind resulting from or attributable to any act or omission of any of the PJM Entities under this Plan. Neither the OPSI Advisory Committee nor any State Commission (including commissioners and staff persons) shall be liable to any person under this Plan for any financial loss, loss of economic advantage, opportunity cost, or actual or consequential damages associated with performing any of its functions or duties under this Plan.

## **IX. ALTERNATIVE DISPUTE RESOLUTION**

Notwithstanding any provision of the PJM Tariff or the PJM Operating Agreement, PJM and the Market Monitoring Unit shall not be required to use the dispute resolution procedures in the PJM Tariff or the PJM Operating Agreement in carrying out its duties and responsibilities under this Plan. However, nothing herein shall prevent PJM or any other person from requesting the use of the dispute resolution procedure set forth in the PJM Tariff or the PJM Operating Agreement, as applicable.

## **X. EFFECTIVE DATE**

This Plan shall be effective as of August 1, 2008.

## **XI. CODE OF ETHICS**

The Market Monitoring Unit and its employees, as applicable, shall adhere to the following Code of Ethics, which is reproduced from Section 17 of PJM Rate Schedule No. 46, Market

Monitoring Services Agreement By And Between PJM Interconnection, L.L.C. And Monitoring Analytics, LLC entered into on December 18, 2007, and filed with the Commission to comply with order of the Federal Energy Regulatory Commission, Docket Nos. EL07-56 and EL07-58 et al., issued March 21, 2008, 122 FERC ¶ 61,257.

**A. Conflicts of Interest:**

1. The Market Monitoring Unit will use its best efforts to assure that all of its employees comply with this Code of Ethics and shall take appropriate disciplinary actions against employees who violate the policy.

2. The Market Monitoring Unit and its employees assisting on market monitoring matters for PJM, and their spouses and dependent children, may not have a direct equity or other financial interest in a Market Participant or in a parent, subsidiary, or affiliate of a Market Participant. (The term “direct” is meant to exclude investments such as mutual funds in which a person has no direct control, with the exception of sector-specific mutual funds.)

3. The Market Monitoring Unit and its employees assisting on market monitoring matters for PJM, may not undertake a matter for a third party where such representation would require disclosure of market-sensitive or proprietary information of PJM.

**B. Prohibited Engagements and Conduct by the Market Monitoring Unit:**

1. Neither the Market Monitoring Unit nor its employees will be engaged to provide advice to, or undertake a matter for or on behalf of, any entity on any entity’s participation in the PJM Markets, except as otherwise authorized under subparagraphs 3 and 5 below.

2. Neither the Market Monitoring Unit nor its employees will be engaged by any entity in any litigation, open regulatory docket, alternative dispute resolution procedure, or arbitration with PJM, except as otherwise authorized under subparagraphs 3 and 5 below.

3. Neither the Market Monitoring Unit nor its employees will be engaged to appear on behalf of or against any entity before a state regulatory commission within the PJM Region in any new engagement in the electricity business except as authorized under the PJM Tariff, as requested by a state regulatory commission, or as otherwise required by law.

4. Neither the Market Monitoring Unit nor its employees shall accept any engagement by any market participant outside of the PJM Region that would require the Market Monitoring Unit to take a position adverse to any PJM member or inconsistent with any position taken by the Market Monitoring Unit in the PJM Region.

5. Neither the Market Monitoring Unit nor its employees will be engaged to appear on behalf of or against any entity before the Commission on any matter within the PJM Region in any new engagement in the electricity business except as authorized under the PJM Tariff, as requested by the Commission, or as otherwise required by law.

6. Before the Market Monitoring Unit accepts any engagement on behalf of or against an Interested Party, it must inform the PJM General Counsel and the PJM Board of such potential engagement and provide the PJM Board with an opportunity to state its objection to such representation on the ground the engagement would present a conflict of interest or result in the material appearance of conflict. At the discretion of the Market Monitoring Unit, the Market Monitoring Unit may notify the PJM General Counsel that the proposed engagement is confidential and request that the General Counsel disclose the proposed engagement only to a PJM Board subcommittee in a manner which limits the disclosure of nonpublic information. Within seven (7) business days of being informed of the potential engagement by the Market Monitoring Unit, the PJM Board shall state any objection to such potential engagement. If the Market Monitoring Unit disagrees with the PJM Board's determination regarding the potential engagement by the Market Monitoring Unit, the Parties shall jointly engage the Commission's Dispute Resolution Service to determine whether the engagement would present a conflict of interest or result in the material appearance of a conflict. Unless the Commission's Dispute Resolution Service finds no conflict of interest the Market Monitoring Unit shall be precluded from accepting the challenged engagement. For these purposes, the term "Interested Party" means (x) a Market Participant; (v) a state regulatory commission within the PJM Region; or (z) a person or entity with a significant direct financial interest in the organization, governance or operation of PJM but shall not include PJM itself.

7. Employees of the Market Monitoring Unit shall not accept gifts, payments, favors, meals, transportation, entertainment, or services (individually, "Gift," and collectively, "Gifts"), of other than nominal value within a calendar year from PJM, Authorized Government Agencies, any market participant, contractor, supplier or vendor to the Market Monitoring Unit. Except that "Gifts" shall not include any of the foregoing that is generally provided to the attendees of business meetings (e.g. PJM stakeholder meetings). Gifts not exceeding One Hundred Fifty Dollars (\$150) shall be deemed to be of "nominal value." Similarly, neither the Market Monitoring Unit nor any employee of the Market Monitoring Unit shall offer any Gift to any public official or Market Participant unless such Gifts: are legal; not offered for specific gain or reciprocal action; follow generally accepted ethical standards; and are of nominal value.

8. Neither the Market Monitoring Unit nor its employees shall serve as an officer, employee or partner of a Market Participant.

9. Neither the Market Monitoring Unit nor its employees shall engage in any transactions in the PJM markets other than the performance of their duties under the PJM Tariff.

10. Neither the Market Monitoring Unit nor its employees shall be compensated, other than by PJM, for any expert witness testimony or commercial services, either to PJM or to any other party, in connection with legal or regulatory proceeding or commercial transaction relating to PJM or to PJM's markets.

11. Employees of the Market Monitoring Unit must advise their supervisor(s) in the event they seek employment with a Market Participant, and must disqualify themselves from participating in any matter that would have an effect on the financial interest of the Market Participant while still in the employ of the Market Monitoring Unit.

C. **Compliance with All Applicable Laws:** The Market Monitoring Unit will use its best efforts to assure the compliance of the Market Monitoring Unit and its employees with all applicable laws, including but not limited to those referenced in the PJM Code of Conduct.

## **XII. NOTICE TO MARKET PARTICIPANTS**

When the Tariff requires the MMU to provide written notice to or communication with a Market Participant, such notice or communication shall include, but not be limited to, a letter, email or posting to a Market Participant's account in the internet-based application designated by the Market Monitoring Unit.

## **ATTACHMENT M – APPENDIX**

### **I. CONFIDENTIALITY OF DATA AND INFORMATION**

#### **A. Party Access:**

1. No Member shall have a right hereunder to receive or review any documents, data or other information of another Member, including documents, data or other information provided to the Market Monitoring Unit, to the extent such documents, data or information have been designated as confidential pursuant to the procedures adopted by the Market Monitoring Unit or to the extent that they have been designated as confidential by such other Member; provided, however, a Member may receive and review any composite documents, data and other information that may be developed based on such confidential documents, data or information if the composite does not disclose any individual Member's confidential data or information.

2. Except as may be provided in this Appendix, the Plan, the PJM Operating Agreement or in the PJM Tariff, the Market Monitoring Unit shall not disclose to its Members or to third parties, any documents, data, or other information of a Member or entity applying for Membership, to the extent such documents, data, or other information has been designated confidential pursuant to the procedures adopted by the Market Monitoring Unit or by such Member or entity applying for membership; provided that nothing contained herein shall prohibit the Market Monitoring Unit from providing any such confidential information to its agents, representatives, or contractors to the extent that such person or entity is bound by an obligation to maintain such confidentiality. The Market Monitoring Unit shall collect and use confidential information only in connection with its authority under this Appendix, the Plan, the PJM Operating Agreement or in the PJM Tariff and the retention of such information shall be in accordance with PJM's data retention policies.

3. Nothing contained herein shall prevent the Market Monitoring Unit from releasing a Member's confidential data or information to a third party provided that the Member has delivered to the Market Monitoring Unit specific, written authorization for such release setting forth the data or information to be released, to whom such release is authorized, and the period of time for which such release shall be authorized. The Market Monitoring Unit shall limit the release of a Member's confidential data or information to that specific authorization received from the Member. Nothing herein shall prohibit a Member from withdrawing such authorization upon written notice to the Market Monitoring Unit, who shall cease such release as soon as practicable after receipt of such withdrawal notice.

4. Reciprocal provisions to this Section I hereof, delineating the confidentiality requirements of the Office of the Interconnection and PJM members, are set forth in Section 18.17 of the PJM Operating Agreement.

#### **B. Required Disclosure:**

1. Notwithstanding anything in the foregoing section to the contrary, and subject to the provisions of Section I.C below, if the Market Monitoring Unit is required by applicable law, or in the course of administrative or judicial proceedings, to disclose to third parties, information

that is otherwise required to be maintained in confidence pursuant to the PJM Tariff, PJM Operating Agreement, Attachment M or this Appendix, the Market Monitoring Unit may make disclosure of such information; provided, however, that as soon as the Market Monitoring Unit learns of the disclosure requirement and prior to making disclosure, the Market Monitoring Unit shall notify the affected Member or Members of the requirement and the terms thereof and the affected Member or Members may direct, at their sole discretion and cost, any challenge to or defense against the disclosure requirement. The Market Monitoring Unit shall cooperate with such affected Members to the maximum extent practicable to minimize the disclosure of the information consistent with applicable law. The Market Monitoring Unit shall cooperate with the affected Members to obtain proprietary or confidential treatment of such information by the person to whom such information is disclosed prior to any such disclosure.

2. Nothing in this Section I shall prohibit or otherwise limit the Market Monitoring Unit's use of information covered herein if such information was: (i) previously known to the Market Monitoring Unit without an obligation of confidentiality; (ii) independently developed by or for the Office of the Interconnection and/or the PJM Market Monitor using non-confidential information; (iii) acquired by the Office of the Interconnection and/or the PJM Market Monitor from a third party which is not, to the Office of the Market Monitoring Unit's knowledge, under an obligation of confidence with respect to such information; (iv) which is or becomes publicly available other than through a manner inconsistent with this Section I.

3. The Market Monitoring Unit shall impose on any contractors retained to provide technical support or otherwise to assist with the implementation of the Plan or this Appendix a contractual duty of confidentiality consistent with the Plan or this Appendix. A Member shall not be obligated to provide confidential or proprietary information to any contractor that does not assume such a duty of confidentiality, and the Market Monitoring Unit shall not provide any such information to any such contractor without the express written permission of the Member providing the information.

### **C. Disclosure to FERC:**

1. Notwithstanding anything in this Section I to the contrary, if the FERC or its staff, during the course of an investigation or otherwise, requests information from the Market Monitoring Unit that is otherwise required to be maintained in confidence pursuant to the PJM Tariff, the PJM Operating Agreement, the Plan or this Appendix, the Market Monitoring Unit shall provide the requested information to the FERC or its staff, within the time provided for in the request for information. In providing the information to the FERC or its staff, the Market Monitoring Unit may, consistent with 18 C.F.R. § 388.112, request that the information be treated as confidential and non-public by the FERC and its staff and that the information be withheld from public disclosure. The Market Monitoring Unit shall notify any affected Member(s) when it is notified by FERC or its staff, that a request for disclosure of, or decision to disclose, confidential information has been received, at which time the Office of the Interconnection, the Market Monitoring Unit, and/or the affected Member may respond before such information would be made public, pursuant to 18 C.F.R. § 388.112.

2. The foregoing Section I.C.1 shall not apply to requests for production of information under Subpart D of the FERC's Rules of Practice and Procedure (18 CFR Part 385) in



proceedings before FERC and its administrative law judges. In all such proceedings, PJM and/or the Market Monitoring Unit shall follow the procedures in Section 18.17.2.

**D. Disclosure to Authorized Commissions:**

1. Notwithstanding anything in this Section I to the contrary, the Market Monitoring Unit shall disclose confidential information, otherwise required to be maintained in confidence pursuant to the PJM Tariff, the PJM Operating Agreement, the Plan or this Appendix, to an Authorized Commission under the following conditions:

(i) The Authorized Commission has provided the FERC with a properly executed Certification in the form attached to the PJM Operating Agreement as Schedule 10A. Upon receipt of the Authorized Commission's Certification, the FERC shall provide public notice of the Authorized Commission's filing pursuant to 18 C.F.R. § 385.2009. If any interested party disputes the accuracy and adequacy of the representations contained in the Authorized Commission's Certification, that party may file a protest with the FERC within 14 days of the date of such notice, pursuant to 18 C.F.R. § 385.211. The Authorized Commission may file a response to any such protest within seven days. Each party shall bear its own costs in connection with such a protest proceeding. If there are material changes in law that affect the accuracy and adequacy of the representations in the Certification filed with the FERC, the Authorized Commission shall, within thirty (30) days, submit an amended Certification identifying such changes. Any such amended Certification shall be subject to the same procedures for comment and review by the FERC as set forth above in this paragraph.

(ii) Neither the Office of the Interconnection nor the Market Monitoring Unit may disclose data to an Authorized Commission during the FERC's consideration of the Certification and any filed protests. If the FERC does not act upon an Authorized Commission's Certification within 90 days of the date of filing, the Certification shall be deemed approved and the Authorized Commission shall be permitted to receive confidential information pursuant to this Section I. In the event that an interested party protests the Authorized Commission's Certification and the FERC approves the Certification, that party may not challenge any Information Request made by the Authorized Commission on the grounds that the Authorized Commission is unable to protect the confidentiality of the information requested, in the absence of a showing of changed circumstances.

(iii) Any confidential information provided to an Authorized Commission pursuant to this Section I shall not be further disclosed by the recipient Authorized Commission except by order of the FERC.

(iv) The Market Monitoring Unit shall be expressly entitled to rely upon such Authorized Commission Certifications in providing confidential information to the Authorized Commission, and shall in no event be liable, or subject to damages or claims of any kind or nature hereunder, due to the ineffectiveness or inaccuracy of such Authorized Commission Certifications.

(v) The Authorized Commission may provide confidential information obtained from the Market Monitoring Unit to such of its employees, attorneys and contractors as needed to

examine or handle that information in the course and scope of their work on behalf of the Authorized Commission, provided that (a) the Authorized Commission has internal procedures in place, pursuant to the Certification, to ensure that each person receiving such information agrees to protect the confidentiality of such information (such employees, attorneys or contractors to be defined hereinafter as “Authorized Persons”); (b) the Authorized Commission provides, pursuant to the Certification, a list of such Authorized Persons to the Office of the Interconnection and the Market Monitoring Unit and updates such list, as necessary, every ninety (90) days; and (c) any third-party contractors provided access to confidential information sign a nondisclosure agreement in the form attached to the PJM Operating Agreement as Schedule 10 before being provided access to any such confidential information.

2. The Market Monitoring Unit may, in the course of discussions with an Authorized Person, orally disclose information otherwise required to be maintained in confidence, without the need for a prior Information Request. Such oral disclosures shall provide enough information to enable the Authorized Person or the Authorized Commission with which that Authorized Person is associated to determine whether additional Information Requests are appropriate. The Market Monitoring Unit will not make any written or electronic disclosures of confidential information to the Authorized Person pursuant to this Section I.D.2. In any such discussions, the Market Monitoring Unit shall ensure that the individual or individuals receiving such confidential information are Authorized Persons as defined herein, orally designate confidential information that is disclosed, and refrain from identifying any specific Affected Member whose information is disclosed. The Market Monitoring Unit shall also be authorized to assist Authorized Persons in interpreting confidential information that is disclosed. The Market Monitoring Unit shall provide any Affected Member with oral notice of any oral disclosure immediately, but not later than one (1) business day after the oral disclosure. Such oral notice to the Affected Member shall include the substance of the oral disclosure, but shall not reveal any confidential information of any other Member and must be received by the Affected Member before the name of the Affected Member is released to the Authorized Person; provided however, disclosure of the identity of the Affected Party must be made to the Authorized Commission with which the Authorized Person is associated within two (2) business days of the initial oral disclosure.

3. As regards Information Requests:

(i) Information Requests to the Office of the Interconnection and/or Market Monitoring Unit by an Authorized Commission shall be in writing, which shall include electronic communications, addressed to the Market Monitoring Unit, and shall: (a) describe the information sought in sufficient detail to allow a response to the Information Request; (b) provide a general description of the purpose of the Information Request; (c) state the time period for which confidential information is requested; and (d) re-affirm that only Authorized Persons shall have access to the confidential information requested. The Market Monitoring Unit shall provide an Affected Member with written notice, which shall include electronic communication, of an Information Request by an Authorized Commission as soon as possible, but not later than two (2) business days after the receipt of the Information Request.

(ii) Subject to the provisions of Section I.D.3(iii) below, the Market Monitoring Unit shall supply confidential information to the Authorized Commission in response to any

Information Request within five (5) business days of the receipt of the Information Request, to the extent that the requested confidential information can be made available within such period; provided however, that in no event shall confidential information be released prior to the end of the fourth (4th) business day without the express consent of the Affected Member. To the extent that the Market Monitoring Unit cannot reasonably prepare and deliver the requested confidential information within such five (5) day period, it shall, within such period, provide the Authorized Commission with a written schedule for the provision of such remaining confidential information. Upon providing confidential information to the Authorized Commission, the Market Monitoring Unit shall either provide a copy of the confidential information to the Affected Member(s), or provide a listing of the confidential information disclosed; provided, however, that the Market Monitoring Unit shall not reveal any Member's confidential information to any other Member.

(iii) Notwithstanding Section I.D.3(ii), above, should the Office of the Interconnection, the Market Monitoring Unit or an Affected Member object to an Information Request or any portion thereof, any of them may, within four (4) business days following the Market Monitoring Unit's receipt of the Information Request, request, in writing, a conference with the Authorized Commission to resolve differences concerning the scope or timing of the Information Request; provided, however, nothing herein shall require the Authorized Commission to participate in any conference. Any party to the conference may seek assistance from FERC staff in resolution of the dispute or terminate the conference process at any time. Should such conference be refused or terminated by any participant or should such conference not resolve the dispute, then the Office of the Interconnection, Market Monitoring Unit, or the Affected Member may file a complaint with the FERC pursuant to Rule 206 objecting to the Information Request within ten (10) business days following receipt of written notice from any conference participant terminating such conference. Any complaints filed at the FERC objecting to a particular Information Request shall be designated by the party as a "fast track" complaint and each party shall bear its own costs in connection with such FERC proceeding. The grounds for such a complaint shall be limited to the following: (a) the Authorized Commission is no longer able to preserve the confidentiality of the requested information due to changed circumstances relating to the Authorized Commission's ability to protect confidential information arising since the filing of or rejection of a protest directed to the Authorized Commission's Certification; (b) complying with the Information Request would be unduly burdensome to the complainant, and the complainant has made a good faith effort to negotiate limitations in the scope of the requested information; or (c) other exceptional circumstances exist such that complying with the Information Request would result in harm to the complainant. There shall be a presumption that "exceptional circumstances," as used in the prior sentence, does not include circumstances in which an Authorized Commission has requested wholesale market data (or Market Monitoring Unit workpapers that support or explain conclusions or analyses) generated in the ordinary course and scope of the operations of the Market Monitoring Unit. There shall be a presumption that circumstances in which an Authorized Commission has requested personnel files, internal emails and internal company memos, analyses and related work product constitute "exceptional circumstances" as used in the prior sentence. If no complaint challenging the Information Request is filed within the ten (10) day period defined above, the Office of the Interconnection and/or Market Monitoring Unit shall utilize its best efforts to respond to the Information Request promptly. If a complaint is filed, and the Commission does not act on that complaint within ninety (90) days, the complaint shall be

deemed denied and the Market Monitoring Unit shall use its best efforts to respond to the Information Request promptly.

(iv) Any Authorized Commission may initiate appropriate legal action at the FERC within ten (10) business days following receipt of information designated as “Confidential,” challenging such designation. Any complaints filed at FERC objecting to the designation of information as “Confidential” shall be designated by the party as a “fast track” complaint and each party shall bear its own costs in connection with such FERC proceeding. The party filing such a complaint shall be required to prove that the material disclosed does not merit “Confidential” status because it is publicly available from other sources or contains no trade secret or other sensitive commercial information (with “publicly available” not being deemed to include unauthorized disclosures of otherwise confidential data).

4. In the event of any breach of confidentiality of information disclosed pursuant to an Information Request by an Authorized Commission or Authorized Person:

(i) The Authorized Commission or Authorized Person shall promptly notify the Market Monitoring Unit, who shall, in turn, promptly notify any Affected Member of any inadvertent or intentional release, or possible release, of confidential information provided pursuant to this Section I.

(ii) The Office Market Monitoring Unit shall terminate the right of such Authorized Commission to receive confidential information under this Section I upon written notice to such Authorized Commission unless: (i) there was no harm or damage suffered by the Affected Member; or (ii) similar good cause is shown. Any appeal of the Market Monitoring Unit’s actions under this Section I shall be to Commission. An Authorized Commission shall be entitled to reestablish its certification as set forth in Section I.D.1 by submitting a filing with the Commission showing that it has taken appropriate corrective action. If the Commission does not act upon an Authorized Commission’s recertification filing with sixty (60) days of the date of the filing, the recertification shall be deemed approved and the Authorized Commission shall be permitted to receive confidential information pursuant to this section.

(iii) The Office of the Interconnection, the Market Monitoring Unit, and/or the Affected Member shall have the right to seek and obtain at least the following types of relief: (a) an order from the FERC requiring any breach to cease and preventing any future breaches; (b) temporary, preliminary, and/or permanent injunctive relief with respect to any breach; and (c) the immediate return of all confidential information to the Market Monitoring Unit.

(iv) No Authorized Person or Authorized Commission shall have responsibility or liability whatsoever under this section for any and all liabilities, losses, damages, demands, fines, monetary judgments, penalties, costs and expenses caused by, resulting from, or arising out of or in connection with the release of confidential information to persons not authorized to receive it, provided that such Authorized Person is an agent, servant, employee or member of an Authorized Commission at the time of such unauthorized release. Nothing in this Section I.D.4(iv) is intended to limit the liability of any person who is not an agent, servant, employee or member of an Authorized Commission at the time of such unauthorized release for any and all

economic losses, damages, demands, fines, monetary judgments, penalties, costs and expenses caused by, resulting from, or arising out of or in connection with such unauthorized release.

(v) Any dispute or conflict requesting the relief in Section I.D.4(ii) or I.D.4(iii)(a) above, shall be submitted to the FERC for hearing and resolution. Any dispute or conflict requesting the relief in Section I.D.4(iii)(c) above may be submitted to FERC or any court of competent jurisdiction for hearing and resolution.

## **E. Market Monitoring:**

1. Subject to the requirements of Section E.2, the Market Monitoring Unit may release confidential information of Public Service Electric & Gas Company (“PSE&G”), Consolidated Edison Company of New York (“ConEd”), and their affiliates, and the confidential information of any Member regarding generation and/or transmission facilities located within the PSE&G Zone to the New York Independent System Operator, Inc. (“New York ISO”), the market monitoring unit of New York ISO and the New York ISO Market Advisor to the limited extent that PJM or the Market Monitoring Unit determines necessary to carry out the responsibilities of PJM, New York ISO or the market monitoring units of PJM and the New York ISO under FERC Opinion No. 476 (see Consolidated Edison Company v. Public Service Electric and Gas Company, et al., 108 FERC ¶ 61,120, at P 215 (2004)) to conduct joint investigations to ensure that gaming, abuse of market power, or similar activities do not take place with regard to power transfers under the contracts that are the subject of FERC Opinion No. 476.

2. The Market Monitoring Unit may release a Member’s confidential information pursuant to Section I.E.1 to the New York ISO, the market monitoring unit of the New York ISO and the New York ISO Market Advisor only if the New York ISO, the market monitoring unit of the New York ISO and the New York ISO Market Advisor are subject to obligations limiting the disclosure of such information that are equivalent to or greater than the limitations on disclosure specified in this Section I.E. Information received from the New York ISO, the market monitoring unit of the New York ISO, or the New York ISO Market Advisor under Section I.E.1 that is designated as confidential shall be protected from disclosure in accordance with this Section I.E.

## **II. DEVELOPMENT OF INPUTS FOR PROSPECTIVE MITIGATION**

### **A. Offer Price Caps:**

1. The Market Monitor or his designee shall advise the Office of the Interconnection whether it believes that the cost references, methods and rules included in the Cost Development Guidelines are accurate and appropriate, as specified in the PJM Manuals.

2. The Market Monitoring Unit shall review upon request of a Market Seller, and may review upon its own initiative at any time, the incremental costs (defined in Section 6.4.2 of Schedule 1 of the Operating Agreement) included in the Offer Price Cap of a generating unit in order to ensure that the Market Seller has correctly applied the Cost Development Guidelines and that the level of the Offer Price Cap is otherwise acceptable.

3. On or before the 21st day of each month, the Market Monitoring Unit shall compute the cost capping percentages for each Frequently Mitigated Unit and Associated Unit for the prior rolling twelve-month period, consistent with Section 6.4.2 of Schedule 1 of the Operating Agreement and The Market Monitoring Unit shall issue a written notice to a unit, as applicable, indicating that it is a “Frequently Mitigated Unit” or “FMU,” or an “Associated Unit,” and provide a copy of the same to the Office of the Interconnection, when the Market Monitoring Unit determines that the unit meets the criteria delineated in Section 6.4.2 of Schedule 1 of the Operating Agreement.

4. Notwithstanding the number of jointly pivotal suppliers in any hour, if the Market Monitoring Unit determines that a reasonable level of competition will not exist based on an evaluation of all facts and circumstances, it may propose to the Commission the removal of offer-capping suspensions otherwise authorized by Section 6.4 of Schedule 1 of the Operating Agreement. Such proposals shall take effect upon Commission acceptance of the Market Monitoring Unit’s filing.

#### **B. Minimum Generator Operating Parameters:**

1. The Market Monitoring Unit shall provide to the Office of the Interconnection a table of default unit class specific parameter limits to be known as the “Parameter Limited Schedule Matrix” to be included in Section 6.6(c) of Schedule 1 of the Operating Agreement. The Parameter Limited Schedule Matrix shall include default values on a unit-type basis as specified in Section 6.6(c). The Market Monitoring Unit shall review the Parameter Limited Schedule Matrix twice yearly annually, and, in the event it determines that revision is appropriate, shall provide a revised matrix to the Office of the Interconnection by no later than December 31 and June 30, respectively, prior to the bi-annual enrollment periods for the submission of start-up and no-load costs on April 1 and October 1.

2. The Market Monitoring Unit shall notify gGeneration Capacity Resources and the Office of the Interconnection no later than March 15 and September 15 each year April 1 of its determination regarding each request for a period exception or persistent exception to a value specified in the Parameter Limited Schedule Matrix or the parameters defined in Section 6.6 of Schedule 1 of the Operating Agreement and the PJM Manuals, provided that the Market Monitoring Unit receives such request by no later than February 28 or August 31, respectively. The Market Monitoring Unit’s determination for an exception shall continue for a period of no less than six months, and, if requested, for such longer period as the Market Monitoring Unit may determine is supported by the data.

3. When a gGeneration Capacity Resource notifies the Market Monitoring Unit of a material change to the facts relied upon by the Market Monitoring Unit and/or the Office of the Interconnection to support a parameter limited schedule exception pursuant to Section 6.7 of Schedule 1 of the Operating Agreement (or the Commission in support of its approval), the Market Monitoring Unit shall make a determination, and notify the Office of the Interconnection and the generation resource, either agree to continue that the existing exception should continue, agree to a revised that the exception should be revised, or find that no exception is supported by the data, in which case the values specified in the parameter limited schedule matrix shall apply.

4. The Market Monitoring Unit shall notify the Office of the Interconnection of any risk premium to which it and a nuclear generation resource agree or its determination if agreement is not obtained. If a nuclear generation resource submits a risk premium inconsistent with its agreement or inconsistent with the Market Monitoring Unit's determination regarding such risk premium, the Market Monitoring Unit may exercise its powers to inform Commission staff of its concerns and request a determination that would require the nuclear generation resource to submit an appropriate risk premium.

**C. RPM Must-Offer Obligation:**

1. The Market Monitoring Unit shall maintain, post on its website and provide to the Office of the Interconnection prior to each RPM Auction (updated, as necessary, on at least a quarterly basis), a list of Existing Generation Capacity Resources located in the PJM Region that are subject to the "must-offer" obligation set forth in Section 6.6 of Attachment DD.

2. The Market Monitoring Unit shall evaluate requests submitted by Capacity Market Sellers for a determination that a Generation Capacity Resource, or any portion thereof, be removed from Capacity Resource status or exempted from status as a Generation Capacity Resource subject to Section II.C.1 above and inform both the Capacity Market Seller and the Office of the Interconnection of such determination in writing by no later ninety (90) days prior to the commencement of the offer period for the applicable RPM Auction. A Generation Capacity Resource located in the PJM Region shall not be removed from Capacity Resource status to the extent the resource is committed to service of PJM loads as a result of an RPM Auction, FRR Capacity Plan, Locational UCAP transaction and/or by designation as a replacement resource under this Attachment DD.

3. The Market Monitoring Unit shall evaluate the data and documentation provided to it by a potential Capacity Market Seller to establish the EFORD to be included in a Sell Offer applicable to each resource pursuant to Section 6.6(b) of Attachment DD. If a Capacity Market Seller timely submits a request for an alternative maximum level of EFORD that may be used in a Sell Offer for RPM Auctions held prior to the date on which the final EFORDs used for a Delivery Year are posted, the Market Monitoring Unit shall attempt to reach agreement with the Capacity Market Seller on the alternate maximum level of the EFORD by no later than ninety (90) days prior to the commencement of the offer period for the Base Residual Auction for the applicable Delivery Year. By no later than ninety (90) days prior to the commencement of the offer period for the Base Residual Auction for the applicable Delivery Year, the Market Monitoring Unit then it shall notify the Office of the Interconnection in writing, notifying the Capacity Market Seller by copy of the same, of any alternative maximum EFORD to which it and the ~~Generation Capacity Resource~~Capacity Market Seller agree or its determination of the alternative maximum EFORD if agreement is not obtained.

4. The Market Monitoring Unit shall consider the documentation provided to it by a potential Capacity Market Seller pursuant to Section 6.6 of Attachment DD, and determine whether a resource owned or controlled by such Capacity Market Seller meets the criteria to qualify for an exception to the must-offer requirement because the resource (i) is reasonably expected to be physically unable to participate in the relevant auction; (ii) has a financially and physically firm commitment to an external sale of its capacity; or (iii) was interconnected to the

Transmission System as an Energy Resource and not subsequently converted to a Capacity Resource. The Market Monitoring Unit shall ~~inform both~~ notify the Capacity Market Seller and the Office of the Interconnection of its determination by no later than ninety (90) days prior to the commencement of the offer period for the applicable RPM Auction ~~within ten (10) business days of its initial receipt of the documentation.~~

In order to establish that a resource is reasonably expected to be physically unable to participate in the relevant auction as set forth in (i) above, the Capacity Market Seller must demonstrate that:

A. It has a documented plan in place to retire the resource prior to or during the Delivery Year, and has submitted a notice of Deactivation to the Office of the Interconnection consistent with Section 113.1 of the PJM Tariff, without regard to whether the Office of the Interconnection has requested the Capacity Market Seller to continue to operate the resource beyond its desired deactivation date in accordance with Section 113.2 of the PJM Tariff for the purpose of maintaining the reliability of the PJM Transmission System and the Capacity Market Seller has agreed to do so;

B. Significant physical operational restrictions cause long term or permanent changes to the installed capacity value of the resource, or the resource is under major repair that will extend into the applicable Delivery Year, that will result in the imposition of RPM performance penalties pursuant to Attachment DD of the PJM Tariff;

C. The Capacity Market Seller is involved in an ongoing regulatory proceeding (e.g. – regarding potential environmental restrictions) specific to the resource and has received an order, decision, final rule, opinion or other final directive from the regulatory authority that will result in the retirement of the resource; or,

D. A resource considered an Existing Generating Capacity Resource because it cleared an RPM Auction for a Delivery Year prior to the Delivery Year of the relevant auction, but which is not yet in service, is unable to achieve full commercial operation prior to the Delivery Year of the relevant auction. The Capacity Market Seller must submit to the Office of the Interconnection and the Market Monitoring Unit a written sworn, notarized statement of a corporate officer certifying that the resource will not be in full commercial operation prior to the referenced Delivery Year.

5. If a Capacity Market Seller submits for the portion of a Generation Capacity Resource that it owns or controls, and the Office of Interconnection accepts, a Sell Offer (i) at a level of installed capacity that the Market Monitoring Unit believes is inconsistent with the level established under Section 5.6.6 of Attachment DD of the PJM Tariff, (ii) at a level of installed capacity inconsistent with its determination of eligibility for an exception listed in Section II.C.4 above, or (iii) a maximum EFORD that the Market Monitoring Unit believes is inconsistent with the maximum level determined under Section II.C.3 of this Appendix, the Market Monitoring Unit may exercise its powers to inform Commission staff of its concerns and/or request a determination from the Commission that would require the Generation Capacity Resource to submit a new or revised Sell Offer, notwithstanding any determination to the contrary made under Section 6.6 of Attachment DD.



The Market Monitoring Unit shall also consider the documentation provided by the Capacity Market Seller pursuant to Section 6.6 of Attachment DD, for generation resources for which the Office of the Interconnection has not approved an exception to the must-offer requirement as set forth in Section 6.6(g) of Attachment DD, to determine whether the Capacity Market Seller's failure to offer part or all of one or more generation resources into an RPM Auction would result in an increase of greater than five percent in any Zonal Capacity Price determined through such auction as required by Section 6.6(i) of Attachment DD, and shall inform both the Capacity Market Seller and the Office of the Interconnection of its determination by no later than two (2) business days after the close of the offer period for the applicable RPM Auction~~within ten (10) business days of its initial receipt of the documentation.~~

**D. Unit Specific Minimum Sell Offers:**

1. If a Capacity Market Seller timely submits an exception request under Section 5.14(h) of Attachment DD, with all of the required supporting documentation, the Market Monitoring Unit shall review the request and documentation and shall provide in writing to the Capacity Market Seller and the Office of the Interconnection by no later than ninety (90) days prior the commencement of the offer period for the RPM Auction in which it seeks to submit its Sell Offer (a) its determination whether the level of the proposed Sell Offer raises market power concerns, and (b) if so it shall calculate and provide to such Capacity Market Seller a minimum Sell Offer based on the data and documentation received.

2. All data submitted to the Office of the Interconnection or the Market Monitoring Unit by a Market Participant is subject to verification by the Market Monitoring Unit.

**Preliminary Market Structure Screen:**

~~1. In sufficient time to permit the posting required by Section 6.2(a) of Attachment DD, the Market Monitoring Unit shall apply the Preliminary Market Structure Screen to identify the LDAs in which Capacity Market Sellers must provide the data specified in Section 6.7(b) of Attachment DD for any auction conducted with respect to such Delivery Year and whether Capacity Market Sellers must provide this data for the entire PJM Region. For each LDA and for the PJM Region, the Preliminary Market Structure Screen will be based on: (1) the Unforced Capacity available for such Delivery Year from Generation Capacity Resources located in such area; and (2) the Locational Deliverability Area Reliability Requirement and the PJM Reliability Requirement. For purposes of this screen, any LDA for which a separate Variable Resource Requirement Curve has not been established under Section 5.10 of Attachment DD shall be combined with all other such LDAs that form an electrically contiguous area ("Unconstrained LDA Group"), and the screen shall be applied to such area in the aggregate, rather than to each such LDA individually. Any such Unconstrained LDA Groups shall be identified in the posting required by Section 6.2(a) of Attachment DD.~~

~~2. An LDA, Unconstrained LDA Group, or the entire PJM Region shall fail the Preliminary Market Structure Screen, and Capacity Market Sellers owning or controlling any Generation Capacity Resource located in such LDA, Unconstrained LDA Group, or region shall be required to provide the information specified in Section 6.7 of Attachment DD, if any one of the~~

~~following three conditions is met: (1) the market share of any Capacity Market Seller exceeds twenty percent; (2) the HHI for all such sellers is 1800 or higher; or (3) there are not more than three jointly pivotal suppliers.~~

~~3. By no later than 90 days prior to the conduct of the Base Residual Auction and each Incremental Auction for such Delivery Year, the Market Monitoring Unit shall provide to the Office of Interconnection and post or continue posting on its website for each LDA, Unconstrained LDA Group (if applicable) and to the entire PJM Region, the result of its Preliminary Market Structure Screen.~~

~~4. The Market Monitoring Unit shall not reflect in the Preliminary Market Structure Screen a firm external sale of capacity if a Capacity Market Seller has not met the requirements set forth in Section H.C.4(ii) above and Section 6.6 prior to the deadline for Capacity Market Sellers to submit data for such Preliminary Market Structure Screen, nor shall it reflect the removal of a resource (or portion thereof) from the Capacity Resource status list unless the associated unit-specific bilateral transaction is approved pursuant to subsection 5.6.6(c) or the designation of such resource (or portion thereof) as a network resource for the external load is demonstrated to the Office of the Interconnection.~~

~~5. The Preliminary Market Structure Screen shall reflect the removal of resources from PJM Capacity Resource status approved as provided under Section H.C.2 above no less than 30 days prior to the posting deadline.~~

#### **E. Market Seller Offer Caps:**

1. Based on the data and calculations submitted by the Capacity Market Sellers for each Existing Generation Capacity Resource and the formulas specified in Section 6.7(d) of Attachment DD, the Market Monitoring Unit shall calculate the Market Seller Offer Cap for each such resource and provide it to the Capacity Market Seller and the Office of the Interconnection by no later than ninety (90) days before the commencement of the offer period for the applicable RPM Auction, ~~and notify the Capacity Market Seller one month prior to the auction of its determination. This provision is duplicated in Section 6.7(d) of Attachment DD.~~

2. The Market Monitoring Unit must attempt to reach agreement with the Capacity Market Seller on the appropriate level of the Market Seller Offer Cap by no later than ninety (90) days prior to the commencement of the offer period for the applicable RPM Auction. ~~If such agreement cannot be reached because a Capacity Market Seller fails to submit data adequate to support the Market Seller Offer Cap requested, then the Market Monitoring Unit shall so inform the Office of the Interconnection. In the event that a Capacity Market Seller and the Market Monitoring Unit cannot come to agreement on the level of a Market Seller Offer Cap, then the Market Monitoring Unit shall inform the Capacity Market Seller and the Office of the Interconnection of its determination of the appropriate level of the Market Seller Offer Cap by no later than ninety (90) days prior to the commencement of the offer period for the applicable RPM Auction,~~ and the Market Monitoring Unit may pursue any action available to it under Attachment M.

3. Nothing herein shall preclude any Capacity Market Seller and the Market Monitoring Unit from agreeing to, nor require either such entity to agree to, an alternative market seller offer cap determined on a mutually agreeable basis. Any such alternative offer cap shall be filed with the Commission for its approval. This provision is duplicated in Section 6.4(a) of Attachment DD.

**F. Mitigation of Offers from Planned Generation Capacity Resources:**

Pursuant to Section 6.5 of Attachment DD, the Market Monitoring Unit shall evaluate Sell Offers for Planned Generation Capacity Resources to determine whether market power mitigation should be applied and notify in writing each Capacity Market Seller whose Sell Offer has been determined to be non-competitive and subject to mitigation, with a copy to the Office of the Interconnection, by no later than one (1) business day after the close of the offer period for the applicable RPM Auction~~excessive.~~

**G. Data Submission:**

Pursuant to Section 6.7 of Attachment DD, the Market Monitoring Unit may request additional information from any potential auction participant as deemed necessary by the Market Monitoring Unit, including, without limitation, additional cost data on resources in a class that is not otherwise expected to include the marginal price setting resource. ~~and compliance with such request shall be a condition of participation in any auction.~~ All data submitted to the Office of the Interconnection or the Market Monitoring Unit by a Market Participant is subject to verification by the Market Monitoring Unit.

**H. Determination of Default Avoidable Cost Rates:**

1. The Market Monitoring Unit shall conduct an annual~~ly~~ review of the table of default Avoidable Cost Rates included in Section 6.7(c) of Attachment DD and calculated on the bases set forth therein, and determine whether the values included therein need to be updated. ~~If so,~~ the Market Monitoring Unit determines that the Avoidable Cost Rates need to be updated, it shall provide to the Office of the Interconnection updated values or notice of its determination that updated values are not needed by no later than September 30<sup>th</sup> of each year.

2. The Market Monitoring Unit shall indicate in its posted reports on RPM performance the number of Generation Capacity Resources and megawatts per LDA that use the retirement default Avoidable Cost Rates.

3. If a Capacity Market Seller does not elect to use a default Avoidable Cost Rate and has timely provided to the Market Monitoring Unit its request to apply a unit-specific Avoidable Cost Rate, along with the data described in Section 6.7 of Attachment DD, the Market Monitoring Unit shall calculate the Avoidable Cost Rate ~~(or may calculate, in the case of the tardy receipt of data)~~ and provide a unit-specific value to the Capacity Market Seller for each such resource, and notify the Capacity Market Seller and the Office of the Interconnection in writing by no later than ninety (90) days prior to the commencement of the offer period for the applicable RPM Auction whether it agrees that the unit-specific Avoidable Cost Rate is acceptable. The Capacity Market Seller and Office of the Interconnection's deadlines relating to

the submittal and acceptance of a request for a unit-specific Avoidable Cost Rate are delineated in section 6.7(d) of Attachment DD.

~~4. If a Capacity Market Seller submits a retirement Avoidable Cost Rate that is higher than the applicable default Avoidable Cost Rate included in the table in Section 6.7 of Attachment DD, and the Capacity Market Seller and the Market Monitoring Unit do not agree that the proposed retirement Avoidable Cost Rate that has been submitted is appropriate, and the Office of the Interconnection accepts the proposed retirement Avoidable Cost Rate submitted by the Capacity Market Seller, the Market Monitoring Unit may exercise its powers to inform Commission staff of its concerns and request a determination that would require the Capacity Market Seller to utilize the retirement Avoidable Cost Rate determined by the Market Monitoring Unit or such other retirement Avoidable Cost Rate as determined by the Commission.~~

#### **I. Determination of PJM Market Revenues:**

The Market Monitoring Unit shall calculate the Projected PJM Market Revenues for any Generation Capacity Resource to which the Avoidable Cost Rate is applied pursuant to Section 6.8(d) of Attachment DD, and notify the Capacity Market Seller and the Office of the Interconnection of its determination in writing by no later than ninety (90) days prior to the commencement of the offer period for the applicable RPM Auction.

#### **J. Determination of Opportunity Costs:**

The Market Monitoring Unit shall review and verify the documentation of prices available to Existing Generation Capacity Resources in markets external to PJM and proposed for inclusion in Opportunity Costs pursuant to Section 6.7(d)(ii) of Attachment DD. The Market Monitoring Unit shall notify, in writing, such Generation Capacity Resource and the Office of the Interconnection if it is dissatisfied with the documentation provided and whether it objects to the inclusion of such Opportunity Costs in a Market Seller Offer by no later than ninety (90) days prior to the commencement of the offer period for the applicable RPM Auction. If such Generation Capacity Resource submits a Market Seller Offer that includes Opportunity Costs that have not been documented and verified to the Market Monitoring Unit's satisfaction, then the Market Monitoring Unit may exercise its powers to inform Commission staff of its concerns and request a determination that would require the Generation Capacity Resource to remove them.

### **III. BLACKSTART SERVICE**

A. Upon the submission by a Black Start ~~Service-generator~~Unit owner of a request for Black Start Service revenue requirements and changes to the Black Start Service revenue requirements for the ~~generator~~Black Start Unit, the Black Start ~~Service-generator~~Unit owner and the Market Monitoring Unit shall attempt to agree to values on the level of each component included in the Black Start Service revenue requirements by no later than May 14 of each year. The Market Monitoring Unit shall calculate the revenue requirement for each Black Start Unit and provide its calculation to the Office of the Interconnection by no later than May 14 of each year.

B. Pursuant to the terms of Schedule 6A of the PJM Tariff and the PJM Manuals, the Market Monitoring Unit will analyze any requested generator black start cost changes on an annual basis and shall notify the Office of the Interconnection of any costs to which it and the Black Start ~~Service-generatorUnit~~ owner have agreed or the Market Monitoring Unit's determination regarding any cost components to which agreement has not been obtained. If a Black Start ~~Service-generatorUnit~~ owner includes a cost component inconsistent with its agreement or inconsistent with the Market Monitoring Unit's determination regarding such cost component, and the Office of the Interconnection accepts the Black Start Service revenue requirements submitted by the Black Start ~~Service-generator-Unit~~ owner, the Market Monitoring Unit may exercise its powers to inform Commission staff of its concerns and request a determination that would require the Black Start Service generator to utilize the values determined by the Market Monitoring Unit or the Office of the Interconnection or such other values as determined by the Commission.

#### **IV. DEACTIVATION RATES**

1. Upon receipt of a notice to deactivate a generating unit under Part V of the PJM Tariff from the Office of the Interconnection forwarded pursuant to Section 113.1 of the PJM Tariff, the Market Monitoring Unit shall analyze the effects of the proposed deactivation with regard to potential market power issues and shall notify the Office of the Interconnection and the generator owner (of, if applicable, its designated agent) within 30 days of the deactivation request if a market power issue has been identified. Such notice shall include the specific market power impact resulting from the proposed deactivation of the generating unit, as well as an initial assessment of any steps that could be taken to mitigate the market power impact.

2. The Market Monitoring Unit and the generating unit owner shall attempt to come to agreement on the level of each component included in the Deactivation Avoidable Cost Credit. In the case of cost of service filing submitted to the Commission in alternative to the Deactivation Cost Credit, the Market Monitoring Unit shall indicate to the generating unit owner in advance of filing its views regarding the proposed method or cost components of recovery. The Market Monitoring Unit shall notify the Office of the Interconnection of any costs to which it and the generating unit owner have agreed or the Market Monitoring Unit's determination regarding any cost components to which agreement has not been obtained. If a generating unit owner includes a cost component inconsistent with its agreement or inconsistent with the Market Monitoring Unit's determination regarding such cost components, the Market Monitoring Unit may exercise ~~its~~ powers to inform Commission staff of its concerns and seek a determination that would require the Generating unit to include an appropriate cost component. This provision is duplicated in Sections 114 and 119 of Part V of the PJM Tariff.

#### **V. OPPORTUNITY COST CALCULATION**

The Market Monitoring Unit shall review requests for opportunity cost compensation under Sections 3.2.3(f-3) and 3.2.3B(h) of Schedule 1 of the Operating Agreement, discuss with the Office of the Interconnection and individual Market Sellers the amount of compensation, and file exercise its powers to inform Commission staff of its concerns and request a determination of compensation as provided by such sections. These requirements are duplicated in Sections 3.2.3(f-3) and 3.2.3B(h) of Schedule 1 of the Operating Agreement.

## **VI. FTR FORFEITURE RULE**

The Market Monitoring Unit shall calculate Transmission Congestion Credits as required under Section 5.2.1(b) of Schedule 1 of the Operating Agreement, including the determination of the identity of the holder of FTRs and an evaluation of the overall benefits accrued by an entity or affiliated entities trading in FTRs and virtual trading in the Day-ahead Energy Market, and provide such calculations to the Office of the Interconnection. Nothing in this section shall preclude the Market Monitoring Unit from action to recover inappropriate benefits from the subject activity if the amount forfeited is less than the benefit derived by the FTR holder. If the Office of the Interconnection imposes a forfeiture of the Transmission Congestion Credit in an amount that the Market Monitoring Unit disagrees with, then it may exercise its powers to inform Commission staff of its concerns and request an adjustment.

## **VII. FORCED OUTAGE RULE**

1. The Market Monitoring Unit shall observe offers submitted in the Day-ahead Energy Market to determine whether all or part of a generating unit's capacity (MW) is designated as Maximum Emergency and (i) such offer in the Real-time Energy Market designates a smaller amount of capacity from that unit as Maximum Emergency for the same time period, and (ii) there is no physical reason to designate a larger amount of capacity as Maximum Emergency in the offer in the Day-ahead Energy Market than in the Real-time Energy Market, the Market Monitoring Unit shall notify the Office of Interconnection.

2. If the Market Monitoring Unit observes that (i) an offer submitted in the Day-ahead Energy market designates all or part of capacity (MW) of a Generating unit as economic maximum that is less than the economic maximum designated in the offer in the Real-time Energy Market, and (ii) there is no physical reason to designate a lower economic maximum in the offer in the Day-ahead Energy Market than in the offer in the Real-time Energy Market, the Market Monitoring Unit shall notify the Office of Interconnection.

## **VIII. DATA COLLECTION AND VERIFICATION**

The Market Monitoring Unit shall gather and keep confidential detailed data on the procurement and usage of fuel to produce electric power transmitted in the PJM Region in order to assist the performance of its duties under Attachment M. To achieve this objective, the Market Monitoring Unit shall maintain on its website a mechanism that allows Members to conveniently and confidentially submit such data and develop a manual in consultation with stakeholders that describes the nature of and procedure for collecting data. Members of PJM owning a Generating unit that is located in the PJM Region (including dynamically scheduled units), or is included in a PJM Black Start Service plan, committed as a Generation Capacity Resource for the current or future Delivery Year, or otherwise subject to a commitment to provide service to PJM, shall provide data to the Market Monitoring Unit.

## **2. DEFINITIONS**

Definitions specific to this Attachment are set forth below. In addition, any capitalized terms used in this Attachment not defined herein shall have the meaning given to such terms elsewhere in this Tariff or in the RAA. References to section numbers in this Attachment DD refer to sections of this attachment, unless otherwise specified.

### **2.1A Annual Demand Resource**

“Annual Demand Resource” shall have the meaning specified in the Reliability Assurance Agreement.

### **2.1B Annual Resource**

“Annual Resource” shall mean a Generation Capacity Resource, an Energy Efficiency Resource or an Annual Demand Resource.

### **2.1C Annual Resource Price Adder**

“Annual Resource Price Adder” shall mean an addition to the marginal value of Unforced Capacity and the Extended Summer Resource Price Adder as necessary to reflect the price of Annual Resources required to meet the applicable Minimum Annual Resource Requirement.

### **2.1D Annual Revenue Rate**

“Annual Revenue Rate” shall mean the rate employed to assess a compliance penalty charge on a Demand Resource Provider or ILR Provider under section 11.

## **2.2 Avoidable Cost Rate**

“Avoidable Cost Rate” shall mean a component of the Market Seller Offer Cap calculated in accordance with section 6.

## **2.3 Base Load Generation Resource**

“Base Load Generation Resource” shall mean a Generation Capacity Resource that operates at least 90 percent of the hours that it is available to operate, as determined by the Office of the Interconnection in accordance with the PJM Manuals.

## **2.4 Base Offer Segment**

“Base Offer Segment” shall mean a component of a Sell Offer based on an existing Generation Capacity Resource, equal to the Unforced Capacity of such resource, as determined in accordance with the PJM Manuals. If the Sell Offers of multiple Market Sellers are based on a single existing Generation Capacity Resource, the Base Offer Segments of such Market Sellers

shall be determined pro rata based on their entitlements to Unforced Capacity from such resource.

## **2.5 Base Residual Auction**

“Base Residual Auction” shall mean the auction conducted three years prior to the start of the Delivery Year to secure commitments from Capacity Resources as necessary to satisfy any portion of the Unforced Capacity Obligation of the PJM Region not satisfied through Self-Supply.

## **2.6 Buy Bid**

“Buy Bid” shall mean a bid to buy Capacity Resources in any Incremental Auction.

## **2.7 Capacity Credit**

“Capacity Credit” shall have the meaning specified in Schedule 11 of the Operating Agreement, including Capacity Credits obtained prior to the termination of such Schedule applicable to periods after the termination of such Schedule.

## **2.8 Capacity Emergency Transfer Limit**

“Capacity Emergency Transfer Limit” or “CETL” shall have the meaning provided in the Reliability Assurance Agreement.

## **2.9 Capacity Emergency Transfer Objective**

“Capacity Emergency Transfer Objective” or “CETO” shall have the meaning provided in the Reliability Assurance Agreement.

## **2.9A Capacity Export Transmission Customer**

“Capacity Export Transmission Customer” shall mean a customer taking point to point transmission service under Part II of this Tariff to export capacity from a generation resource located in the PJM Region that is delisted from Capacity Resource status as described in section 5.6.6(d).

## **2.10 Capacity Market Buyer**

“Capacity Market Buyer” shall mean a Member that submits bids to buy Capacity Resources in any Incremental Auction.

## **2.11 Capacity Market Seller**

“Capacity Market Seller” shall mean a Member that owns, or has the contractual authority to control the output or load reduction capability of, a Capacity Resource, that has not transferred



such authority to another entity, and that offers such resource in the Base Residual Auction or an Incremental Auction.

## **2.12 Capacity Resource**

“Capacity Resource” shall have the meaning specified in the Reliability Assurance Agreement.

## **2.13 Capacity Resource Clearing Price**

“Capacity Resource Clearing Price” shall mean the price calculated for a Capacity Resource that offered and cleared in a Base Residual Auction or Incremental Auction, in accordance with Section 5.

## **2.14 Capacity Transfer Right**

“Capacity Transfer Right” shall mean a right, allocated to LSEs serving load in a Locational Deliverability Area, to receive payments, based on the transmission import capability into such Locational Deliverability Area, that offset, in whole or in part, the charges attributable to the Locational Price Adder, if any, included in the Zonal Capacity Price calculated for a Locational Delivery Area.

## **2.14A Conditional Incremental Auction**

“Conditional Incremental Auction” shall mean an Incremental Auction conducted for a Delivery Year if and when necessary to secure commitments of additional capacity to address reliability criteria violations arising from the delay in a Backbone Transmission upgrade that was modeled in the Base Residual Auction for such Delivery Year.

## **2.15 CONE Area**

“CONE Area” shall mean the areas listed in section 5.10(a)(iv)(A) and any LDAs established as CONE Areas pursuant to section 5.10(a)(iv)(B).

## **2.16 Cost of New Entry**

“Cost of New Entry” or “CONE” shall mean the nominal levelized cost of a Reference Resource, as determined in accordance with section 5.

## **2.16A Credit-Limited Offer**

“Credit-Limited Offer” shall have the meaning provided in Attachment Q to this Tariff.

## **2.17 Daily Deficiency Rate**

“Daily Deficiency Rate” shall mean the rate employed to assess certain deficiency charges under sections 7, 8, 9, or 13.

## **2.18 Daily Unforced Capacity Obligation**

“Daily Unforced Capacity Obligation” shall mean the capacity obligation of a Load Serving Entity during the Delivery Year, determined in accordance with Schedule 8 of the Reliability Assurance Agreement.

## **2.19 Delivery Year**

Delivery Year shall mean the Planning Period for which a Capacity Resource is committed pursuant to the auction procedures specified in Section 5.

## **2.20 Demand Resource**

“Demand Resource” shall have the meaning specified in the Reliability Assurance Agreement.

## **2.21 Demand Resource Factor**

“Demand Resource Factor” shall have the meaning specified in the Reliability Assurance Agreement.

## **2.22 Demand Resource Provider**

“Demand Resource Provider” shall mean a PJM Member that has the capability to reduce load, or that aggregates customers capable of reducing load. The Demand Resource Provider shall notify the Office of the Interconnection whether such load reduction is provided by a Limited Demand Resource, Extended Summer Demand Resource or an Annual Demand Resource. A Curtailment Service Provider, as defined in the Operating Agreement, may be a Demand Resource Provider, provided it qualifies its load reduction capability as a Limited Demand Resource, Extended Summer Demand Resource, or Annual Demand Resource.

## **2.23 EFORD**

“EFORD” shall have the meaning specified in the PJM Reliability Assurance Agreement.

## **2.24 Energy Efficiency Resource**

“Energy Efficiency Resource” shall have the meaning specified in the PJM Reliability Assurance Agreement.

## **2.24A Extended Summer Demand Resource**

“Extended Summer Demand Resource” shall have the meaning specified in the Reliability Assurance Agreement.

## **2.24B Extended Summer Resource Price Adder**

“Extended Summer Resource Price Adder” shall mean an addition to the marginal value of Unforced Capacity as necessary to reflect the price of Annual Resources and Extended Summer Demand Resources required to meet the applicable Minimum Extended Summer Resource Requirement.

#### **2.24C Extended Summer Demand Resource Reliability Target**

“Extended Summer Demand Resource Reliability Target” for the PJM Region or an LDA, shall mean the maximum amount of the combination of Extended Summer Demand Resources and Limited Demand Resources in Unforced Capacity determined by PJM to be consistent with the maintenance of reliability, stated in Unforced Capacity, that shall be used to calculate the Minimum Annual Resource Requirement. As more fully set forth in the PJM Manuals, PJM calculates the Extended Summer DR Reliability Target, by first determining a reference annual loss of load expectation (“LOLE”) assuming no Demand Resources. The calculation for the unconstrained portion of the PJM Region uses a daily distribution of loads under a range of weather scenarios (based on the most recent load forecast and iteratively shifting the load distributions to result in the Installed Reserve Margin established for the Delivery Year in question) and a weekly capacity distribution (based on the cumulative capacity availability distributions developed for the Installed Reserve Margin study for the Delivery Year in question). The calculation for each relevant LDA uses a daily distribution of loads under a range of weather scenarios (based on the most recent load forecast for the Delivery Year in question) and a weekly capacity distribution (based on the cumulative capacity availability distributions developed for the Capacity Emergency Transfer Objective study for the Delivery Year in question). For the relevant LDA calculation, the weekly capacity distributions are adjusted to reflect the Capacity Emergency Transfer Limit for the Delivery Year in question.

For both the PJM Region and LDA analyses, PJM then models the commitment of varying amounts of DR (displacing otherwise committed generation) as interruptible from May 1 through October 31 and unavailable from November 1 through April 30 and calculates the LOLE at each DR level. The Extended Summer DR Reliability Target is the DR amount, stated as a percentage of the unrestricted peak load, that produces no more than a ten percent increase in the LOLE, compared to the reference value. The Extended Summer Demand Resource Reliability Target shall be expressed as a percentage of the forecasted peak load of the PJM Region or such LDA and is converted to Unforced Capacity by multiplying [the reliability target percentage] times [the Forecast Pool Requirement] times [the DR Factor] times [the forecasted peak load of the PJM Region or such LDA, reduced by the amount of load served under the FRR Alternative].

#### **2.25 [Reserved]**

#### **2.26 Final RTO Unforced Capacity Obligation**

“Final RTO Unforced Capacity Obligation” shall mean the capacity obligation for the PJM Region, determined in accordance with Schedule 8 of the Reliability Assurance Agreement.

#### **2.26A Final Zonal ILR Price**

“Final Zonal ILR Price” shall mean the Adjusted Zonal Capacity Price after the Second Incremental Auction, less the amount paid in CTR credits per MW of load in the Zone in which the ILR is to be certified.

## **2.27 First Incremental Auction**

“First Incremental Auction” shall mean an Incremental Auction conducted 20 months prior to the start of the Delivery Year to which it relates.

## **2.28 Forecast Pool Requirement**

“Forecast Pool Requirement” shall have the meaning specified in the Reliability Assurance Agreement.

## **2.29 Forecast RTO ILR Obligation**

“Forecast RTO ILR Obligation” shall mean, in unforced capacity terms, the ILR Forecast for the PJM Region times the DR Factor, times the Forecast Pool Requirement, less the Unforced Capacity of all Demand Resources committed in FRR Capacity Plans by all FRR Entities in the PJM Region, for use in Delivery Years through May 31, 2012.

## **2.30 Forecast Zonal ILR Obligation**

“Forecast Zonal ILR Obligation” shall mean, in unforced capacity terms, the ILR Forecast for the Zone times the DR Factor, times the Forecast Pool Requirement, less the Unforced Capacity of all Demand Resources committed in FRR Capacity Plans by all FRR Entities in such Zone, for use in Delivery Years through May 31, 2012.

## **2.31 Generation Capacity Resource**

“Generation Capacity Resource” shall have the meaning specified in the Reliability Assurance Agreement.

## **2.32 ILR Forecast**

“ILR Forecast” shall mean, for any Delivery Year ending on or before May 31, 2012, the average annual megawatt quantity of ILR certified for the five Planning Periods preceding the date of the forecast; provided, however, that before such data becomes available for five Delivery Years under the Reliability Pricing Model, comparable data on Active Load Management (as defined in the preexisting reliability assurance agreements) from up to five prior Planning Periods shall be substituted as necessary; and provided further that, for transmission zones that were integrated into the PJM Region less than five years prior to the conduct of the Base Residual Auction for the Delivery Year, data on incremental load subject to mandatory interruption by Electric Distribution Companies within such zones shall be substituted as necessary.

### **2.33 ILR Provider**

“ILR Provider” shall mean a Member that has the capability to reduce load, or that aggregates customers capable of reducing load. A Curtailment Service Provider, as such term is defined in the PJM Operating Agreement, may be an ILR Provider, provided it obtains certification of its load reduction capability as ILR.

### **2.34 Incremental Auction**

“Incremental Auction” shall mean any of several auctions conducted for a Delivery Year after the Base Residual Auction for such Delivery Year and before the first day of such Delivery Year, including the First Incremental Auction, Second Incremental Auction, Third Incremental Auction or Conditional Incremental Auction. Incremental Auctions (other than the Conditional Incremental Auction), shall be held for the purposes of:

(i) allowing Market Sellers that committed Capacity Resources in the Base Residual Auction for a Delivery Year, which subsequently are determined to be unavailable to deliver the committed Unforced Capacity in such Delivery Year (due to resource retirement, resource cancellation or construction delay, resource derating, EFORD increase, a decrease in the Nominated Demand Resource Value of a Planned Demand Resource, delay or cancellation of a Qualifying Transmission Upgrade, or similar occurrences) to submit Buy Bids for replacement Capacity Resources; and

(ii) allowing the Office of the Interconnection to reduce or increase the amount of committed capacity secured in prior auctions for such Delivery Year if, as a result of changed circumstances or expectations since the prior auction(s), there is, respectively, a significant excess or significant deficit of committed capacity for such Delivery Year, for the PJM Region or for an LDA.

### **2.35 Incremental Capacity Transfer Right**

“Incremental Capacity Transfer Right” shall mean a Capacity Transfer Right allocated to a Generation Interconnection Customer or Transmission Interconnection Customer obligated to fund a transmission facility or upgrade, to the extent such upgrade or facility increases the transmission import capability into a Locational Deliverability Area, or a Capacity Transfer Right allocated to a Responsible Customer in accordance with Schedule 12A of the Tariff.

### **2.36 Interruptible Load for Reliability (ILR)**

“Interruptible Load for Reliability” or “ILR” shall have the meaning specified in the Reliability Assurance Agreement.

#### **2.36A Limited Demand Resource**

“Limited Demand Resource” shall have the meaning specified in the Reliability Assurance Agreement.

## **2.36B Limited Demand Resource Reliability Target**

“Limited Demand Resource Reliability Target” for the PJM Region or an LDA, shall mean the maximum amount of Limited Demand Resources determined by PJM to be consistent with the maintenance of reliability, stated in Unforced Capacity that shall be used to calculate the Minimum Extended Summer Demand Resource Requirement for the PJM Region or such LDA. As more fully set forth in the PJM Manuals, PJM calculates the Limited Demand Resource Reliability Target by first: i) testing the effects of the ten-interruption requirement by comparing possible loads on peak days under a range of weather conditions (from the daily load forecast distributions for the Delivery Year in question) against possible generation capacity on such days under a range of conditions (using the cumulative capacity distributions employed in the Installed Reserve Margin study for the PJM Region and in the Capacity Emergency Transfer Objective study for the relevant LDAs for such Delivery Year) and, by varying the assumed amounts of DR that is committed and displaces committed generation, determines the DR penetration level at which there is a ninety percent probability that DR will not be called (based on the applicable operating reserve margin for the PJM Region and for the relevant LDAs) more than ten times over those peak days; and ii) testing the six-hour duration requirement by calculating the MW difference between the highest hourly unrestricted peak load and seventh highest hourly unrestricted peak load on certain high peak load days (e.g., the annual peak, loads above the weather normalized peak, or days where load management was called) in recent years, then dividing those loads by the forecast peak for those years and averaging the result. Second, PJM adopts the lower result from these two tests as the Limited Demand Resource Reliability Target. The Limited Demand Resource Reliability Target shall be expressed as a percentage of the forecasted peak load of the PJM Region or such LDA and is converted to Unforced Capacity by multiplying [the reliability target percentage] times [the Forecast Pool Requirement] times [the DR Factor] times [the forecasted peak load of the PJM Region or such LDA, reduced by the amount of load served under the FRR Alternative].

## **2.37 Load Serving Entity (LSE)**

“Load Serving Entity” or “LSE” shall have the meaning specified in the Reliability Assurance Agreement.

## **2.38 Locational Deliverability Area (LDA)**

“Locational Deliverability Area” or “LDA” shall mean a geographic area within the PJM Region that has limited transmission capability to import capacity to satisfy such area’s reliability requirement, as determined by the Office of the Interconnection in connection with preparation of the Regional Transmission Expansion Plan, and as specified in Schedule 10.1 of the Reliability Assurance Agreement.

## **2.39 Locational Deliverability Area Reliability Requirement**

“Locational Deliverability Area Reliability Requirement” shall mean the projected internal capacity in the Locational Deliverability Area plus the Capacity Emergency Transfer Objective for the Delivery Year, as determined by the Office of the Interconnection in connection with preparation of the Regional Transmission Expansion Plan, less the minimum internal resources required for all FRR Entities in such Locational Deliverability Area, and less any necessary adjustment for Price Responsive Demand proposed in a PRD Plan or committed following an RPM Auction for the Zones comprising such Locational Deliverability Area for such Delivery Year.

#### **2.40 Locational Price Adder**

“Locational Price Adder” shall mean an addition to the marginal value of Unforced Capacity within an LDA as necessary to reflect the price of Capacity Resources required to relieve applicable binding locational constraints.

#### **2.41 Locational Reliability Charge**

“Locational Reliability Charge” shall have the meaning specified in the Reliability Assurance Agreement.

#### **2.41A Locational UCAP**

“Locational UCAP” shall mean unforced capacity that a Member with available uncommitted capacity sells in a bilateral transaction to a Member that previously committed capacity through an RPM Auction but now requires replacement capacity to fulfill its RPM Auction commitment. The Locational UCAP Seller retains responsibility for performance of the resource providing such replacement capacity.

#### **2.41B Locational UCAP Seller**

“Locational UCAP Seller” shall mean a Member that sells Locational UCAP.

#### **2.41C Market Seller Offer Cap**

“Market Seller Offer Cap” shall mean a maximum offer price applicable to certain Market Sellers under certain conditions, as determined in accordance with section 6 of Attachment DD and section II.E of Attachment M - Appendix.

#### **2.41D Minimum Annual Resource Requirement**

“Minimum Annual Resource Requirement” shall mean the minimum amount of capacity that PJM will seek to procure from Annual Resources for the PJM Region and for each Locational Deliverability Area for which the Office of the Interconnection is required under section 5.10(a) of this Attachment DD to establish a separate VRR Curve for such Delivery Year. For the PJM Region, the Minimum Annual Resource Requirement shall be equal to the RTO Reliability Requirement minus [the Extended Summer Demand Resource Reliability Target for the RTO in

Unforced Capacity]. For an LDA, the Minimum Annual Resource Requirement shall be equal to the LDA Reliability Requirement minus [the LDA CETL] minus [the Extended Summer Demand Resource Reliability Target for such LDA in Unforced Capacity]. The LDA CETL may be adjusted pro rata for the amount of load served under the FRR Alternative.

#### **2.41E Minimum Extended Summer Resource Requirement**

“Minimum Extended Summer Resource Requirement” shall mean the minimum amount of capacity that PJM will seek to procure from Extended Summer Demand Resources and Annual Resources for the PJM Region and for each Locational Deliverability Area for which the Office of the Interconnection is required under section 5.10(a) of this Attachment DD to establish a separate VRR Curve for such Delivery Year. For the PJM Region, the Minimum Extended Summer Resource Requirement shall be equal to the RTO Reliability Requirement minus [the Limited Demand Resource Reliability Target for the PJM Region in Unforced Capacity]. For an LDA, the Minimum Extended Summer Resource Requirement shall be equal to the LDA Reliability Requirement minus [the LDA CETL] minus [the Limited Demand Resource Reliability Target for such LDA in Unforced Capacity]. The LDA CETL may be adjusted pro rata for the amount of load served under the FRR Alternative.

#### **2.42 Net Cost of New Entry**

“Net Cost of New Entry” shall mean the Cost of New Entry minus the Net Energy and Ancillary Service Revenue Offset, as defined in Section 5.

#### **2.43 Nominated Demand Resource Value**

“Nominated Demand Resource Value” shall mean the amount of load reduction that a Demand Resource commits to provide either through direct load control, firm service level or guaranteed load drop programs. For existing Demand Resources, the maximum Nominated Demand Resource Value is limited, in accordance with the PJM Manuals, to the value appropriate for the method by which the load reduction would be accomplished, at the time the Base Residual Auction or Incremental Auction is being conducted.

#### **2.43A Nominated Energy Efficiency Value**

“Nominated Energy Efficiency Value” shall mean the amount of load reduction that an Energy Efficiency Resource commits to provide through installation of more efficient devices or equipment or implementation of more efficient processes or systems.

#### **2.44 Nominated ILR Value**

“Nominated ILR Value” shall mean the amount of load reduction that an ILR resource commits to provide either through direct load control, firm service level or guaranteed load drop programs. For ILR, the maximum Nominated ILR Capacity Value is limited, in accordance with



the PJM Manuals, to the value appropriate for the method by which the load reduction would be accomplished, at the time the ILR is certified.

#### **2.45 Opportunity Cost**

“Opportunity Cost” shall mean a component of the Market Seller Offer Cap calculated in accordance with section 6.

#### **2.46 Peak-Hour Dispatch**

“Peak-Hour Dispatch” shall mean, for purposes of calculating the Energy and Ancillary Services Revenue Offset under section 5 of this Attachment, an assumption, as more fully set forth in the PJM Manuals, that the Reference Resource is committed in the Day-Ahead Energy Market in four distinct blocks of four hours of continuous output for each block from the peak-hour period beginning with the hour ending 0800 EPT through to the hour ending 2300 EPT for any day when the average day-ahead LMP for the area for which the Net Cost of New Entry is being determined is greater than, or equal to, the cost to generate (including the cost for a complete start and shutdown cycle) for at least two hours during each four-hour block, where such blocks shall be assumed to be committed independently; provided that, if there are not at least two economic hours in any given four-hour block, then the Reference Resource shall be assumed not to be committed for such block; and to the extent not committed in any such block in the Day-Ahead Energy Market under the above conditions based on Day-Ahead LMPs, is dispatched in the Real-Time Energy Market for such block if the Real-Time LMP is greater than or equal to the cost to generate under the same conditions as described above for the Day-Ahead Energy Market.

#### **2.47 Peak Season**

“Peak Season” shall mean the weeks containing the 24th through 36th Wednesdays of the calendar year. Each such week shall begin on a Monday and end on the following Sunday, except for the week containing the 36th Wednesday, which shall end on the following Friday.

#### **2.48 Percentage Internal Resources Required**

“Percentage Internal Resources Required” shall have the meaning specified in the Reliability Assurance Agreement.

#### **2.49 Planned Demand Resource**

“Planned Demand Resource” shall have the meaning specified in the Reliability Assurance Agreement.

#### **2.50 Planned External Generation Capacity Resource**

“Planned External Generation Capacity Resource” shall have the meaning specified in the Reliability Assurance Agreement.

## **2.50A Planned Generation Capacity Resource**

“Planned Generation Capacity Resource” shall have the meaning specified in the Reliability Assurance Agreement.

## **2.51 Planning Period**

“Planning Period” shall have the meaning specified in the Reliability Assurance Agreement.

## **2.52 PJM Region**

“PJM Region” shall have the meaning specified in the Reliability Assurance Agreement.

## **2.53 PJM Region Installed Reserve Margin**

“PJM Region Installed Reserve Margin” shall have the meaning specified in the Reliability Assurance Agreement.

## **2.54 PJM Region Peak Load Forecast**

“PJM Region Peak Load Forecast” shall mean the peak load forecast used by the Office of the Interconnection in determining the PJM Region Reliability Requirement, and shall be determined on both a preliminary and final basis as set forth in section 5.

## **2.55 PJM Region Reliability Requirement**

“PJM Region Reliability Requirement” shall mean, for purposes of the Base Residual Auction, the Forecast Pool Requirement multiplied by the Preliminary PJM Region Peak Load Forecast, less the sum of all Preliminary Unforced Capacity Obligations of FRR Entities in the PJM Region; and, for purposes of the Incremental Auctions, the Forecast Pool Requirement multiplied by the updated PJM Region Peak Load Forecast, less the sum of all updated Unforced Capacity Obligations of FRR Entities in the PJM Region, and less any necessary adjustment for Price Responsive Demand proposed in a PRD Plan or committed following an RPM Auction (as applicable) for such Delivery Year.

## **2.56 Projected PJM Market Revenues**

“Projected PJM Market Revenues” shall mean a component of the Market Seller Offer Cap calculated in accordance with section 6.

## **2.57 Qualifying Transmission Upgrade**

“Qualifying Transmission Upgrade” shall mean a proposed enhancement or addition to the Transmission System that: (a) will increase the Capacity Emergency Transfer Limit into an LDA by a megawatt quantity certified by the Office of the Interconnection; (b) the Office of the

Interconnection has determined will be in service on or before the commencement of the first Delivery Year for which such upgrade is the subject of a Sell Offer in the Base Residual Auction; (c) is the subject of a Facilities Study Agreement executed before the conduct of the Base Residual Auction for such Delivery Year and (d) a New Service Customer is obligated to fund through a rate or charge specific to such facility or upgrade.

## **2.58 Reference Resource**

“Reference Resource” shall mean a combustion turbine generating station, configured with two General Electric Frame 7FA turbines with inlet air cooling to 50 degrees, Selective Catalytic Reduction technology in CONE Areas 1, 2, 3, and 4, dual fuel capability, and a heat rate of 10.096 Mmbtu/ MWh.

## **2.59 Reliability Assurance Agreement**

“Reliability Assurance Agreement” shall mean that certain “Reliability Assurance Agreement Among Load-Serving Entities in the PJM Region,” on file with FERC as PJM Interconnection, L.L.C. Rate Schedule FERC No.44.

## **2.60 Reliability Pricing Model Auction**

“Reliability Pricing Model Auction” or “RPM Auction” shall mean the Base Residual Auction or any Incremental Auction.

## **2.61 Resource Substitution Charge**

“Resource Substitution Charge” shall mean a charge assessed on Capacity Market Buyers in an Incremental Auction to recover the cost of replacement Capacity Resources.

### **2.61A Scheduled Incremental Auctions**

“Scheduled Incremental Auctions” shall refer to the First, Second, or Third Incremental Auction.

## **2.62 Second Incremental Auction**

“Second Incremental Auction” shall mean an Incremental Auction conducted ten months before the Delivery Year to which it relates.

## **2.63 Sell Offer**

“Sell Offer” shall mean an offer to sell Capacity Resources in a Base Residual Auction, Incremental Auction, or Reliability Backstop Auction.

## **2.64 [Reserved for Future Use]**

## **2.65 Self-Supply**

“Self-Supply” shall mean Capacity Resources secured by a Load-Serving Entity, by ownership or contract, outside a Reliability Pricing Model Auction, and used to meet obligations under this Attachment or the Reliability Assurance Agreement through submission in a Base Residual Auction or an Incremental Auction of a Sell Offer indicating such Market Seller’s intent that such Capacity Resource be Self-Supply. Self-Supply may be either committed regardless of clearing price or submitted as a Sell Offer with a price bid. A Load Serving Entity's Sell Offer with a price bid for an owned or contracted Capacity Resource shall not be deemed “Self-Supply,” unless it is designated as Self-Supply and used by the LSE to meet obligations under this Attachment or the Reliability Assurance Agreement.

#### **2.65A Short-Term Resource Procurement Target**

“Short-Term Resource Procurement Target” shall mean, as to the PJM Region, for purposes of the Base Residual Auction, 2.5% of the PJM Region Reliability Requirement determined for such Base Residual Auction, for purposes of the First Incremental Auction, 2% of the of the PJM Region Reliability Requirement as calculated at the time of the Base Residual Auction; and, for purposes of the Second Incremental Auction, 1.5% of the of the PJM Region Reliability Requirement as calculated at the time of the Base Residual Auction; and, as to any Zone, an allocation of the PJM Region Short-Term Resource Procurement Target based on the Preliminary Zonal Forecast Peak Load, reduced by the amount of load served under the FRR Alternative. For any LDA, the LDA Short-Term Resource Procurement Target shall be the sum of the Short-Term Resource Procurement Targets of all Zones in the LDA.

#### **2.65B Short-Term Resource Procurement Target Applicable Share**

“Short-Term Resource Procurement Target Applicable Share” shall mean: (i) for the PJM Region, as to the First and Second Incremental Auctions, 0.2 times the Short-Term Resource Procurement Target used in the Base Residual Auction and, as to the Third Incremental Auction for the PJM Region, 0.6 times such target; and (ii) for an LDA, as to the First and Second Incremental Auctions, 0.2 times the Short-Term Resource Procurement Target used in the Base Residual Auction for such LDA and, as to the Third Incremental Auction, 0.6 times such target.

#### **2.66 Third Incremental Auction**

“Third Incremental Auction” shall mean an Incremental Auction conducted three months before the Delivery Year to which it relates.

#### **2.67 ~~Transition Adder [Reserved for Future Use]~~**

~~“Transition Adder” shall mean a component of a Sell Offer permitted for certain Capacity Market Sellers for the Transition Period, as set forth in section 17.~~

#### **2.68 ~~Transition Period~~**

~~“Transition Period” shall mean the four-year period consisting of the Delivery Years commencing June 1, 2007, June 1, 2008, June 1, 2009, and June 1, 2010.~~

## **2.68 Unconstrained LDA Group**

“Unconstrained LDA Group” shall mean a combined group of LDAs that form an electrically contiguous area and for which a separate Variable Resource Requirement Curve has not been established under Section 5.10 of Attachment DD. Any LDA for which a separate Variable Resource Requirement Curve has not been established under Section 5.10 of Attachment DD shall be combined with all other such LDAs that form an electrically contiguous area.

## **2.69 Unforced Capacity**

“Unforced Capacity” shall have the meaning specified in the Reliability Assurance Agreement.

### **2.69A Updated VRR Curve**

“Updated VRR Curve” shall mean the Variable Resource Requirement Curve as defined in section 5.10(a) of this Attachment for use in the Base Residual Auction of the relevant Delivery Year, updated to reflect the Short-term Resource Procurement Target applicable to the relevant Incremental Auction and any change in the Reliability Requirement from the Base Residual Auction to such Incremental Auction.

### **2.69B Updated VRR Curve Increment**

“Updated VRR Curve Increment” shall mean the portion of the Updated VRR Curve to the right of a vertical line at the level of Unforced Capacity on the x-axis of such curve equal to the net Unforced Capacity committed to the PJM Region as a result of all prior auctions conducted for such Delivery Year.

### **2.69C Updated VRR Curve Decrement**

“Updated VRR Curve Decrement” shall mean the portion of the Updated VRR Curve to the left of a vertical line at the level of Unforced Capacity on the x-axis of such curve equal to the net Unforced Capacity committed to the PJM Region as a result of all prior auctions conducted for such Delivery Year.

## **2.70 Variable Resource Requirement Curve**

“Variable Resource Requirement Curve” shall mean a series of maximum prices that can be cleared in a Base Residual Auction for Unforced Capacity, corresponding to a series of varying resource requirements based on varying installed reserve margins, as determined by the Office of the Interconnection for the PJM Region and for certain Locational Deliverability Areas in accordance with the methodology provided in Section 5.

## **2.71 Zonal Capacity Price**

“Zonal Capacity Price” shall mean the clearing price required in each Zone to meet the demand for Unforced Capacity and satisfy Locational Deliverability Requirements for the LDA or LDAs associated with such Zone. If the Zone contains multiple LDAs with different Capacity Resource Clearing Prices, the Zonal Capacity Price shall be a weighted average of the Capacity Resource Clearing Prices for such LDAs, weighted by the Unforced Capacity of Capacity Resources cleared in each such LDA.

## 5.8 Submission of Sell Offers and Buy Bids

The Office of the Interconnection shall evaluate and accept or reject Submission of Sell Offers and Buy Bids submitted by Capacity Market Sellers on the basis of shall be subject to the following requirements and criteria:

a) A Sell Offer or Buy Bid that fails to specify a positive megawatt quantity shall be rejected by the Office of the Interconnection.

b) A Buy Bid that fails to specify price shall be rejected by the Office of the Interconnection. A Sell Offer that fails to either designate such offer as self-scheduled or to specify an offer price shall be rejected by the Office of the Interconnection.

c) A Buy Bid that fails to designate the type of Unforced Capacity desired, i.e., an Annual Resource, Extended Summer Demand Resource, or Limited Demand Resource, shall be rejected by the Office of the Interconnection.

d) All Sell Offers and Buy Bids must be received by the Office of the Interconnection during a specified period, as determined by the Office of the Interconnection, in accordance with the PJM Manuals. A Sell Offer or Buy Bid may be withdrawn by a notification of withdrawal received by the Office of the Interconnection at any time during the foregoing period, but may not be withdrawn after such period.

e) Sell Offers or Buy Bids shall be submitted or withdrawn via the Internet site designated by the Office of the Interconnection; provided, however, that if the Internet site cannot be accessed at any time during the period specified for the applicable auction, a Sell Offer or Buy Bid may be submitted or withdrawn by electronic mail transmitted to the e-mail address, or faxed to the fax number specified by the Office of the Interconnection.

f) Sell Offers must be based on the Capacity Market Seller's Capacity Resource position at the opening of the auction's bidding window.

g) The Office of the Interconnection shall accept a Sell Offer only up to the megawatt amount of installed capacity of Capacity Resources owned or controlled by such Capacity Market Seller that has not previously been committed for the applicable Delivery Year.

h) No Sell Offer shall be accepted from an FRR Entity unless it meets the requirements applicable to such offers under Schedule 8.1 of the Reliability Assurance Agreement.

i) The Office of the Interconnection shall have final authority to determine whether to accept or reject a Sell Offer in accordance with the terms of the Tariff and the PJM Manuals.

j) A Capacity Market Seller and Capacity Market Buyer may submit any Sell Offer or Buy Bid, respectively, that it chooses or make a decision not to offer a committed resource, provided that the Office of the Interconnection determines that: (i) the Capacity Market Seller

has participated in the review process conducted by the Market Monitoring Unit (without regard to whether an agreement is obtained) if required by the Tariff; (ii) the Sell Offer is no higher, in the case of seller market power, or lower, in the case of buyer side market power, than the level to which the Capacity Market Seller has committed or agreed in the course of its participation in such review process; and (iii) the Sell Offer or Buy Bid is compliant with the Tariff and PJM Manuals. Capacity Market Sellers and Capacity Market Buyers assume exclusive responsibility for their Sell Offers and Buy Bids, respectively, and any adverse findings at the Commission related to its Sell Offers and Buy Bids.



## 5.11 Posting of Information Relevant to the RPM Auctions

a) In accordance with the schedule provided in the PJM Manuals, PJM will post the following information for a Delivery Year prior to conducting the Base Residual Auction for such Delivery Year:

i) The Preliminary PJM Region Peak Load Forecast (for the PJM Region, and allocated to each Zone) and, for Delivery Years through May 31, 2012, the ILR Forecast by Locational Deliverability Area;

ii) The PJM Region Installed Reserve Margin, the Pool-wide average EFORd, and the Forecast Pool Requirement;

iii) The Demand Resource Factor;

iv) The PJM Region Reliability Requirement, and the Variable Resource Requirement Curve for the PJM Region, including the details of any adjustments -to account for Price Responsive Demand and any associated PRD Reservation Prices;

v) The Locational Deliverability Area Reliability Requirement and the Variable Resource Requirement Curve for each Locational Deliverability Area for which a separate Variable Resource Requirement Curve has been established for such Base Residual Auction, including the details of any adjustments -to account for Price Responsive Demand and any associated PRD Reservation Prices, and the CETO and CETL values for all Locational Deliverability Areas;

vi) For Delivery Years starting with June 1, 2014, the Minimum Annual Resource Requirement and the Minimum Extended Summer Resource Requirement for the PJM Region and for each Locational Deliverability Area for which PJM is required under section 5.10(a) of this Attachment DD to establish a separate VRR Curve for such Delivery Year;

vii) Any Transmission Upgrades that are expected to be in service for such Delivery Year, provided that a Transmission Upgrade that is Backbone Transmission satisfies the project development milestones set forth in section 5.11A;

viii) The bidding window time schedule for each auction to be conducted for such Delivery Year; and

ix) The Net Energy and Ancillary Services Revenue Offset values for the PJM Region for use in the Variable Resource Requirement Curves for the PJM Region and each Locational Deliverability Area for which a separate Variable Resource Requirement Curve has been established for such Base Residual Auction; ~~and~~

~~x) —The results of the Preliminary Market Structure Screen in accordance with section 6.2(a).~~

b) The information listed in (a) will be posted and applicable for the First, Second, Third, and Conditional Incremental Auctions for such Delivery Year, except to the extent updated or adjusted as required by other provisions of this Tariff.

c) In accordance with the schedule provided in the PJM Manuals, PJM will post the Final PJM Region Peak Load Forecast and the allocation to each zone of the obligation resulting from such final forecast, following the completion of the final Incremental Auction (including any Conditional Incremental Auction) conducted for such Delivery Year;

d) In accordance with the schedule provided in the PJM Manuals, PJM will advise owners of Generation Capacity Resources of the updated EFORd values for such Generation Capacity Resources prior to the conduct of the Third Incremental Auction for such Delivery Year.

e) After conducting the Reliability Pricing Model Auctions, PJM will post the results of each auction as soon thereafter as possible, including any adjustments to PJM Region or LDA Reliability Requirements to reflect Price Responsive Demand with a PRD Reservation Price equal to or less than the applicable Base Residual Auction clearing price. The posted results shall include graphical supply curves that are - (a) provided for the entire PJM Region, (b) provided for any Locational Deliverability Area for which there are four (4) or more suppliers, and (c) developed using a formulaic approach to smooth the curves using a statistical technique that fits a smooth curve to the underlying supply curve data while ensuring that the point of intersection between supply and demand curves is at the market clearing price.

If PJM discovers an error in the initial posting of auction results for a particular Reliability Pricing Model Auction, it shall notify Market Participants of the error as soon as possible after it is found, but in no event later than 5:00 p.m. of the fifth business day following the initial publication of the results of the auction. After this initial notification, if PJM determines it is necessary to post modified results, it shall provide notification of its intent to do so, together with all available supporting documentation, by no later than 5:00 p.m. of the seventh business day following the initial publication of the results of the auction. Thereafter, PJM must post on its Web site any corrected auction results by no later than 5:00 p.m. of the tenth business day following the initial publication of the results of the auction. Should any of the above deadlines pass without the associated action on the part of the Office of the Interconnection, the originally posted results will be considered final. Notwithstanding the foregoing, the deadlines set forth above shall not apply if the referenced auction results are under publicly noticed review by the FERC.

## **5.14 Clearing Prices and Charges**

### **a) Capacity Resource Clearing Prices**

For each Base Residual Auction and Incremental Auction, the Office of the Interconnection shall calculate a clearing price to be paid for each megawatt-day of Unforced Capacity that clears in such auction. The Capacity Resource Clearing Price for each LDA will be the sum of the following: (1) the marginal value of system capacity for the PJM Region, without considering locational constraints, (2) the Locational Price Adder, if any in such LDA, (3) the Annual Resource Price Adder, if any, and (4) the Extended Summer Resource Price Adder, if any, all as determined by the Office of the Interconnection based on the optimization algorithm. If a Capacity Resource is located in more than one Locational Deliverability Area, it shall be paid the highest Locational Price Adder in any applicable LDA in which the Sell Offer for such Capacity Resource cleared. The Annual Resource Price Adder is applicable for Annual Resources only. The Extended Summer Resource Price Adder is applicable for Annual Resources and Extended Summer Demand Resources.

### **b) Resource Make-Whole Payments**

If a Sell Offer specifies a minimum block, and only a portion of such block is needed to clear the market in a Base Residual or Incremental Auction, the MW portion of such Sell Offer needed to clear the market shall clear, and such Sell Offer shall set the marginal value of system capacity. In addition, the Capacity Market Seller shall receive a Resource Make-Whole Payment equal to the Capacity Resource Clearing Price in such auction times the difference between the Sell Offer's minimum block MW quantity and the Sell Offer's cleared MW quantity. The cost for any such Resource Make-Whole Payments required in a Base Residual Auction or Incremental Auction for adjustment of prior capacity commitments shall be collected pro rata from all LSEs in the LDA in which such payments were made, based on their Daily Unforced Capacity Obligations. The cost for any such Resource Make-Whole Payments required in an Incremental Auction for capacity replacement shall be collected from all Capacity Market Buyers in the LDA in which such payments were made, on a pro-rata basis based on the MWs purchased in such auction.

### **c) New Entry Price Adjustment**

A Capacity Market Seller that submits a Sell Offer based on a Planned Generation Capacity Resource that clears in the BRA for a Delivery Year may, at its election, submit Sell Offers with a New Entry Price Adjustment in the BRAs for the two immediately succeeding Delivery Years if:

1. Such Capacity Market Seller provides notice of such election at the time it submits its Sell Offer for such resource in the BRA for the first Delivery Year for which such resource is eligible to be considered a Planned Generation Capacity Resource;
2. All or any part of a Sell Offer from the Planned Generation Capacity Resource submitted in accordance with section 5.14(c)(1) is the marginal Sell Offer that sets the Capacity Resource Clearing Price for the LDA.

3. Acceptance of all or any part of a Sell Offer that meets the conditions in section 5.14(c)(1)-(2) in the BRA increases the total Unforced Capacity committed in the BRA (including any minimum block quantity) for the LDA in which such Resource will be located from a megawatt quantity below the LDA Reliability Requirement to a megawatt quantity at or above a megawatt quantity at the price-quantity point on the VRR Curve at which the price is 0.40 times the applicable Net CONE divided by (one minus the pool-wide average EFORd); and

4. Such Capacity Market Seller submits Sell Offers in the BRA for the two immediately succeeding Delivery Years for the entire Unforced Capacity of such Generation Capacity Resource committed in the first BRA under section 5.14(c)(1)-(2) equal to the lesser of: A) the price in such seller's Sell Offer for the BRA in which such resource qualified as a Planned Generation Capacity Resource that satisfies the conditions in section 5.14(c)(1)-(3); or B) 0.90 times the Net CONE applicable in the first BRA in which such Planned Generation Capacity Resource meeting the conditions in section 5.14(c)(1)-(3) cleared, on an Unforced Capacity basis, for such LDA.

5. If the Sell Offer is submitted consistent with section 5.14(c)(1)-(4) the foregoing conditions, then:

- (i) in the first Delivery Year, the Resource sets the Capacity Resource Clearing Price for the LDA and all cleared resources in the LDA receive the Capacity Resource Clearing Price set by the Sell Offer as the marginal offer, in accordance with sections 5.12(a) and 5.14(a).
- (ii) in either of the subsequent two BRAs, if any part of the Sell Offer from the Resource clears, it shall receive the Capacity Resource Clearing Price for such LDA for its cleared capacity and for any additional minimum block quantity pursuant to section 5.14(b); or
- (iii) if the Resource does not clear, it shall be deemed resubmitted at the highest price per MW-day at which the megawatt quantity of Unforced Capacity of such Resource that cleared the first-year BRA will clear the subsequent-year BRA pursuant to the optimization algorithm described in section 5.12(a) of this Attachment, and
- (iv) the resource with its Sell Offer submitted shall clear and shall be committed to the PJM Region in the amount cleared, plus any additional minimum-block quantity from its Sell Offer for such Delivery Year, but such additional amount shall be no greater than the portion of a minimum-block quantity, if any, from its first-year Sell Offer satisfying section 5.14(c)(1)-(3) that is entitled to compensation pursuant to section 5.14(b) of this Attachment; and
- (v) the Capacity Resource Clearing Price, and the resources cleared, shall be re-determined to reflect the resubmitted Sell Offer. In such case, the Resource for which the Sell Offer is submitted pursuant to section

5.14(c)(1)-(4) shall be paid for the entire committed quantity at the Sell Offer price that it initially submitted in such subsequent BRA. The difference between such Sell Offer price and the Capacity Resource Clearing Price (as well as any difference between the cleared quantity and the committed quantity), will be treated as a Resource Make-Whole Payment in accordance with Section 5.14(b). Other capacity resources that clear the BRA in such LDA receive the Capacity Resource Clearing Price as determined in Section 5.14(a).

6. The failure to submit a Sell Offer consistent with Section 5.14(c)(i)-(iii) in the BRA for Delivery Year 3 shall not retroactively revoke the New Entry Price Adjustment for Delivery Year 2. However, the failure to submit a Sell Offer consistent with section 5.14(c)(4) in the BRA for Delivery Year 2 shall make the resource ineligible for the New Entry Pricing Adjustment for Delivery Years 2 and 3.

7. For each Delivery Year that the foregoing conditions are satisfied, the Office of the Interconnection shall maintain and employ in the auction clearing for such LDA a separate VRR Curve, notwithstanding the outcome of the test referenced in Section 5.10(a)(ii) of this Attachment.

8. On or before August 1, 2012, PJM shall file with FERC under FPA section 205, as determined necessary by PJM following a stakeholder process, tariff changes to establish a long-term auction process as a not unduly discriminatory means to provide adequate long-term revenue assurances to support new entry, as a supplement to or replacement of this New Entry Price Adjustment.

d) Qualifying Transmission Upgrade Payments

A Capacity Market Seller that submitted a Sell Offer based on a Qualifying Transmission Upgrade that clears in the Base Residual Auction shall receive a payment equal to the Capacity Resource Clearing Price, including any Locational Price Adder, of the LDA into which the Qualifying Transmission Upgrade is to increase Capacity Emergency Transfer Limit, less the Capacity Resource Clearing Price, including any Locational Price Adder, of the LDA from which the upgrade was to provide such increased CETL, multiplied by the megawatt quantity of increased CETL cleared from such Sell Offer. Such payments shall be reflected in the Locational Price Adder determined as part of the Final Zonal Capacity Price for the Zone associated with such LDAs, and shall be funded through a reduction in the Capacity Transfer Rights allocated to Load-Serving Entities under section 5.15, as set forth in that section. PJMSettlement shall be the Counterparty to any cleared capacity transaction resulting from a Sell Offer based on a Qualifying Transmission Upgrade.

e) Locational Reliability Charge

In accordance with the Reliability Assurance Agreement, each LSE shall incur a Locational Reliability Charge (subject to certain offsets and other adjustments as described in sections 5.13, 5.14A, and 5.15) equal to such LSE's Daily Unforced Capacity Obligation in a Zone during such

Delivery Year multiplied by the applicable Final Zonal Capacity Price in such Zone. PJMSettlement shall be the Counterparty to the LSEs' obligations to pay, and payments of, Locational Reliability Charges.

f) The Office of the Interconnection shall determine Zonal Capacity Prices in accordance with the following, based on the optimization algorithm:

i) The Office of the Interconnection shall calculate and post the Preliminary Zonal Capacity Prices for each Delivery Year following the Base Residual Auction for such Delivery Year. The Preliminary Zonal Capacity Price for each Zone shall be the sum of: 1) the marginal value of system capacity for the PJM Region, without considering locational constraints; 2) the Locational Price Adder, if any, for the LDA in which such Zone is located; provided however, that if the Zone contains multiple LDAs with different Capacity Resource Clearing Prices, the Zonal Capacity Price shall be a weighted average of the Capacity Resource Clearing Prices for such LDAs, weighted by the Unforced Capacity of Capacity Resources cleared in each such LDA; 3) an adjustment, if required, to account for adders paid to Annual Resources and Extended Summer Demand Resources in the LDA for which the zone is located; and 4) an adjustment, if required, to account for Resource Make-Whole Payments, all as determined in accordance with the optimization algorithm.

ii) The Office of the Interconnection shall calculate and post the Adjusted Zonal Capacity Price following each Incremental Auction. The Adjusted Zonal Capacity Price for each Zone shall equal the sum of: (1) the average marginal value of system capacity weighted by the Unforced Capacity cleared in all auctions previously conducted for such Delivery Year (excluding any Unforced Capacity cleared as replacement capacity); (2) the average Locational Price Adder weighted by the Unforced Capacity cleared in all auctions previously conducted for such Delivery Year (excluding any Unforced Capacity cleared as replacement capacity); (3) an adjustment, if required, to account for adders paid to Annual Resources and Extended Summer Demand Resources for all auctions previously conducted for such Delivery Year (excluding any Unforced Capacity cleared as replacement capacity); and (4) an adjustment, if required, to account for Resource Make-Whole Payments for all actions previously conducted (excluding any Resource Make-Whole Payments to be charged to the buyers of replacement capacity). The Adjusted Zonal Capacity Price may decrease if Unforced Capacity is decommitted or the Resource Clearing Price decreases in an Incremental Auction.

iii) The Office of the Interconnection shall, through May 31, 2012, calculate and post the Final Zonal Capacity Price after all ILR resources are certified for the Delivery Years and, thereafter, shall calculate and post such price after the final auction is held for such Delivery Year, as set forth above. The Final Zonal Capacity Price for each Zone shall equal the Adjusted Zonal Capacity Price, as further adjusted (for the Delivery Years through May 31, 2012) to reflect the certified ILR compared to the ILR Forecast previously used for such Delivery Year, and any decreases in the Nominated Demand Resource Value of any existing Demand Resource cleared in the Base Residual Auction and Second Incremental Auction. For such purpose, for the three consecutive Delivery Years ending May 31, 2012 only, the Forecast ILR allocated to loads located in the AEP transmission zone that are served under the Reliability Pricing Model shall be in proportion for each such year to the load ratio share of such RPM loads compared to the total peak loads of such zone for such year; and any remaining ILR Forecast that

otherwise would be allocated to such loads shall be allocated to all Zones in the PJM Region pro rata based on their Preliminary Zonal Peak Load Forecasts.

g) Resource Substitution Charge

Each Capacity Market Buyer in an Incremental Auction securing replacement capacity shall pay a Resource Substitution Charge equal to the Capacity Resource Clearing Price resulting from such auction multiplied by the megawatt quantity of Unforced Capacity purchased by such Market Buyer in such auction.

h) Minimum Offer Price Rule for Certain Planned Generation Capacity Resources

(1) For purposes of this section, the Net Asset Class Costs of New Entry shall be asset-class estimates of competitive, cost-based nominal levelized Cost of New Entry, net of energy and ancillary service revenues. Determination of the gross Cost of New Entry component of the Net Asset Class Cost of New Entry shall be consistent with the methodology used to determine the Cost of New Entry set forth in Section 5.10(a)(iv)(A) of this Attachment. The gross Cost of New Entry component of Net Asset Class Cost of New Entry shall be, for purposes of the Delivery Year commencing on June 1, 2014, the values indicated in the table below for each CONE Area for a combustion turbine generator ("CT") and a combined cycle generator ("CC"), respectively, and shall be adjusted for subsequent Delivery Years in accordance with subsection (h)(2) below. The estimated energy and ancillary service revenues for each type of plant shall be determined as described in subsection (h)(3) below. Notwithstanding the foregoing, the Net Asset Class Cost of New Entry shall be zero for: (i) Sell Offers based on nuclear, coal or Integrated Gasification Combined Cycle facilities; or (ii) Sell Offers based on hydroelectric, wind, or solar facilities.

	CONE Area 1	CONE Area 2	CONE Area 3	CONE Area 4	CONE Area 5
CT \$/MW-yr	134,000	123,700	123,500	130,100	111,000
CC \$/MW-yr	168,200	147,600	162,200	161,800	143,800

(2) Beginning with the Delivery Year that begins on June 1, 2015, the Cost of New Entry component of the Net Asset Class Cost of New Entry shall be adjusted to reflect changes in generating plant construction costs based on changes in the Applicable H-W Index, in the same manner as set forth for the cost of new entry in section 5.10(a)(iv)(B), provided, however, that nothing herein shall preclude the Office of the Interconnection from filing to change the Net Asset Class Cost of New Entry for any Delivery Year pursuant to appropriate filings with FERC under the Federal Power Act.

(3) For purposes of this provision, the net energy and ancillary services revenue estimate for a combustion turbine generator shall be that determined by section 5.10(a)(v)(A) of this Attachment DD, provided that the energy revenue estimate for each CONE Area shall be based on the Zone within such CONE Area that has the highest energy revenue estimate calculated under the methodology in that subsection. The net energy and ancillary services revenue estimate for a combined cycle generator shall be determined in the same manner as that prescribed for a combustion turbine generator in the previous sentence, except

that the heat rate assumed for the combined cycle resource shall be 6.722 MMBtu/Mwh, the variable operations and maintenance expenses for such resource shall be \$3.23 per MWh, the Peak-Hour Dispatch scenario for both the Day-Ahead and Real-Time Energy Markets shall be modified to dispatch the CC resource continuously during the full peak-hour period, as described in section 2.46, for each such period that the resource is economic (using the test set forth in such section), rather than only during the four-hour blocks within such period that such resource is economic, and the ancillary service revenues shall be \$3198 per MW-year.

(4) Any Sell Offer that is based on

(i) a Generation Capacity Resource located in the PJM Region that is submitted in an RPM Auction for a Delivery Year unless a Sell Offer based on that resource has cleared an RPM Auction for that or any prior Delivery Year, or until a Sell Offer based on that resource clears an RPM auction for that or any subsequent Delivery Year; or

(ii) a Generation Capacity Resource located outside the PJM Region (where such Sell Offer is based solely on such resource) that requires sufficient transmission investment for delivery to the PJM Region to indicate a long-term commitment to providing capacity to the PJM Region, unless a Sell Offer based on that resource has cleared an RPM Auction for that or any prior Delivery Year, or until a Sell offer based on that resource clears an RPM Auction for that or any subsequent Delivery Year, in any LDA for which a separate VRR Curve is established for use in the Base Residual Auction for the Delivery Year relevant to the RPM Auction in which such offer is submitted, and that is less than 90 percent of the applicable Net Asset Class Cost of New Entry or, if there is no applicable Net Asset Class Cost of New Entry, less than 70 percent of the Net Asset Class Cost of New Entry for a combustion turbine generator as provided in subsection (h)(1) above shall be set to equal 90 percent of the applicable Net Asset Class Cost of New Entry (or set equal to 70 percent of such cost for a combustion turbine, where there is no otherwise applicable net asset class figure), unless the Capacity Market Seller obtains the prior determination from the Office of the Interconnection described in subsection (5) hereof. This provision applies to Sell Offers submitted in Incremental Auctions conducted after December 19, 2011, provided that the Net Asset Class Cost of New Entry values for any such Incremental Auctions for the 2012-13 or 2013-14 Delivery Years shall be the Net Asset Class Cost of New Entry values posted by the Office of the Interconnection for the Base Residual Auction for the 2014-15 Delivery Year.

(5) A Sell Offer meeting the criteria in subsection (4) shall be permitted and shall not be re-set to the price level specified in that subsection if the Capacity Market Seller obtains a determination from the Office of the Interconnection or the Commission, prior to the RPM Auction in which it seeks to submit the Sell Offer, that such Sell Offer is permissible because it is consistent with the competitive, cost-based, fixed, net cost of new entry were the resource to rely solely on revenues from PJM-administered markets. The following process and requirements shall apply to requests for such determinations:



(i) The Capacity Market Seller may request such a determination ~~at any time, but by~~ no later than ~~60 one hundred twenty (120)~~ days prior to the ~~commencement of the offer period for the RPM Auction~~ in which it seeks to submit its Sell Offer, by submitting simultaneously to the Office of the Interconnection and the Market Monitoring Unit a written request with all of the required full-documentation as described below and in the PJM Manuals. For such purpose, the Office of the Interconnection shall post, by no later than one hundred fifty (150) days prior to the commencement of the offer period for the relevant RPM Auction, a preliminary estimate for the relevant Delivery Year of A Capacity Market Seller may request such a determination before the minimum offer level expected to be established under specified in subsection (4). is established for the relevant Delivery Year, based on the minimum offer level established for the prior Delivery Year or other reasonable estimate of the minimum offer level expected for the relevant Delivery Year. In such event, i If the minimum offer level subsequently established for the relevant Delivery Year is less than the Sell Offer, the Sell Offer shall be permitted and no exception shall be required.

(ii) As more fully set forth in the PJM Manuals, the Capacity Market Seller must include in its request for an exception under this subsection documentation to support the fixed development, construction, operation, and maintenance costs of the planned generation resource, as well as estimates of offsetting net revenues. Estimates of costs or revenues shall be supported at a level of detail comparable to the cost and revenue estimates used to support the Net Asset Class Cost of New Entry established under this section 5.14(h). As more fully set forth in the PJM Manuals, supporting documentation for project costs may include, as applicable and available, a complete project description; environmental permits; vendor quotes for plant or equipment; evidence of actual costs of recent comparable projects; bases for electric and gas interconnection costs and any cost contingencies; bases and support for property taxes, insurance, operations and maintenance (“O&M”) contractor costs, and other fixed O&M and administrative or general costs; financing documents for construction-period and permanent financing or evidence of recent debt costs of the seller for comparable investments; and the bases and support for the claimed capitalization ratio, rate of return, cost-recovery period, inflation rate, or other parameters used in financial modeling. Such documentation also shall identify and support any sunk costs that the Capacity Market Seller has reflected as a reduction to its Sell Offer. The request shall include a certification, signed by an officer of the Capacity Market Seller, that the claimed costs accurately reflect, in all material respects, the seller’s reasonably expected costs of new entry and that the request satisfies all standards for an exception hereunder. The request also shall identify all revenue sources relied upon in the Sell Offer to offset the claimed fixed costs, including, without limitation, long-term power supply contracts, tolling agreements, or tariffs on file with state regulatory agencies, and shall demonstrate that such offsetting revenues are consistent, over a reasonable time period identified by the Capacity Market Seller, with the standard prescribed above. In making such demonstration, the Capacity Market Seller may rely upon forecasts of competitive electricity prices in the PJM Region based on well defined models that include fully documented estimates of future fuel prices, variable operation and maintenance expenses, energy demand, emissions allowance prices, and expected environmental or energy policies that affect the seller’s forecast of electricity prices in such region, employing

input data from sources readily available to the ~~Office of the Interconnection and the Market Monitoring Unit~~<sup>public</sup>. Documentation for net revenues also may include, as available and applicable, plant performance and capability information, including heat rate, start-up times and costs, forced outage rates, planned outage schedules, maintenance cycle, fuel costs and other variable operations and maintenance expenses, and ancillary service capabilities. In addition to the documentation identified herein and in the PJM Manuals, the Capacity Market Seller shall provide any additional supporting information reasonably requested by the Office of the Interconnection or the Market Monitoring Unit to evaluate the Sell Offer. Requests for additional documentation will not extend the deadline by which the Office of the Interconnection or the Market Monitoring Unit must provide their determinations of the Minimum Offer Price Rule exception request.

(iii) A Sell Offer evaluated hereunder shall be permitted if the information provided reasonably demonstrates that the Sell Offer's competitive, cost-based, fixed, net cost of new entry is below the minimum offer level prescribed by subsection (4), based on competitive cost advantages relative to the costs estimated for subsection (4), including, without limitation, competitive cost advantages resulting from the Capacity Market Seller's business model, financial condition, tax status, access to capital or other similar conditions affecting the applicant's costs, or based on net revenues that are reasonably demonstrated hereunder to be higher than estimated for subsection (4). Capacity Market Sellers shall be asked to demonstrate that claimed cost advantages or sources of net revenue that are irregular or anomalous, that do not reflect arm's-length transactions, or that are not in the ordinary course of the Capacity Market Seller's business are consistent with the standards of this subsection. Failure to adequately support such costs or revenues so as to enable the Office of the Interconnection to make the determination required in this section will result in denial of an exception hereunder by the Office of the Interconnection.

(iv) ~~the determination required under this subsection shall be provided to the Capacity Market Seller in writing by the Office of the Interconnection no later than 45 days after receipt of the request.~~ The Market Monitoring Unit shall ~~first~~ review the information and documentation in support of the request and shall provide its findings whether the proposed Sell Offer is acceptable, in accordance with the standards and criteria hereunder, in writing, ~~simultaneously~~ to the Capacity Market Seller and the Office of the Interconnection by no later than ninety (90) days prior to the commencement of the offer period for such auction after receipt of such request. ~~If the findings of the Market Monitoring Unit are adverse to the Capacity Market Seller, such Capacity Market Seller may request, through written notice within 5 days of its receipt of the Market Monitoring Unit's findings, review by the Office of the Interconnection, provided, however, that~~ The Office of the Interconnection as Tariff administrator may elect to ~~shall also~~ review all exception requests and documentation and shall provide in writing to the Capacity Market Seller and the Market Monitoring Unit its determination whether the requested Sell Offer is acceptable and if not it shall calculate and provide to such Capacity Market Seller, a minimum Sell Offer based on the data and documentation received, by no later than sixty-five (65) days prior to the commencement of the offer period for the relevant RPM Auction. If the Office of the Interconnection determines that the requested Sell Offer is acceptable, the Capacity Market Seller shall notify the Market

Monitoring Unit and the Office of the Interconnection, in writing, of the minimum level of Sell Offer to which it agrees to commit by no later than sixty (60) days prior to the commencement of the offer period for the relevant RPM Auction~~any Market Monitoring Unit determination hereunder on its own initiative.~~

i) Capacity Export Charges and Credits

(1) Charge

Each Capacity Export Transmission Customer shall incur for each day of each Delivery Year a Capacity Export Charge equal to the Reserved Capacity of Long-Term Firm Transmission Service used for such export (“Export Reserved Capacity”) multiplied by (the Final Zonal Capacity Price for such Delivery Year for the Zone encompassing the interface with the Control Area to which such capacity is exported minus the Final Zonal Capacity Price for such Delivery Year for the Zone in which the resources designated for export are located, but not less than zero). If more than one Zone forms the interface with such Control Area, then the amount of Reserved Capacity described above shall be apportioned among such Zones for purposes of the above calculation in proportion to the flows from such resource through each such Zone directly to such interface under CETO/CETL analysis conditions, as determined by the Office of the Interconnection using procedures set forth in the PJM Manuals. The amount of the Reserved Capacity that is associated with a fully controllable facility that crosses such interface shall be completely apportioned to the Zone within which such facility terminates.

(2) Credit

To recognize the value of firm Transmission Service held by any such Capacity Export Transmission Customer, such customer assessed a charge under section 5.14(i)(1) also shall receive a credit, comparable to the Capacity Transfer Rights provided to Load-Serving Entities under section 5.15. Such credit shall be equal to the locational capacity price difference specified in section 5.14(i)(1) times the Export Customer's Allocated Share determined as follows:

Export Customer's Allocated Share equals

$$(\text{Export Path Import} * \text{Export Reserved Capacity}) /$$

$$(\text{Export Reserved Capacity} + \text{Daily Unforced Capacity Obligations of all LSEs in such Zone}).$$

Where:

“Export Path Import” means the megawatts of Unforced Capacity imported into the export interface Zone from the Zone in which the resource designated for export is located.

If more than one Zone forms the interface with such Control Area, then the amount of Export Reserved Capacity shall be apportioned among such Zones for purposes of the above calculation in the same manner as set forth in subsection (i)(1) above.

(3) Distribution of Revenues

Any revenues collected from the Capacity Export Charge with respect to any capacity export for a Delivery Year, less the credit provided in subsection (i)(2) for such Delivery Year, shall be distributed to the Load Serving Entities in the export-interface Zone that were assessed a

Locational Reliability Charge for such Delivery Year, pro rata based on the Daily Unforced Capacity Obligations of such Load-serving Entities in such Zone during such Delivery Year. If more than one Zone forms the interface with such Control Area, then the revenues shall be apportioned among such Zones for purposes of the above calculation in the same manner as set forth in subsection (i)(1) above.

**5.14A Demand Response Transition Provision for RPM Delivery Years 2012/2013, 2013/2014, and 2014/2015**

A. This Transition Provision applies only with respect to Demand Resources cleared in the Base Residual Auction for any or all of the 2012/2013, 2013/2014, or 2014/2015 Delivery Years (hereafter, “Transition Delivery Years” and each a “Transition Delivery Year”) by a Curtailment Service Provider as an aggregator of end-use customers registered for the Emergency Load Response Program as Full Program Option or Capacity Only Option. A Curtailment Service Provider meeting the description of the preceding sentence is hereafter in this Section 5.14A referred to as a “Qualified DR Provider.”

B. In the event that a Qualified DR Provider concludes that its cleared Demand Resource for a Transition Delivery Year is not viable under the revised Reporting and Compliance provisions of the Emergency Load Response Program which became effective on November 7, 2011, pursuant to the Commission’s order issued on November 4, 2011, in Docket No. ER11-3322-000 (137 FERC ¶ 61,108), the Qualified DR Provider must so inform PJM in writing by no later than 30 days prior to the next Incremental Auction for the Transition Delivery Year for which the identified Demand Resource was cleared. A Qualified DR Provider that does not timely provide the notice described in this paragraph shall be excluded from application of the remainder of this Transition Provision. A Demand Resource cleared for a Transition Delivery Year is not viable for purposes of this Transition Provision to the extent that it relies upon load reduction by any end-use customer for which the applicable Qualified DR Provider anticipated, when it offered the Demand Resource, measuring load reduction at loads in excess of such customer’s peak load contribution during Emergency Load Response dispatch events or tests.

1. In the event a Qualified DR Provider that participates in an Incremental Auction after providing notice pursuant to paragraph B. above purchases Capacity Resources to replace its previously cleared Demand Resource at a price that exceeds the price at which the provider’s Demand Resource cleared in the Base Residual Auction for the same Transition Delivery Year, the Qualified DR Provider shall receive a DR Capacity Transition Credit in an amount determined by the following:

$$\text{DRTC} = (\text{IAP} - \text{BRP}) * \text{DRMW}$$

Where:

DRTC is the amount of the DR Capacity Transition Credit for the Qualified DR Provider, expressed in dollars;

IAP = the Capacity Resource Clearing Price paid by the Qualified DR Provider for replacement Capacity Resources in the Incremental Auction for the relevant Transition Delivery Year;

BRP = the Capacity Resource Clearing Price at which the Qualified DR Provider's Demand Resource cleared in the Base Residual Auction for the same Transition Delivery Year; and

DRMW = the capacity in MW of the Qualified DR Provider's previously cleared Demand Resource.

2. All DR Capacity Transition Credits will be paid weekly to the recipient Qualified DR Providers by PJMSettlement during the relevant Transition Delivery Year.
3. The cost of payments of DR Capacity Transition Credits to Qualified DR Providers shall be included in the Locational Reliability Charge collected by PJMSettlement during the relevant Transition Delivery Year from Load-Serving Entities in the LDA(s) for which the Qualified DR Provider's subject Demand Resource was cleared.

C. A Qualified DR Provider may seek compensation related to its previously cleared Demand Resource for a particular Transition Delivery Year, in lieu of any DR Capacity Transition Credits for which it otherwise might be eligible under paragraph B.1. above, under the following conditions:

1. The Qualified DR Provider must provide timely notice to PJM in accordance with paragraph B of this Transition Provision, and
2. The Qualified DR Provider must demonstrate to PJM's reasonable satisfaction, not later than 60 days prior to the start of the applicable Transition Delivery Year, that
  - a. the Qualified DR Provider entered into contractual arrangements on or before April 7, 2011, with one or more end-use customers registered for the Emergency Load Response Program as Full Program Option or Capacity Only Option in association with the Demand Resource identified in the provider's notice pursuant to paragraph B above,
  - b. under which the Qualified DR Provider is unavoidably obligated to pay to such end-use customers during the relevant Transition Delivery Year
  - c. an aggregate amount that exceeds:

(i) any difference of (A) the amount the Qualified DR Provider is entitled to

receive in payment for the previously cleared Demand Resource it designated as not viable in its notice pursuant to -paragraph B of this provision, minus (B) the amount the provider is obligated to pay for capacity resources it purchased in the Incremental Auctions to replace the Demand Resource the provider designated as not viable, plus

(ii) any monetary gains the Qualified DR Provider realizes from purchases of Capacity Resources in Incremental Auctions for the same Transition Delivery Year to replace any Demand Resources that the Qualified DR Provider cleared in the applicable Base Residual Auction other than the resource designated as not viable in the provider's notice pursuant to paragraph (B) of this provision,

(iii) where "monetary gains" for the purpose of clause (ii) shall be any positive difference of (A) the aggregate amount the Qualified DR Provider is entitled to receive in payment for any such other Demand Resource it cleared in the Base Residual Auction, minus (B) the aggregate amount the provider is obligated to pay for capacity resources it purchased in the applicable Incremental Auctions to replace any such other Demand Resource the provider cleared in the Base Residual Auction.

D. A Qualified DR Provider which demonstrates satisfaction of the conditions of paragraph C of this Transition Provision shall be entitled to an Alternative DR Transition Credit equal to the amount described in paragraph C.2.c. above. Any Alternative DR Transition Credit provided in accordance with this paragraph shall be paid and collected by PJMSettlement in the same manner as described in paragraphs B.2. and B.3. of this Transition Provision, provided, however, that each Qualified DR Provider receiving an Alternative DR Transition Credit shall submit to PJM within 15 days following the end of each month of the relevant Transition Delivery Year a report providing the calculation described in paragraph C.2.c. above, using actual amounts paid and received through the end of the month just ended. The DR Provider's Alternative DR Transition Credit shall be adjusted as necessary (including, if required, in the month following the final month of the Transition Delivery Year) to ensure that the total credit paid to the Qualified DR Provider for the Transition Delivery Year will equal, but shall not exceed, the amount described in paragraph C.2.c. above, calculated using the actual amounts paid and received by the Qualified DR Provider.

## 6. MARKET POWER MITIGATION

### 6.1 Applicability

The provisions of the Market Monitoring Plan (in Attachment M and Attachment - M Appendix to this Tariff and this section 6) shall apply to the Reliability Pricing Model Auctions.

### 6.2 Process

(a) ~~[Reserved for Future Use] By no later than 90 days (or such other time period as established for purposes of the Transition Period) prior to the conduct of the Base Residual Auction and each Incremental Auction for such Delivery Year, the Office of the Interconnection shall post or continue to post the results of the Market Monitoring Unit's application of the Preliminary Market Structure Screen determined pursuant to section II.D of Attachment M—Appendix.~~

(b) In accordance with the schedule specified in the PJM Manuals, following PJM's conduct of a Base Residual Auction or Incremental Auction pursuant to section 5.12, but prior to the Office of the Interconnection's final determination of clearing prices and charges pursuant to section 5.14, the Office of the Interconnection shall: (i) apply the Market Structure Test to any LDA having a Locational Price Adder greater than zero and to the entire PJM region; (ii) apply Market Seller Offer Caps, if required under this section 6; and (iii) recompute the optimization algorithm to clear the auction with the Market Seller Offer Caps in place.

(c) Within seven days after the deadline for submission of Sell Offers in a Base Residual Auction or Incremental Auction, the Office of the Interconnection shall file with FERC a report of any determination made pursuant to sections 5.14(h), 6.5(a)(ii), or 6.7(c) identified in such sections as subject to the procedures of this section. Such report shall list each such determination, the information considered in making each such determination, and an explanation of each such determination. Any entity that objects to any such determination may file a written objection with FERC no later than seven days after the filing of the report. Any such objection must not merely allege that the determination was in error, and must provide support for the objection, demonstrating that the determination overlooked or failed to consider relevant evidence. In the event that no objection is filed, the determination shall be final. In the event that an objection is filed, FERC shall issue any decision modifying the determination no later than 60 days after the filing of such report; otherwise, the determination shall be final. Final auction results shall reflect any decision made by FERC regarding the report.

### 6.3 Market Structure Tests

(a) ~~Preliminary Market Structure Screen.~~

~~The Market Monitoring Unit shall apply the Preliminary Market Structure Screen pursuant to section II.D of Attachment M—Appendix. Potential Capacity Market Sellers owning or controlling any Existing Generation Capacity Resources in the PJM Region shall be required to provide to the Market Monitoring Unit the additional information specified in section II.D of Attachment M—Appendix if such Generation Capacity is located in an LDA, "Unconstrained~~



~~LDA Group” (as defined in Attachment M – Appendix), or the entire PJM Region that fails the Preliminary Market Structure Screen, as applied pursuant to section II.D below. [Reserved for Future Use]~~

(b) Market Structure Test.

A constrained LDA or the PJM Region shall fail the Market Structure Test, and mitigation shall be applied to all jointly pivotal suppliers (including all Affiliates of such suppliers, and all third-party supply in the relevant LDA controlled by such suppliers by contract), if, as to the Sell Offers that comprise the incremental supply determined pursuant to section 6.3(c) that are based on Generation Capacity Resources, there are not more than three jointly pivotal suppliers. The Office of the Interconnection shall apply the Market Structure Test. The Office of the Interconnection shall confirm the results of the Market Structure Test with the Market Monitoring Unit.

(c) Determination of Incremental Supply

In applying the Market Structure Test, the Office of the Interconnection shall consider all (i) incremental supply (provided, however, that the Office of the Interconnection shall consider only such supply available from Generation Capacity Resources) available to solve the constraint applicable to a constrained LDA offered at less than or equal to 150% of the cost-based clearing price; or (ii) supply for the PJM Region, offered at less than or equal to 150% of the cost-based clearing price, provided that supply in this section includes only the lower of cost-based or priced based offers from Generation Capacity Resources. Cost-based clearing prices are the prices resulting from the RPM auction algorithm using the lower of cost-based or price-based offers for all Capacity Resources.

## 6.4 Market Seller Offer Caps

(a) The Market Seller Offer Cap, stated in dollars per MW/day of unforced capacity, applicable to price-quantity offers within the Base Offer Segment for an Existing Generation Capacity Resource shall be the Avoidable Cost Rate for such resource, less the Projected PJM Market Revenues for such resource, stated in dollars per MW/day of unforced capacity. ~~During the first three Delivery Years of the Transition Period, the Market Seller Offer Cap shall be increased for Sell Offers submitted by eligible Capacity Market Sellers in any Unconstrained LDA Group by the Transition Adder set forth in section 17.5 of this Attachment.~~ The Market Seller Offer Cap for an Existing Generation Capacity Resource shall be the Opportunity Cost for such resource, if applicable, as determined in accordance with section 6.7. Nothing herein shall preclude any Capacity Market Seller and the Market Monitoring Unit from agreeing to, nor require either such entity to agree to, an alternative market seller offer cap determined on a mutually agreeable basis. Any such alternative offer cap shall be filed with the Commission for its approval. This provision is duplicated in section II.E.3 of Attachment M- Appendix.

(b) For each Existing Generation Capacity Resource, a potential Capacity Market Seller must ~~timely~~ provide to the Market Monitoring Unit and the Office of the Interconnection data and documentation required under section 6.6 to establish the level of the Market Seller Offer Cap applicable to each resource by no later than one hundred twenty (120) days prior to



the commencement of the offer period for the applicable RPM Auction. The Capacity Market Seller must promptly address any concerns identified by the Market Monitoring Unit regarding the data and documentation provided, review the ~~proposed~~ Market Seller Offer Cap proposed by the Market Monitoring Unit, and attempt to reach agreement with the Market Monitoring Unit on the level of the Market Seller Offer Cap by no later than ninety (90) days prior to the commencement of the offer period for the applicable RPM Auction. The Capacity Market Seller shall notify the Market Monitoring Unit in writing, with a copy to the Office of the Interconnection, whether an agreement with the Market Monitoring Unit has been reached or, if no agreement has been reached, specifying the level of Market Seller Offer Cap to which it commits by no later than eighty (80) days prior to the commencement of the offer period for the applicable RPM Auction. The Office of the Interconnection shall review the data submitted by the Capacity Market Seller, make a determination whether to accept or reject the requested unit-specific Market Seller Offer Cap, and notify the Capacity Market Seller and the Market Monitoring Unit of its determination in writing, by no later than sixty-five (65) days prior to the commencement of the offer period for the applicable RPM Auction. If the Market Monitoring Unit does not provide its determination to the Capacity Market Seller and the Office of the Interconnection by the specified deadline, by no later than sixty-five (65) days prior to the commencement of the offer period for the applicable RPM Auction the Office of the Interconnection will make the determination of the level of the Market Seller Offer Cap, which shall be deemed to be final. If the Capacity Market Seller does not notify the Market Monitoring Unit and the Office of the Interconnection of the Market Seller Offer Cap it desires to utilize by no later than eighty (80) days prior to the commencement of the offer period for the applicable RPM Auction, it shall be required to utilize a Market Seller Offer Cap determined using the applicable default Avoidable Cost Rate specified in section 6.7(c).

~~(c) — If the Market Monitoring Unit informs the Office of the Interconnection that a Capacity Market Seller has failed to submit costs consistent with section 6.7, it shall be required to submit any Sell Offer in the applicable auction as Self-Supply committed regardless of clearing price. If such Capacity Market Seller submits a Sell Offer that is not Self-Supply committed regardless of clearing price, the Market Monitoring Unit may seek relief from the Commission pursuant to section II.E of Attachment M—Appendix.~~

~~(d) — In the event that a Capacity Market Seller and the Market Monitoring Unit cannot agree on the level of a Market Seller Offer Cap, the Office of the Interconnection shall make its own determination of the level of the Market Seller Offer Cap based on the requirements of the Tariff and the PJM Manuals. If the Capacity Market Seller submits a Sell Offer that the Office of the Interconnection determines would result in an increase of greater than five percent in any Zonal Capacity Price determined through such auction compared to the Office of the Interconnection's determination of the level of the Market Seller Offer Cap, the Office of the Interconnection shall apply to FERC for an order, on an expedited basis, directing such Capacity Market Seller to submit a Sell Offer consistent with the Office of the Interconnection's determination, or for other appropriate relief, and PJM shall postpone clearing the auction pending FERC's decision on the matter. Should the Market Monitoring Unit exercise its powers to inform Commission staff of its concerns and request a determination, on an expedited basis, directing a Capacity Market Seller to submit a Sell Offer consistent with the Market Monitoring Unit's determination, or for other appropriate relief, pursuant to section II.E of Attachment M—Appendix, PJM may postpone clearing the auction pending FERC's decision on the matter.~~

(~~ce~~) Nothing in this section precludes the Capacity Market Seller from filing a petition with FERC seeking a determination of whether the Sell Offer complies with the requirements of the Tariff.

~~(f) Notwithstanding the foregoing, a Capacity Market Seller may submit a Sell Offer that it chooses, provided that (i) it has participated in good faith with the process described in this section 6.4 and in section H.E of Attachment M Appendix, (ii) the offer is no higher than the level defined in any agreement reached by the Capacity Market Seller and the Market Monitoring Unit that resulted from the foregoing process, and (iii) the offer is accepted by the Office of the Interconnection subject to the criteria set forth in the Tariff and the PJM Manuals.~~

(~~dg~~) For any Third Incremental Auction, the Market Seller Offer Cap for an Existing Generation Capacity Resource shall be determined pursuant to paragraph (a) of this Section 6.4, or if elected by the Capacity Market Seller, shall be equal to 1.1 times the Capacity Resource Clearing Price in the Base Residual Auction for the relevant LDA and Delivery Year.

## 6.5 Mitigation

The Office of the Interconnection shall apply market power mitigation measures in any Base Residual Auction or Incremental Auction for any LDA, Unconstrained LDA Group, or the PJM Region that fails the Market Structure Test.

(a) Mitigation for Generation Capacity Resources.

i) Existing Generation Capacity Resource

Mitigation will be applied on a unit-specific basis and only if the Sell Offer of Unforced Capacity from an Existing Generation Capacity Resource: (1) is greater than the Market Seller Offer Cap applicable to such resource; and (2) would, absent mitigation, increase the Capacity Resource Clearing Price in the relevant auction. If such conditions are met, such Sell Offer shall be set equal to the Market Seller Offer Cap.

ii) Planned Generation Capacity Resources

(A) Sell Offers based on Planned Generation Capacity Resources (including External Planned Generation Capacity Resources) shall be presumed to be competitive and shall not be subject to market power mitigation in any Base Residual Auction or Incremental Auction for which such resource qualifies as a Planned Generation Capacity Resource, but any such Sell Offer shall be rejected if it meets the criteria set forth in subsection (C) below, unless the Capacity Market Seller obtains approval from FERC for use of such offer prior to the deadline for submission of such offers in the applicable auction. Such resources are ~~Existing~~ Generation Capacity Resources in the auctions for any Delivery Year following the Delivery Year for which such resource cleared an RPM Auction. Such resources may receive certain price assurances for the two

Delivery Years immediately following the first Delivery Year of service under certain conditions as set forth in section 5.14 of this Attachment. Notwithstanding the foregoing, a Generation Capacity Resource for which construction has not commenced and which would otherwise have been treated as a Planned Generation Capacity Resource but for the fact that it was bid into RPM Auctions for at least two consecutive Delivery Years, and cleared the last such auction only because it was considered existing and its mitigated offer cap was accepted when its price offer would not have otherwise been accepted, shall be deemed to be a Planned Generation Capacity Resource.

(B) Sell Offers based on Planned Generation Capacity Resources (including External Planned Generation Capacity Resources) submitted for the first year in which such resources qualify as Planned Generation Capacity Resources shall be deemed competitive and not be subject to mitigation if: (1) collectively all such Sell Offers provide Unforced Capacity in an amount equal to or greater than two times the incremental quantity of new entry required to meet the LDA Reliability Requirement; and (2) at least two unaffiliated suppliers have submitted Sell Offers for Planned Generation Capacity Resources in such LDA. Notwithstanding the foregoing, any Capacity Market Seller, together with Affiliates, whose Sell Offers based on Planned Generation Capacity Resources in that LDA are pivotal, shall be subject to mitigation.

(C) Where the two conditions stated in subsection (B) are not met, or the Sell Offer is pivotal, the Sell Offer shall be rejected if it exceeds 140 percent of: 1) the average of location-adjusted Sell Offers for Planned Generation Capacity Resources from the same asset class as such Sell Offer, submitted (and not rejected) (Asset-Class New Plant Offers) for such Delivery Year; or 2) if there are no Asset-Class New Plant Offers for such Delivery Year, the average of Asset-Class New Plant Offers for all prior Delivery Years; or 3) if there are no Asset-Class New Plant Offers for any prior Delivery Year, the Net CONE applicable for such Delivery Year in the LDA for which such offer was submitted. For purposes of this section, asset classes shall be as stated in section 6.7(c) as effective for such Delivery Year, and Asset-Class New Plant Offers shall be location-adjusted by the ratio between the Net CONE effective for such Delivery Year for the LDA in which the Sell Offer subject to this section was submitted and the average, weighted by installed capacity, of the Net CONEs for all LDAs in which the units underlying such Asset Class New Plant Offers are located. Following the conduct of the applicable auction and before the final determination of clearing prices, in accordance with Section 6.2(b) above, each Capacity Market Seller whose Sell Offer is so rejected shall be notified in writing by the Office of the Interconnection by no later than one (1) business day after the close of the offer period for the applicable RPM Auction and allowed an opportunity to submit a revised Sell Offer that does not exceed such threshold within one business (1) day

of the Office of the Interconnection's rejection of such Sell Offer. If such revised Sell Offer is accepted by the Office of the Interconnection, —The Office of the Interconnection then shall clear the auction with such revised Sell Offer in place.

(b) Mitigation for Demand Resources

The Market Seller Offer Cap shall not be applied to Sell Offers of Demand Resources or Energy Efficiency Resources.

## 6.6 Offer Requirement for Capacity Resources

(a) To avoid application of subsection (h), all of the installed capacity of all Existing Generation Capacity Resources located in the PJM Region shall be offered by the Capacity Market Seller that owns or controls all or part of such resource (which may include submission as Self-Supply) in all RPM Auctions for each Delivery Year, less any amount determined by the Office of the Interconnection to be eligible for an exception to the must-offer requirement, where installed capacity is determined as of the date on which bidding commences for each RPM Auction pursuant to Section 5.6.6 of Attachment DD of the Tariff. The Unforced Capacity of such resources is determined using the EFORD value that is submitted by the Capacity Market Seller in its Sell Offer, which shall not exceed the maximum EFORD for that resource as defined in Section 6.6(b). If a resource should be included on the list of Existing Generation Capacity Resources subject to the must-offer requirement that is maintained by the Market Monitoring Unit pursuant to Section II.C.1 of Attachment M – Appendix of the Tariff, but is omitted therefrom whether by mistake of the Market Monitoring Unit or failure of the Capacity Market Seller that owns or controls all or part of such resource to provide information about the resource to the Market Monitoring Unit, this shall not excuse such resource from the must-offer requirement.

(b) For each Existing Generation Capacity Resource, a potential Capacity Market Seller must timely provide to the Market Monitoring Unit and the Office of the Interconnection all data and documentation required under section 6.6 to establish the maximum EFORD applicable to each resource in accordance with standards and procedures specified in the PJM Manuals. The maximum EFORD that may be used in a Sell Offer for ~~Base Residual Auctions, First Incremental Auctions and Second Incremental Auctions, and for Conditional Incremental RPM~~ Auctions held prior to the date on which the final EFORDs used for a Delivery Year are posted, is the greater of (i) the average EFORD for the five consecutive years ending on the September 30 that last precedes the Base Residual Auction, or (ii) the EFORD for the 12 months ending on the September 30 that last precedes the Base Residual Auction.

Notwithstanding the foregoing, a Capacity Market Seller may request an alternate maximum EFORD for Sell Offers submitted in such auctions if it has a documented, known reason that would result in an increase in its EFORD, by submitting a written request to the Market Monitoring Unit and Office of the Interconnection, along with data and documentation required to support the request for an alternate maximum EFORD, by no later one hundred twenty (120) days prior to the commencement of the offer period for the Base Residual Auction for the applicable Delivery Year. The Capacity Market Seller must address any concerns identified by

the Market Monitoring Unit and/or the Office of the Interconnection regarding the data and documentation provided and attempt to reach agreement with the Market Monitoring Unit on the level of the alternate maximum EFORD by no later than ninety (90) days prior to the commencement of the offer period for the Base Residual Auction for the applicable Delivery Year. As further described in Section II.C of Attachment M-Appendix, the Market Monitoring Unit shall notify the Capacity Market Seller and the Office of the Interconnection in writing of its determination of the requested alternate maximum EFORD by no later than ninety (90) days prior to the commencement of the offer period for the Base Residual Auction for the applicable Delivery Year. By no later than eighty (80) days prior to the commencement of the offer period for the Base Residual Auction for the applicable Delivery Year, the Capacity Market Seller shall notify the Office of the Interconnection and the Market Monitoring Unit in writing whether it agrees with the Market Monitoring Unit on the alternate maximum EFORD or, if no agreement has been reached, specifying the level of alternate maximum EFORD to which it commits. If a Capacity Market Seller fails to request an alternate maximum EFORD prior to the specified deadlines, the maximum EFORD for the applicable RPM Auction shall be deemed to be the default EFORD calculated pursuant to this section.

The maximum EFORD that may be used in a Sell Offer for Third Incremental Auctions, and for Conditional Incremental Auctions held after the date on which the final EFORD used for a Delivery Year is posted, is the EFORD for the 12 months ending on the September 30 that last precedes the submission of such offers. ~~The Capacity Market Seller must promptly address any concerns identified by the Market Monitoring Unit regarding the data and documentation provided, review the proposed maximum EFORD, and attempt to reach agreement with the Market Monitoring Unit on the maximum level of the EFORD~~

(c) ~~[Reserved for Future Use] If the Market Monitoring Unit informs the Office of the Interconnection that a Capacity Market Seller has failed to submit costs consistent with section 6.7, it shall be required to submit any Sell Offer in the applicable auction as Self-Supply committed regardless of clearing price. If such Capacity Market Seller submits a Sell Offer that is not Self-Supply committed regardless of clearing price, the Market Monitoring Unit may seek relief from the Commission pursuant to section 6.4(d) below and section II.E of Attachment M-Appendix.~~

(d) In the event that a Capacity Market Seller and the Market Monitoring Unit cannot agree on the maximum level of the alternate EFORD that may be used in a Sell Offer for RPM Auctions held prior to the date on which the final EFORDs used for a Delivery Year are posted, the Office of the Interconnection shall make its own determination of the maximum level of the alternate EFORD based on the requirements of the Tariff and the PJM Manuals, per Section 5.8 of Attachment DD, by no later than sixty-five (65) days prior to the commencement of the offer period for the Base Residual for the applicable Delivery Year, and shall notify the Capacity Market Seller and the Market Monitoring Unit in writing of such determination. ~~If the Capacity Market Seller submits an EFORD that the Office of the Interconnection determines would result in an increase of greater than five percent in any Zonal Capacity Price determined through such auction compared to the Office of the Interconnection's determination of the maximum level of the EFORD, the Office of the Interconnection shall apply to FERC for an order, on an expedited basis, directing such Capacity Market Seller to submit an EFORD consistent with the Market Monitoring Unit's determination, or for other appropriate relief, and PJM shall postpone clearing~~

~~the auction pending FERC's decision on the matter. Should the Market Monitoring Unit exercise its powers to inform Commission staff of its concerns and request a determination, on an expedited basis, directing a Capacity Market Seller to submit an EFORD consistent with the Market Monitoring Unit's determination, or for other appropriate relief, pursuant to section II.C of Attachment M - Appendix, PJM may postpone clearing the auction pending FERC's decision on the matter.~~

(e) Nothing in this section precludes the Capacity Market Seller from filing a petition with FERC seeking a determination of whether the EFORD complies with the requirements of the Tariff.

(f) Notwithstanding the foregoing, a Capacity Market Seller may submit an EFORD that it chooses for an RPM Auction held prior to the date on which the final EFORD used for a Delivery Year is posted, provided that (i) it has participated in good faith with the process described in this section 6.6 and in section II.C of Attachment M - Appendix, (ii) the offer is no higher than the level defined in any agreement reached by the Capacity Market Seller and the Market Monitoring Unit that resulted from the foregoing process, and (iii) the offer is accepted by the Office of the Interconnection subject to the criteria set forth in the Tariff and the PJM Manuals.

(g) A Capacity Market Seller that owns or controls an existing generation resource in the PJM Region that is capable of qualifying as an Existing Generation Capacity Resource as of the date on which bidding commences for an RPM Auction may not avoid the rule in subsection (a) or be removed from Capacity Resource status by failing to qualify as a Generation Capacity Resource, or by attempting to remove a unit previously qualified as a Generation Capacity Resource from classification as a Capacity Resource for that RPM Auction. However, generation resource may qualify for an exception to the must-offer requirement, as shown by appropriate documentation, if the Capacity Market Seller that owns or controls such resource demonstrates that it: (i) is reasonably expected to be physically unable to participate in the relevant Delivery Year; (ii) has a financially and physically firm commitment to an external sale of its capacity, or (iii) was interconnected to the Transmission System as an Energy Resource and not subsequently converted to a Capacity Resource.

In order to establish that a resource is reasonably expected to be physically unable to participate in the relevant auction as set forth in (i) above, the Capacity Market Seller must demonstrate that:

- A. It has a documented plan in place to retire the resource prior to or during the Delivery Year, and has submitted a notice of Deactivation to the Office of the Interconnection consistent with Section 113.1 of the PJM Tariff, without regard to whether the Office of the Interconnection has requested the Capacity Market Seller to continue to operate the resource beyond its desired deactivation date in accordance with Section 113.2 of the PJM Tariff for the purpose of maintaining the reliability of the PJM Transmission System and the Capacity Market Seller has agreed to do so;
- B. Significant physical operational restrictions cause long term or permanent changes to the installed capacity value of the resource, or the resource is under major repair that will



extend into the applicable Delivery Year, that will result in the imposition of RPM performance penalties pursuant to Attachment DD of the PJM Tariff;

- C. The Capacity Market Seller is involved in an ongoing regulatory proceeding (e.g. – regarding potential environmental restrictions) specific to the resource and has received an order, decision, final rule, opinion or other final directive from the regulatory authority that will result in the retirement of the resource; or
- D. A resource considered an Existing Generating Capacity Resource because it cleared an RPM Auction for a Delivery Year prior to the Delivery Year of the relevant auction, but which is not yet in service, is unable to achieve full commercial operation prior to the Delivery Year of the relevant auction. The Capacity Market Seller must submit to the Office of the Interconnection and the Market Monitoring Unit a written sworn, notarized statement of a corporate officer certifying that the resource will not be in full commercial operation prior to the referenced Delivery Year.

In order to establish that a resource has a financially and physically firm commitment to an external sale of its capacity as set forth in (ii) above, the Capacity Market Seller must demonstrate that it has entered into a unit-specific bilateral transaction for service to load located outside the PJM Region, by a demonstration that such resource is identified on a unit-specific basis as a network resource under the transmission tariff for the control area applicable to such external load, or by an equivalent demonstration of a financially and physically firm commitment to an external sale. The Capacity Market Seller additionally shall identify the megawatt amount, export zone, and time period (in days) of the export.

A Capacity Market Seller that seeks to remove a Generation Capacity Resource from PJM Capacity Resource status and/or seeks approval for an exception to the must-offer requirement shall first submit such request in writing, along with all supporting data and documentation, to the Market Monitoring Unit for evaluation, notifying the Office of the Interconnection by copy of the same, by no later than one hundred twenty (120) days prior to the commencement of the offer period for the applicable RPM Auction. A Capacity Market Seller may only remove the Generation Capacity Resource from PJM Capacity Resource status if (i) the Market Monitoring Unit has determined that the Generation Capacity Resource meets the applicable criteria set forth in Sections 5.6.6 and 6.6 of Attachment DD and the Office of the Interconnection agrees with this determination, or, (ii) the Commission has issued an order terminating the Capacity Resource status of the resource~~the potential Capacity Market Seller and the Market Monitoring Unit cannot come to agreement on whether a Generation Capacity Resource should be removed from PJM Capacity Resource status or satisfied the criteria for an exception to the must-offer requirement, the potential Capacity Market Seller has submitted its request to remove the resource from PJM Capacity Resource status to the Office of the Interconnection, and the Office of the Interconnection has determined that the Generation Capacity Resource meets the applicable criteria set forth in Sections 5.6.6 and 6.6 of Attachment DD.~~ Nothing herein shall require a Market Seller to offer its resource into an RPM Auction prior to seeking to remove a resource from Capacity Resource status, subject to satisfaction of Section 6.6.

If the Capacity Market Seller disagrees with the Market Monitoring Unit's determination of its request to remove a resource from Capacity Resource status, it must notify the Market

Monitoring Unit in writing, with a copy to the Office of the Interconnection, of the same by no later than eighty (80) days prior to the commencement of the offer period for the applicable RPM Auction. After the Market Monitoring Unit has made its determination of whether a resource has satisfied the must-offer requirement or meets one of the exceptions thereto and has notified the Capacity Market Seller and the Office of the Interconnection of the same pursuant to Section II.C.4 of Attachment M – Appendix, the Office of the Interconnection shall approve or deny the exception request. The exception request shall be deemed to be approved ~~or denied~~ by the Office of the Interconnection, consistent with the determination of the Market Monitoring Unit, unless the Office of the Interconnection notifies the Capacity Market Seller and Market Monitoring Unit, by no later than sixty-five (65) days prior to the date on which the offer period for the applicable RPM Auction commences, that the exception request is denied ~~that it disagrees with the Market Monitoring Unit's determination.~~

If the Market Monitoring Unit does not timely notify the Capacity Market Seller and the Office of the Interconnection of its determination of the request to remove a Generation Capacity Resource from Capacity Resource status or for an exception to the must-offer requirement, the Office of the Interconnection shall make the determination whether the request shall be approved or denied, and will notify the Capacity Market Seller of its determination in writing, with a copy to the Market Monitoring Unit, by no later than sixty-five (65) days prior to the date on which the offer period for the applicable RPM Auction commences.

After the Market Monitoring Unit and the Office of the Interconnection have made their determinations of whether a resource meets the criteria to qualify for an exception to the must-offer requirement ~~and prior to the date on which bidding commences for the applicable RPM Auction~~, the Capacity Market Seller must notify the Market Monitoring Unit and the Office of the Interconnection whether it intends to exclude from its Sell Offer some or all of the subject capacity on the basis of an identified exception by no later than sixty-five (65) days prior to the date on which the offer period for the applicable RPM Auction commences. PJM does not make determinations of whether withholding of capacity constitutes market power. A Generation Capacity Resource that does not qualify for submission into an RPM Auction because it is not owned or controlled by the Capacity Market Seller for a full Delivery Year is not subject to the offer requirement hereunder; provided, however, that a Capacity Market Seller planning to transfer ownership or control of a Generation Capacity Resource during a Delivery Year pursuant to a sale or transfer agreement entered into after March 26, 2009 shall be required to satisfy the offer requirement hereunder for the entirety of such Delivery Year and may satisfy such requirement by providing for the assumption of this requirement by the transferee of ownership or control under such agreement.

If a Capacity Market Seller doesn't timely seek to remove a Generation Capacity Resource from Capacity Resource status or timely submit a request for an exception to the must-offer requirement, the Generation Capacity Resource shall only be removed from Capacity Resource status, and may only be approved for an exception to the must-offer requirement, upon the Capacity Market Seller requesting and receiving an order from FERC, prior to the close of the offer period for the applicable RPM Auction, directing the Office of the Interconnection to remove the resource from Capacity Resource status and/or granting an exception to the must-offer requirement or a waiver of the must-offer requirement as to such resource.



(h) Any existing generation resource located in the PJM Region that satisfies the criteria in the definition of Existing Generation Capacity Resource as of the date on which bidding commences for the Base Residual Auction for a Delivery Year, that is not offered into such Base Residual Auction, and that does not meet any of the exceptions stated in the prior subsection (g): (i) may not participate in any subsequent Incremental Auctions conducted for such Delivery Year; (ii) shall not receive any payments under section 5.14 for such Delivery Year for the capacity of such Generation Capacity Resources; and (iii) shall not be permitted to satisfy any LSE's Unforced Capacity Obligation, or any entity's obligation to obtain the commitment of Capacity Resources, for such Delivery Year.

All generation resources located in the PJM Region that satisfy the criteria in the definition of Existing Generation Capacity Resource as of the date on which bidding commences for an Incremental Auction for a particular Delivery Year, but that did not satisfy such criteria as of the date that on which bidding commenced in the Base Residual Auction for that Delivery Year, that is not offered into that Incremental Auction, and that does not meet any of the exceptions stated in the prior subsection (g): (i) may not participate in any subsequent Incremental Auctions conducted for such Delivery Year; (ii) shall not receive any payments under section 5.14 for such Delivery Year for the capacity of such Generation Capacity Resources; and (iii) shall not be permitted to satisfy any LSE's Unforced Capacity Obligation, or any entity's obligation to obtain the commitment of Capacity Resources, for such Delivery Year.

All Existing Generation Capacity Resources that are offered into a Base Residual Auction or Incremental Auction for a particular Delivery Year but do not clear in such auction, that are not offered into each subsequent Incremental Auction, and that do not meet any of the exceptions stated in the prior subsection (g): (i) may not participate in any Incremental Auctions conducted for such Delivery Year subsequent to such failure to offer; (ii) shall not receive any payments under section 5.14 for such Delivery Year for the capacity of such Generation Capacity Resources; and (iii) shall not be permitted to satisfy any LSE's Unforced Capacity Obligation, or any entity's obligation to obtain the commitment of Capacity Resources, for such Delivery Year.

Any such Existing Generation Capacity Resources may also be subject to further action by the Market Monitoring Unit under the terms of Attachment M and Attachment M – Appendix.

(i) In addition to the remedies set forth in subsections (g) and (h) above, if the Market Monitoring Unit determines that one or more Capacity Market Sellers' failure to offer part or all of one or more existing generation resources, for which the Office of the Interconnection has not approved an exception to the must-offer requirement, into an RPM Auction as required by this Section 6.6 would result in an increase of greater than five percent in any Zonal Capacity Price determined through such auction, and the Office of the Interconnection agrees with that determination, the Office of the Interconnection shall apply to FERC for an order, on an expedited basis, directing such Capacity Market Seller to participate in the relevant RPM Auction, or for other appropriate relief, and PJM will postpone clearing the auction pending FERC's decision on the matter. If the Office of the Interconnection disagrees with the Market Monitoring Unit's determination and does not apply to FERC for an order directing the Capacity Market Seller to participate in the auction or for other appropriate relief, the Market Monitoring Unit may exercise its powers to inform Commission staff of its concerns and to seek appropriate relief.

## 6.7 Data Submission

(a) Potential participants in any PJM Reliability Pricing Model Auction shall submit, together with supporting documentation for each item, to the Market Monitoring Unit and the Office of the Interconnection no later than one hundred twenty (120) days~~four months~~ prior to the posted date for the conduct of such auction, a list of owned or controlled generation resources by PJM transmission zone for the specified Delivery Year, including the amount of gross capacity, the EFORd and the net (unforced) capacity.

(b) Except as provided in subsection (c) below, potential participants in any PJM Reliability Pricing Model Auction in any LDA or Unconstrained LDA Group that ~~fails the Preliminary Market Structure Screen (or, if such region fails the screen, potential auction participants in the entire PJM Region)~~ request a unit specific Avoidable Cost Rate shall, in addition, submit the following data, together with supporting documentation for each item, to the Market Monitoring Unit no later than one hundred twenty (120) days ~~two months~~ prior to the ~~conduct of commencement of the offer period for~~ such auction:

i. If the Capacity Market Seller intends to submit a non-zero price in its Sell Offer in any such auction, the Capacity Market Seller shall submit a calculation of the Avoidable Cost Rate and Projected PJM Market Revenues, as defined in subsection (d) below, together with detailed supporting documentation.

ii. If the Capacity Market Seller intends to submit a Sell Offer based on opportunity cost, the Capacity Market Seller shall also submit a calculation of Opportunity Cost, as defined in subsection (d), with detailed supporting documentation.

(c) Potential auction participants identified in subsection (b) above need not submit the data specified in that subsection for any Generation Capacity Resource:

i. that is in an Unconstrained LDA Group or, if this is the relevant market, the entire PJM Region, and is in a resource class identified in the table below as not likely to include the marginal price-setting resources in such auction; or

ii. for which the potential participant commits that any Sell Offer it submits as to such resource shall not include any price above: (1) the applicable default level identified below for the relevant resource class, less (2) the Projected PJM Market Revenues for such resource, as determined in accordance with this Tariff.

Nothing herein precludes the Market Monitoring Unit from requesting additional information from any potential auction participant as deemed necessary by the Market Monitoring Unit, including, without limitation, additional cost data on resources in a class that is not otherwise expected to include the marginal price setting resource as outlined in section II.G of Attachment M-Appendix; and compliance with such request shall be a condition of participation in any auction. Any Sell Offer submitted in any auction that is inconsistent with any agreement or commitment made pursuant to this subsection shall be rejected, and the Capacity Market Seller shall be required ~~promptly~~ to resubmit a Sell Offer that complies with such agreement or

commitment within one (1) business day of the Office of the Interconnection's rejection of such Sell Offers. If the Capacity Market Seller does not timely resubmit its Sell Offer, fails to request a unit-specific Avoidable Cost Rate by the specified deadline, or if the Office of the Interconnection determines that the information provided by the Capacity Market Seller in support of the requested unit-specific Avoidable Cost Rate or Sell Offer is incomplete, the Capacity Market Seller~~it~~ shall be deemed to have submitted a Sell Offer that complies with the commitments made under this subsection, with a default ~~price equal to the maximum price offer~~ for the applicable class of resource or nearest comparable class of resource determined under this subsection (c)(ii)~~above~~. The obligation imposed under section 6.6(a) shall not be satisfied unless and until the Capacity Market Seller submits (or is deemed to have submitted) a Sell Offer that conforms to its commitments made pursuant to this subsection or subject to the procedures set forth in section 6.4 and section II.H of Attachment M - Appendix.

The default Avoidable Cost Rates referenced in this subsection (c)(ii) ~~above~~ are as set forth in the tables below for any auction conducted after September 1, 2009 for any Delivery Year through the 2012-2013 Delivery Year. To determine the default ACR values for the 2013-2014 and subsequent Delivery Years, the Office of the Interconnection shall multiply the ACR values for the immediately preceding Delivery Year by a factor equal to the most recent ten-calendar-year annual average rate of change in the applicable Handy-Whitman Index of Public Utility Construction Costs or a comparable index approved by the Commission, as calculated by the Office of the Interconnection and posted to its Web site; provided, however, that after the Handy-Whitman indexing methodology has been employed to determine the default ACR values for the RPM Auctions for three consecutive Delivery Years, the Office of the Interconnection shall: i) review the default ACR values to determine whether any changes other than those produced by such methodology are warranted for subsequent Delivery Years (including seeking the analysis and advice of the Market Monitoring Unit on such matter) and report its conclusions to the Members in writing no later than four months after the Base Residual Auction for the third such Delivery Year; and ii) file with FERC resulting changes, if any, to this section no later than seven months after such Base Residual Auction, to be effective for the Base Residual Auction for the following Delivery Year; provided further, that nothing herein precludes the Office of the Interconnection from filing with FERC changes to the default ACR values or any other provision of this section prior to the deadline stated in the previous clause, or at any other time. Capacity Market Sellers shall use the one-year mothball Avoidable Cost Rate shown below, unless such Capacity Market Seller satisfies the criteria set forth in section 6.7(e), in which case the Capacity Market Seller may use the retirement Avoidable Cost Rate. PJM shall also publish on its Web site the number of Generation Capacity Resources and megawatts per LDA that use the retirement Avoidable Cost Rates.

<b>Technology Classes Not Likely to be the Marginal Price Setting Resource</b>						
<b>Technology</b>	<b>2010-2011 Mothball Avoidable Cost Rate (\$/MW- Day)</b>	<b>2010-2011 Retirement Avoidable Cost Rate (\$/MW- Day)</b>	<b>2011-2012 Mothball Avoidable Cost Rate (\$/MW- Day)</b>	<b>2011-2012 Retirement Avoidable Cost Rate (\$/MW-Day)</b>	<b>2012-2013 Mothball Avoidable Cost Rate (\$/MW- Day)</b>	<b>2012 -2013 Retirement Avoidable Cost Rate (\$/MW- Day)</b>
Nuclear	N/a	N/a	N/a	N/a	N/a	N/a
Pumped Storage	\$20.77	\$29.17	\$21.72	\$30.50	\$22.71	\$31.89
Hydro	\$71.01	\$92.87	\$74.24	\$97.10	\$77.62	\$101.52
Sub-Critical Coal	\$170.48	\$188.98	\$178.24	\$197.58	\$186.35	\$206.57
Super Critical Coal	\$176.13	\$192.65	\$184.15	\$201.42	\$192.53	\$210.59
Waste Coal - Small	\$224.83	\$272.31	\$235.06	\$284.70	\$245.75	\$297.65
Waste Coal – Large	\$83.15	\$100.45	\$86.94	\$105.02	\$90.89	\$109.80
Wind	N/a	N/a	N/a	N/a	N/a	N/a

Maximum Avoidable Cost Rates by Technology Class						
Technology	2010-2011 Mothball Avoidable Cost Rate (\$/MW- Day)	2010-2011 Retirement Avoidable Cost Rate (\$/MW- Day)	2011-2012 Mothball Avoidable Cost Rate (\$/MW- Day)	2011-2012 Retirement Avoidable Cost Rate (\$/MW-Day)	2012-2013 Mothball Avoidable Cost Rate (\$/MW- Day)	2012-2013 Retirement Avoidable Cost Rate (\$/MW- Day)
CC- 2 on 1 Frame F	\$30.92	\$43.86	\$32.33	\$45.85	\$33.80	\$47.94
CC- 3 on 1 Frame E/Siemens	\$34.33	\$46.48	\$35.89	\$48.60	\$37.52	\$50.81
CC – 3 or More on 1 or More Frame F	\$26.76	\$37.16	\$27.98	\$38.85	\$29.26	\$40.62
CC-NUG Cogen. Frame B or E Technology	\$114.93	\$154.43	\$120.16	\$161.45	\$125.62	\$168.80
CT - 1st & 2nd Gen. Aero (P&W FT 4)	\$24.57	\$32.68	\$25.69	\$34.17	\$26.86	\$35.73
CT - 1st & Gen. Frame B	\$24.28	\$32.41	\$25.38	\$33.87	\$26.54	\$35.42
CT - 2nd Gen. Frame E	\$23.08	\$30.89	\$24.13	\$32.29	\$25.23	\$33.76
CT - 3rd Gen. Aero (GE LM 6000)	\$55.87	\$82.36	\$58.42	\$86.10	\$61.07	\$90.02
CT - 3rd Gen. Aero (P&W FT - 8 TwinPak)	\$29.30	\$43.20	\$30.64	\$45.17	\$32.03	\$47.23
CT - 3rd Gen. Frame F	\$23.69	\$34.12	\$24.77	\$35.68	\$25.90	\$37.30
Diesel	\$26.29	\$33.39	\$27.49	\$34.91	\$28.74	\$36.49
Oil and Gas Steam	\$65.21	\$79.39	\$68.18	\$83.01	\$71.28	\$86.78

After the Market Monitoring Unit conducts its annual review of the table of default ~~Avoided~~ Avoidable Cost Rates included in section 6.7(c) above in accordance with the procedure specified in section II.H of Attachment M – Appendix, it will provide updated values or notice of its determination that updated values are not needed to Office of the Interconnection. In the event that the Office of the Interconnection determines that the values should be updated~~disagrees with the values proposed for revising the matrix~~, the Office of the Interconnection shall file its proposed values with the Commission by no later than October 30th prior to the commencement of the offer period for the first RPM Auction for which it proposes to apply the updated values.

(d) In order for costs to qualify for inclusion in the Market Seller Offer Cap, the Capacity Market Seller must provide to the Market Monitoring Unit and the Office of the Interconnection relevant unit-specific cost data concerning each data item specified as set forth in section 6 by no later than one hundred twenty (120) days prior to the commencement of the offer period for the applicable RPM Auction. If cost data is not available at the time of submission for the time periods specified in section 6.8, costs may be estimated for such period based on the most recent data available, with an explanation of and basis for the estimate used, as

may be further specified in the PJM Manuals. Based on the data and calculations submitted by the Capacity Market Sellers for each existing generation resource and the formulas specified below, the Market Monitoring Unit shall calculate the Market Seller Offer Cap for each such resource, and notify the Capacity Market Seller and the Office of the Interconnection in writing one month prior to the auction of its determination pursuant to section II.E of Attachment M-Appendix.

i. **Avoidable Cost Rate:** The Avoidable Cost Rate for an existing generation resource shall be determined using the formula below and applied to the unit's Base Offer Segment.

ii. **Opportunity Cost:** Opportunity Cost shall be the documented price available to an existing generation resource in a market external to PJM. In the event that the total MW of existing generation resources submitting opportunity cost offers in any auction for a Delivery Year exceeds the firm export capability of the PJM system for such Delivery Year, or the capability of external markets to import capacity in such year, the Office of the Interconnection will accept such offers on a competitive basis. PJM will construct a supply curve of opportunity cost offers, ordered by opportunity cost, and accept such offers to export starting with the highest opportunity cost, until the maximum level of such exports is reached. The maximum level of such exports is the lesser of the Office of the Interconnection's ability to permit firm exports or the ability of the importing area(s) to accept firm imports or imports of capacity, taking account of relevant export limitations by location. If, as a result, an opportunity cost offer is not accepted from an existing generation resource, the Market Seller Offer Cap applicable to Sell Offers relying on such generation resource shall be the Avoidable Cost Rate less the Projected Market Revenues for such resource (as defined in Section 6.4). The default Avoidable Cost Rate shall be the one year mothball Avoidable Cost Rate set forth in the tables in section 6.7(c) above unless Capacity Market Seller satisfies the criteria delineated in section 6.7(e) below.

iii. **Projected PJM Market Revenues:** Projected PJM Market Revenues are, as defined by section 6.8(d), for any Generation Capacity Resource to which the Avoidable Cost Rate is applied.

(e) In order for the retirement Avoidable Cost Rate set forth in the table in section 6.7(c) to apply, by no later than one hundred twenty (120) days prior to the commencement of the offer period for the applicable RPM Auction, a Capacity Market Seller must ~~timely~~ submit to the Office of the Interconnection and the Market Monitoring Unit a written sworn, notarized statement of a corporate officer representing that the Capacity Market Seller will retire the Generation Capacity Resource if it does not receive during the relevant Delivery Year at least the applicable retirement Avoidable Cost Rate because it would be uneconomic to continue to operate the Generation Capacity Resource in the Delivery Year without the retirement Avoidable Cost Rate, and specifying the date the Generation Capacity Resource would otherwise be retired.

## **6.8 Avoidable Cost Definition**

(a) **Avoidable Cost Rate:**

The Avoidable Cost Rate for a Generation Capacity Resource that is the subject of a Sell Offer shall be determined using the following formula, expressed in dollars per MW-year:

$$\text{Avoidable Cost Rate} = [\text{Adjustment Factor} * (\text{AOML} + \text{AAE} + \text{AME} + \text{AVE} + \text{ATFI} + \text{ACC} + \text{ACLE}) + \text{ARPIR} + \text{APIR}]$$

Where:

- **Adjustment Factor** equals 1.10 (to provide a margin of error for understatement of costs) plus an additional adjustment referencing the 10-year average Handy-Whitman Index in order to account for expected inflation from the time interval between the submission of the Sell Offer and the commencement of the Delivery Year.
- **AOML (Avoidable Operations and Maintenance Labor)** consists of the avoidable labor expenses related directly to operations and maintenance of the generating unit for the twelve months preceding the month in which the data must be provided. The categories of expenses included in AOML are those incurred for: (a) on-site based labor engaged in operations and maintenance activities; (b) off-site based labor engaged in on-site operations and maintenance activities directly related to the generating unit; and (c) off-site based labor engaged in off-site operations and maintenance activities directly related to generating unit equipment removed from the generating unit site.
- **AAE (Avoidable Administrative Expenses)** consists of the avoidable administrative expenses related directly to employees at the generating unit for twelve months preceding the month in which the data must be provided. The categories of expenses included in AAE are those incurred for: (a) employee expenses (except employee expenses included in AOML); (b) environmental fees; (c) safety and operator training; (d) office supplies; (e) communications; and (f) annual plant test, inspection and analysis.
- **AME (Avoidable Maintenance Expenses)** consists of avoidable maintenance expenses (other than expenses included in AOML) related directly to the generating unit for the twelve months preceding the month in which the data must be provided. The categories of expenses included in AME are those incurred for: (a) chemical and materials consumed during maintenance of the generating unit; and (b) rented maintenance equipment used to maintain the generating unit.
- **AVE (Avoidable Variable Expenses)** consists of avoidable variable expenses related directly to the generating unit incurred in the twelve months preceding the month in which the data must be provided. The categories of expenses included in AVE are those incurred for: (a) water

treatment chemicals and lubricants; (b) water, gas, and electric service (not for power generation); and (c) waste water treatment.

- **ATFI (Avoidable Taxes, Fees and Insurance)** consists of avoidable expenses related directly to the generating unit incurred in the twelve months preceding the month in which the data must be provided. The categories of expenses included in AFTI are those incurred for: (a) insurance, (b) permits and licensing fees, (c) site security and utilities for maintaining security at the site; and (d) property taxes.
- **ACC (Avoidable Carrying Charges)** consists of avoidable short-term carrying charges related directly to the generating unit in the twelve months preceding the month in which the data must be provided. Avoidable short-term carrying charges shall include short term carrying charges for maintaining reasonable levels of inventories of fuel and spare parts that result from short-term operational unit decisions as measured by industry best practice standards. For the purpose of determining ACC, short term is the time period in which a reasonable replacement of inventory for normal, expected operations can occur.
- **ACLE (Avoidable Corporate Level Expenses)** consists of avoidable corporate level expenses directly related to the generating unit incurred in the twelve months preceding the month in which the data must be provided. Avoidable corporate level expenses shall include only such expenses that are directly linked to providing tangible services required for the operation of the generating unit proposed for Deactivation. The categories of avoidable expenses included in ACLE are those incurred for: (a) legal services, (b) environmental reporting; and (c) procurement expenses.
- **APIR (Avoidable Project Investment Recovery Rate) =  $PI * CRF$**

Where:

- **PI** is the amount of project investment completed prior to June 1 of the Delivery Year, except for Mandatory Capital Expenditures (“CapEx”) for which the project investment must be completed during the Delivery Year, that is reasonably required to enable a Generation Capacity Resource that is the subject of a Sell Offer to continue operating or improve availability during Peak-Hour Periods during the Delivery Year.
- **CRF** is the annual capital recovery factor from the following table, applied in accordance with the terms specified below.



Age of Existing Units (Years)	Remaining Life of Plant (Years)	Levelized CRF
1 to 5	30	0.107
6 to 10	25	0.114
11 to 15	20	0.125
16 to 20	15	0.146
21 to 25	10	0.198
25 Plus	5	0.363
Mandatory CapEx	4	0.450
40 Plus Alternative	1	1.100

Unless otherwise stated, Age of Existing Unit shall be equal to the number of years since the Unit commenced commercial operation, up to and through the relevant Delivery Year.

Remaining Life of Plant defines the amortization schedule (i.e., the maximum number of years over which the Project Investment may be included in the Avoidable Cost Rate.)

### **Capital Expenditures and Project Investment**

For any given Project Investment, a Capacity Market Seller may make a one-time election to recover such investment using: (i) the highest CRF and associated recovery schedule to which it is entitled; or (ii) the next highest CRF and associated recovery schedule. For these purposes, the CRF and recovery schedule for the 25 Plus category is the next highest CRF and recovery schedule for both the Mandatory CapEx and the 40 Plus Alternative categories. The Capacity Market Seller using the above table must provide the Market Monitoring Unit with information, identifying and supporting such election, including but not limited to the age of the unit, the amount of the Project Investment, the purpose of the investment, evidence of corporate commitment (e.g., an SEC filing, a press release, or a letter from a duly authorized corporate officer indicating intent to make such investment), and detailed information concerning the governmental requirement (if applicable). Absent other written notification, such election shall be deemed based on the CRF such Seller employs for the first Sell Offer reflecting recovery of any portion of such Project Investment.

For any resource using the CRF and associated recovery schedule from the CRF table that set the Capacity Resource Clearing Price in any Delivery Year, such Capacity Market Seller must also provide to the Market Monitoring Unit, for informational purposes only, evidence of the actual expenditure of the Project Investment, when such information becomes available.

If the project associated with a Project Investment that was included in a Sell Offer using a CRF and associated recovery schedule from the above table has not entered into commercial operation prior to the end of the relevant Delivery Year, and the resource's Sell Offer sets the clearing price for the relevant LDA, the Capacity Market Seller shall be required to elect to either (i) pay a charge that is equal to the difference between the Capacity Resource Clearing Price for such LDA for the relevant Delivery Year and what the clearing price would have been absent the APIR component of the Avoidable Cost Rate, this difference to be multiplied by the cleared MW volume from such Resource ("rebate payment"); (ii) hold such rebate payment in escrow, to be

released to the Capacity Market Seller in the event that the project enters into commercial operation during the subsequent Delivery Year or rebated to LSEs in the relevant LDA if the project has not entered into commercial operation during the subsequent Delivery Year; or (iii) make a reasonable investment in the amount of the PI in other Existing Generation Capacity Resources owned or controlled by the Capacity Market Seller or its Affiliates in the relevant LDA. The revenue from such rebate payments shall be allocated pro rata to LSEs in the relevant LDA(s) that were charged a Locational Reliability Charge for such Delivery Year, based on their Daily Unforced Capacity Obligation in the relevant LDA(s). If the Sell Offer from the Generation Capacity Resource did not set the Capacity Resource Clearing Price in the relevant LDA, no alternative investment or rebate payment is required. If the difference between the Capacity Resource Clearing Price for such LDA for the relevant Delivery Year and what the clearing price would have been absent the APIR amount does not exceed the greater of \$10 per MW-day or a 10% increase in the clearing price, no alternative investment or rebate payment is required.

### **Mandatory CapEx Option**

The Mandatory CapEx CRF and recovery schedule is an option available, beginning in the third BRA (Delivery Year 2009-10), to a resource that must make a Project Investment to comply with a governmental requirement that would otherwise materially impact operating levels during the Delivery Year, where: (i) such resource is a coal, oil or gas-fired resource that began commercial operation no fewer than fifteen years prior to the start of the first Delivery Year for which such recovery is sought, and such Project Investment is equal to or exceeds \$200/kW of capitalized project cost; or (ii) such resource is a coal-fired resource located in an LDA for which a separate VRR Curve has been established for the relevant Delivery Years, and began commercial operation at least 50 years prior to the conduct of the relevant BRA.

A Capacity Market Seller that wishes to elect the Mandatory CapEx option for a Project Investment must do so beginning with the Base Residual Auction for the Delivery Year in which such project is expected to enter commercial operation. A Sell Offer submitted in any Base Residual Auction for which the Mandatory CapEx option is selected may not exceed an offer price equivalent to 0.90 times the then-current Net CONE (on an unforced-equivalent basis).

### **40 Plus Alternative Option**

The 40 Plus Alternative CRF and recovery schedule is an option available, beginning in the third BRA (Delivery Year 2009-10), for a resource that is a gas- or oil-fired resource that began commercial operation no less than 40 years prior to the conduct of the relevant BRA (excluding, however, any resource in any Delivery Year for which the resource is receiving a payment under Part V of the PJM Tariff. Generation Capacity Resources electing this 40 Plus Alternative CRF shall be treated as At Risk Generation for purposes of the sensitivity runs in the RTEP process). Resources electing the 40 Plus Alternative option will be modeled in the RTEP process as “at-risk” at the end of the one-year amortization period.

A Capacity Market Seller that wishes to elect the 40 Plus Alternative option for a Project Investment must provide written notice of such election to the Office of the Interconnection no

later than six months prior to the Base Residual Auction for which such election is sought; provided however that shorter notice may be provided if unforeseen circumstances give rise to the need to make such election and such seller gives notice as soon as practicable.

The Office of the Interconnection shall give market participants reasonable notice of such election, subject to satisfaction of requirements under the PJM Operating Agreement for protection of confidential and commercially sensitive information. A Sell Offer submitted in any Base Residual Auction for which the 40 Plus Alternative option is selected may not exceed an offer price equivalent to the then-current Net CONE (on an unforced-equivalent basis).

### **Multi-Year Pricing Option**

A Seller submitting a Sell Offer with an APIR component that is based on a Project Investment of at least \$450/kW may elect this Multi-Year Pricing Option by providing written notice to such effect the first time it submits a Sell Offer that includes an APIR component for such Project Investment. Such option shall be available on the same terms, and under the same conditions, as are available to Planned Generation Capacity Resources under section 5.14(c) of this Attachment.

- ARPIR (Avoidable Refunds of Project Investment Reimbursements) consists of avoidable refund amounts of Project Investment Reimbursements payable by a Generation Owner to PJM under Part V, Section 118 of this Tariff or avoidable refund amounts of project investment reimbursements payable by a Generation Owner to PJM under a Cost of Service Recovery Rate filed under Part V, Section 119 of the Tariff and approved by the Commission.

(b) For the purpose of determining an Avoidable Cost Rate, avoidable expenses are incremental expenses directly required to operate a Generation Capacity Resource that a Generation Owner would not incur if such generating unit did not operate in the Delivery Year or meet Availability criteria during Peak-Hour Periods during the Delivery Year.

(c) For the purpose of determining an Avoidable Cost Rate, avoidable expenses shall exclude variable costs recoverable under cost-based offers to sell energy from operating capacity on the PJM Interchange Energy Market under the Operating Agreement.

(d) Projected PJM Market Revenues for any Generation Capacity Resource to which the Avoidable Cost Rate is applied shall include all actual unit-specific revenues from PJM energy markets, ancillary services, and unit-specific bilateral contracts from such Generation Capacity Resource, net of marginal costs for providing such energy (i.e., costs allowed under cost-based offers pursuant to Section 6.4 of Schedule 1 of the Operating Agreement) and ancillary services from such resource.

(i) For the first three BRAs (for Delivery Years 2007-08, 2008-09, 2009-10), the calculation of Projected PJM Market Revenues shall be equal to the simple average of such net revenues as described above for calendar years 2001-2006; and

(ii) For the fourth BRA (delivery year 2010-11) and thereafter, the calculation of Projected PJM Market Revenues shall be equal to the rolling simple average of such net revenues as described above from the three most recent whole calendar years prior to the year in which the BRA is conducted.

If a Generation Capacity Resource did not receive PJM market revenues during the entire relevant time period because the Generation Capacity Resource was not integrated into PJM during the full period, then the Projected PJM Market Revenues shall be calculated using only those whole calendar years within the full period in which such Resource received PJM market revenues.

If a Generation Capacity Resource did not receive PJM market revenues during the entire relevant time period because it was not in commercial operation during the entire period, or if data is not available to the Capacity Market Seller for the entire period, despite the good faith efforts of such seller to obtain such data, then the Projected PJM Market Revenues shall be calculated based upon net revenues received over the entire period by comparable units, to be developed by the MMU and the Capacity Market Seller.

## **17. ~~TRANSITION [Reserved for Future Use]~~**

### **17.1 ~~Phase-in of the Reliability Pricing Model~~**

~~The Reliability Pricing Model shall be phased in during the Transition Period as described below.~~

### **17.2 ~~Reliability Pricing Model Auctions Conducted During Transition Period~~**

~~(a) The Office of the Interconnection shall conduct Base Residual Auctions for each Delivery Year in the Transition Period in accordance with the following schedule:~~

<del>Delivery Year</del>	<del>Base Residual Auction Held</del>
<del>June 1, 2007—May 31, 2008</del>	<del>April 2007</del>
<del>June 1, 2008—May 31, 2009</del>	<del>July 2007</del>
<del>June 1, 2009—May 31, 2010</del>	<del>October, 2007</del>
<del>June 1, 2010—May 31, 2011</del>	<del>January, 2008</del>
<del>June 1, 2011—May 31, 2012</del>	<del>May 2008</del>

~~b) The Office of the Interconnection shall conduct Incremental Auctions for each Delivery Year in the Transition Period in accordance with the following schedule:~~

<del>Delivery Year</del>	<del>First Incremental Auction Held</del>	<del>Second Incremental Auction Held If Necessary</del>	<del>Third Incremental Auction Held</del>
<del>June 1, 2007—May 31, 2008</del>	<del>None Held</del>	<del>None Held</del>	<del>None Held</del>
<del>June 1, 2008—May 31, 2009</del>	<del>None Held</del>	<del>None Held</del>	<del>January, 2008</del>
<del>June 1, 2009—May 31, 2010</del>	<del>None Held</del>	<del>April, 2008</del>	<del>January, 2009</del>
<del>June 1, 2010—May 31, 2011</del>	<del>None Held</del>	<del>April, 2009</del>	<del>January, 2010</del>
<del>June 1, 2011—May 31, 2012</del>	<del>June 2009</del>	<del>July 2010</del>	<del>February 2011</del>

### **17.3 ~~Transition Period Locational Deliverability Areas~~**

~~The Office of the Interconnection shall establish Locational Deliverability Areas during the Transition Period in accordance with the following:~~

#### **2007/2008, 2008/2009, and 2009/2010 Delivery Years**

- ~~○ MAR and APS (the zones listed below for EMAR, SWMAR and Western Mid-Atlantic Region (“WMAR”), plus APS)~~
- ~~○ ComEd, AEP, Dayton, Dominion and Duquesne~~

- ~~○ — EMAR (PSE&G, JCP&L, PECO, AE, DPL & RECO)~~
- ~~○ — SWMAR (PEPCO & BG&E)~~

#### **2010/2011 and subsequent Delivery Years**

- ~~○ — MAR~~
- ~~○ — ComEd, AEP, Dayton, APS, and Duquesne~~
- ~~○ — Dominion~~
- ~~○ — EMAR~~
- ~~○ — SWMAR~~
- ~~○ — WMAR (Penelec, MetEd, PPL)~~
- ~~○ — Penelec~~
- ~~○ — ComEd~~
- ~~○ — AEP~~
- ~~○ — Dayton~~
- ~~○ — Duquesne~~
- ~~○ — APSAE~~
- ~~○ — BG&E~~
- ~~○ — DPL~~
- ~~○ — PECO~~
- ~~○ — PEPCO~~
- ~~○ — PSE&G~~
- ~~○ — JCP&L~~
- ~~○ — MetEd~~
- ~~○ — PPL~~
- ~~○ — PSEG northern region (north of Linden substation); and~~
- ~~○ — DPL southern region (south of Chesapeake and Delaware Canal);~~

#### **17.4 — Transition Period Variable Resource Requirement Curves**

~~During the Transition Period, the Office of the Interconnection shall post on the PJM internet site the Variable Resource Requirement Curves that will apply for each Delivery Year no later than one month prior to the conduct of the Base Residual Auction for such Delivery Year.~~

#### **17.5 — Market Mitigation**

~~The provisions of Section 6 of this Attachment shall apply to all Reliability Pricing Model Auctions conducted during the Transition Period; provided, however, that during the Transition Period, as to a Capacity Market Seller that owns or controls no more than 10,000 megawatts of Unforced Capacity in the PJM Region, the otherwise applicable Market Seller Offer Cap provided in Section 6 shall be increased by up to the following amounts in the following years for any Sell Offer submitted by such a seller in any Unconstrained LDA Group, with respect to no more than 3,000 megawatts of such Unforced Capacity:~~

- ~~(a) — \$10/MW day for the 2007-2008 Delivery Year;~~
- ~~(b) — \$10/MW day for the 2008-2009 Delivery Year; and~~

~~(c) — \$7.50/MW-day for the 2009-2010 Delivery Year;~~

~~For purposes of this provision, the 10,000 megawatt maximum shall apply separately to a Capacity Market Seller's resources subject to state rate-based regulation and resources that are not subject to state rate-based regulation.~~

#### ~~**17.6 — Performance Assessment**~~

~~Within six months after the end of the fourth Delivery Year, the Office of the Interconnection shall prepare, provide to Members, and file with FERC an assessment of the performance of the Reliability Pricing Model.~~

Section(s) of the  
PJM Operating Agreement  
(Marked / Redline Format)



## **6.4 Offer Price Caps.**

### **6.4.1 Applicability.**

- (a) If, at any time, it is determined by the Office of the Interconnection in accordance with Sections 1.10.8 or 6.1 of this Schedule that any generation resource may be dispatched out of economic merit order to maintain system reliability as a result of limits on transmission capability, the offer prices for energy from such resource shall be capped at the levels specified below. If the Office of the Interconnection is able to do so, such offer prices shall be capped only during each hour when the transmission limit affects the schedule of the affected resource, and otherwise shall be capped for the entire Operating Day. The energy offer prices as capped shall be used to determine any Locational Marginal Price affected by the offer price of such resource.
- (b) The energy offer price by any generation resource requested to be dispatched in accordance with Section 6.3 of this Schedule shall be capped at the levels specified below. If the Office of the Interconnection is able to do so, such offer prices shall be capped only during each hour when the affected resource is so scheduled, and otherwise shall be capped for the entire Operating Day. The energy offer prices as capped shall be used to determine any Locational Marginal Price affected by the price of such resource.
- (c) Generation resources subject to an offer price cap shall be paid for energy at the applicable Locational Marginal Price.
- (d) [Reserved for Future Use]
- (e) Except for the overall \$1,000 energy offer cap, offer price caps under section 6.4 of this Schedule shall be suspended for a generation resource with respect to transmission limit(s) for any hour in which (1) there are not three or fewer generation suppliers available for redispatch under subsection (a) that are jointly pivotal with respect to such transmission limit(s), and (2) the generation resource's owner, when combined with the two largest other generation suppliers, is not pivotal ("three pivotal supplier test").
- (f) For the purposes of conducting the three pivotal supplier test in subsection (e), the following applies:
  - (i) All megawatts of available incremental supply for which the power distribution factor ("dfax") has an absolute value equal to or greater than the dfax used by the Office of the Interconnection's system operators when evaluating the impact of generation with respect to the constraint ("effective megawatts") will be included in the available supply analysis at costs equal to the cost-based offers of the available incremental supply adjusted for dfax ("effective costs"). The Office of the Interconnection will post on the PJM website the dfax value used by operators with respect to a constraint when it varies from three percent.

- (ii) The three pivotal supplier test will include in the definition of the relevant market incremental supply up to and including all such supply available at an effective cost equal to 150% of the cost-based clearing price calculated using effective costs and effective megawatts and the need for megawatts to solve the constraint.
- (iii) Offer price caps will apply on a generation supplier basis (i.e. not a generating unit by generating unit basis) and only the generation suppliers that fail the three pivotal supplier test will have their units that are dispatched with respect to the constraint offer capped. A generation supplier for the purposes of this section includes corporate affiliates. Supply controlled by a generation supplier or its affiliates by contract with unaffiliated third parties or otherwise will be included as supply of that generation supplier; supply owned by a generation supplier but controlled by an unaffiliated third party by contract or otherwise will be included as supply of that third party.  
  
A generation supplier's units are offer capped if, when combined with the two largest other generation suppliers, the generation supplier is pivotal.
- (iv) In the Day-ahead Energy Market, the Office of the Interconnection shall include price sensitive demand and virtual bids and offers as demand or supply, as applicable, in the relevant market.

#### 6.4.2 Level.

- (a) The offer price cap shall be one of the amounts specified below, as specified in advance by the Market Seller for the affected unit:
  - (i) The weighted average Locational Marginal Price at the generation bus at which energy from the capped resource was delivered during a specified number of hours during which the resource was dispatched for energy in economic merit order, the specified number of hours to be determined by the Office of the Interconnection and to be a number of hours sufficient to result in an offer price cap that reflects reasonably contemporaneous competitive market conditions for that unit;
  - (ii) The incremental operating cost of the generation resource as determined in accordance with Schedule 2 of the Operating Agreement and the PJM Manuals ("incremental cost"), plus 10% of such costs;
  - (iii) For units that are frequently offer capped ("Frequently Mitigated Unit" or "FMU"), the following shall apply:
    - (a) For units that are offer capped for 60% or more of their run hours, but less than 70% of their run hours, the offer price cap will be either (i)

incremental cost plus 10% or (ii) incremental cost plus \$20 per megawatt-hour;

(b) For units that are offer capped for 70% or more of their run hours, but less than 80% of their run hours, the offer price cap will be either (i) incremental cost plus 15%, not to exceed incremental cost plus \$40 per megawatt-hour, or (ii) incremental cost plus \$30 per megawatt-hour;

(c) For units that are offer capped for 80% or more of their run hours, the offer price cap will be (i) incremental costs plus 10%; (ii) incremental cost plus \$40 per megawatt-hour; or (iii) the agreed unit-specific going forward costs of the affected unit as reflected in an agreement entered pursuant to subsection (iv), below; or

(iv) An amount determined by agreement between the Office of the Interconnection and the Market Seller, provided that, if the Office of the Interconnection and the Market Seller cannot reach agreement after sixty (60) days from the commencement of negotiations, then the Market Seller may submit the rates, terms, and conditions of its proposed offer cap to the Commission for resolution.

(b) For purposes of section 6.4.2(a)(iii), a generating unit shall qualify for the specified offer cap upon issuance of written notice from the Market Monitoring Unit that it is a “Frequently Mitigated Unit” or “FMU” because it was offer capped for the applicable percentage of its run hours, determined on a rolling 12-month average basis, effective with a one month lag, by no later than the 21st day of each month pursuant to Section II.A of Attachment M-Appendix.

(c) Any generating unit, without regard to ownership, located at the same site as a Frequently Mitigated Unit qualifying under Sections 6.4.2(a)(iii) shall become an “Associated Unit” upon issuance of written notice from the Market Monitoring Unit by no later than the 21st day of each month pursuant to Section II.A of Attachment M-Appendix, that it meets all of the following criteria:

1. The unit has the identical electric impact on the transmission system as the FMU;
2. The unit (i) belongs to the same design class (where a design class includes generation that is the same size and utilizes the same technology, without regard to manufacturer) and uses the identical primary fuel as the FMU or (ii) is regularly dispatched by PJM as a substitute for the FMU based on differences in cost that result from the currently applicable FMU adder;
3. The unit (i) has an average daily cost-based offer, as measured over the preceding 12-month period, that is less than or equal to the FMU’s average daily cost-based offer adjusted to include the currently applicable

FMU adder or (ii) is regularly dispatched by PJM as a substitute for the FMU based on differences in cost that result from the currently applicable FMU adder.

The offer cap for an associated unit shall be equal to the incremental operating cost of such unit, as determined in accordance with Schedule 2 of the Operating Agreement and the PJM Manuals, plus the applicable percentage adder or dollar per megawatt-hour adder as specified in Section 6.4.2(a)(iii)(a), (b), or (c) for the unit with which it is associated.

(d) For purposes of section 6.4.2(a)(iii)(c), the unit-specific going forward costs determined by agreement between the Office of the Interconnection and the Market Seller shall include only the costs included in the Deactivation Avoidable Cost Rate, excluding costs associated with the Avoidable Project Investment Recovery Rate (APIR), set forth in section 115 of the PJM Tariff. Any costs that would be capitalized according to generally accepted accounting principles, associated carrying costs, or other fixed costs shall not be included. The agreement shall further provide that (i) in order for such costs to qualify for inclusion in the amounts determined by the agreement, the Market Seller must agree to provide to PJM relevant cost data concerning fuel, operating and maintenance, and other avoidable costs, (ii) the maintenance practices and incurrence of expense at the unit shall be subject to audit by the Office of the Interconnection, and (iii) the unit owner agrees to operate the unit in accordance with Good Utility Practice.

(e) Any agreement entered pursuant to section 6.4.2(a)(iv) shall be filed with the Commission and shall be effective only upon acceptance of the agreement for filing by the Commission; provided however, that agreements to reflect unit-specific going forward costs in accordance with section 6.4.2(a)(iii) shall be filed with the Commission for informational purposes only and shall be effective the day following the date of the informational filing.

(f) Market Participants shall have exclusive responsibility for preparing and submitting their offers on the basis of accurate information and in compliance with FERC Market Rules, inclusive of the level of any applicable offer cap, and in no event shall PJM be held liable for the consequences of or make any retroactive adjustment to any clearing price on the basis of any offer submitted on the basis of inaccurate or non-compliant information.

## 6.6 Minimum Generator Operating Parameters – Parameter Limited Schedules.

- (a) Generation resources shall submit and be subject to pre-determined limits on non-price offer parameters (“parameter limited schedules”) under the following circumstances:
- (i) The Operating Reserve markets fail the three pivotal supplier test. When this subsection applies, the parameter limited schedule shall be the less limiting of the defined parameter limited schedules or the submitted offer parameters.
  - (ii) The Office of the Interconnection: (i) declares a Maximum Generation Emergency; (ii) issues an alert that a Maximum Generation Emergency may be declared (“Maximum Generation Emergency Alert”); or (iii) schedules units based on the anticipation of a Maximum Generation Emergency or a Maximum Generation Emergency Alert for all, or any part, of an Operating Day.
- (b) Parameter limited schedules shall be defined for the following parameters:
- (i) Turn Down Ratio;
  - (ii) Minimum Down Time;
  - (iii) Minimum Run Time;
  - (iv) Maximum Daily Starts;
  - (v) Maximum Weekly Starts.
- (c) The following table specifies default parameter limited schedule values, by technology type, for generation resources:

**Parameter Limited Schedule Matrix**

<b>Parameter</b>	<b>Minimum Down Time (Hrs)</b>	<b>Minimum Run Time (Hrs)</b>	<b>Maximum Daily Starts</b>	<b>Maximum Weekly Starts</b>	<b>Turn Down Ratio = Economic Maximum MW / Economic Minimum MW</b>
Small Frame CT and Aero CT Units - Up to 29 MW ICAP	2.0 or Less	2.0 or Less	2 or More	14 or More	1.0 or More
Medium Frame CT and Aero CT Units - 30 MW to 65	2.0 or Less	3.0 or Less	2 or More	14 or More	1.0 or More

## MW ICAP

Medium-Large Frame CT Units - 65 MW to 125 MW ICAP	3.0 or Less	5.0 or Less	2 or More	14 or More	1.0 or More
Large Frame CT Units - 135 MW to 180 MW ICAP	4.0 or Less	5.0 or Less	2 or More	14 or More	1.0 or More
Combined Cycle Units	4.0 or Less	6.0 or Less	2 or More	11 or More	1.5 or More
Petroleum and Natural Gas Steam Units - Pre-1985	7.0 or Less	8.0 or Less	1 or More	7 or More	3.0 or More
Petroleum and Natural Gas Steam Units - Post-1985	3.5 or Less	5.5 or Less	2 or More	11 or More	2.0 or More
Sub-Critical Coal Units	9.0 or Less	15.0 or Less	1 or More	5 or More	2.0 or More
Super-Critical Coal Units	84.0	24.0 or Less	1 or More	2 or ore	1.5 or More

(d) Upon receipt of proposed revised parameter limited schedule values from the Market Monitoring Unit, prepared in accordance with the procedures for periodic review included in section II.B.1 of Attachment M - Appendix, the Office of the Interconnection shall file to revise the parameter limited schedule matrix in section 6.6(c) above accordingly. In the event that the Office of the Interconnection disagrees with the values proposed for revising the matrix, the Office of the Interconnection shall file the values that it determines are appropriate.

(e) The Market Monitoring Unit shall calculate and provide generation resources unit-specific default values in accordance with section II.B of Attachment M - Appendix. Generation resources having the ability to operate on multiple fuels may submit a parameter limited schedule associated with each fuel type.

In addition, a generation resource may obtain an exception from the unit-specific values ~~for the period defined in section II.B of Attachment M - Appendix~~ due to physical operational limitations that prevent the resource from meeting the minimum parameters by submitting a request for a period exception or persistent exception to the Office of the Interconnection, ~~which shall promptly provide a copy of said request and~~ to the Market Monitoring Unit. ~~Pursuant to section II.B of Attachment M - Appendix, exception requests for period 1, which begins on April 1, must be received by the Market Monitoring Unit by no later than February 28, and exception requests for period 2, which begins on October 1, must be received by the Market Monitoring Unit by no later than August 31. To ensure that an exception request is received by the Market Monitoring Unit by the referenced deadline, the generation resource should submit~~

~~the request to the Office of the Interconnection at least two business days prior thereto.~~ Each generation resource must supply the required historical unit operating data in support of the exception request, and if the exception requested is based on new physical operational limits for the resource for which some or all historical operating data is unavailable, the generation resource may also submit technical information about the physical operational limits for period exceptions of the resource to support the requested parameters. The Market Monitoring Unit shall evaluate such request in accordance with the process set forth in Section II.B of Attachment M - Appendix. A generation resource (i) must submit a parameter limited schedule value consistent with its agreement under such process, or, (ii) if it has not agreed with the Market Monitoring Unit on an appropriate parameter limited schedule value, may submit its own determination of an appropriate value to the Office of the Interconnection and to the Market Monitoring Unit, by no later than April 8. Each exception request must indicate the expected duration of the requested exception including the termination date thereof. The proposed parameter limited schedule value submitted by the generation resource owner is subject to approval of the Office of the Interconnection pursuant to the requirements of the Tariff and the PJM Manuals. The Office of the Interconnection may engage the services of a consultant with technical expertise to evaluate the exception request. After it has completed its evaluation of the exception request, the Office of the Interconnection shall notify the generation resource owner in writing, with a copy to the Market Monitoring Unit, whether the exception request is approved or denied, by no later than April 15. The effective date of the exception, if approved by the Office of the Interconnection, shall be no earlier than May 1. The Office of the Interconnection's determination for an exception shall continue for the period requested and, if requested, for such longer period as the Office of the Interconnection may determine is supported by the data. A generation resource owner shall notify the Market Monitoring Unit and the Office of the Interconnection of a material change to the facts relied upon by the Market Monitoring Unit and/or the Office of the Interconnection to support a parameter limited schedule exception pursuant to Section 6.7 of Schedule 1 of the Operating Agreement (or the Commission in support of its approval). The Market Monitoring Unit shall make a determination, and simultaneously notify the Office of the Interconnection and the generation resource owner, of its determination whether the existing exception should continue, the exception should be revised or that no exception is supported by the data. The Office of the Interconnection shall notify the generation resource owner in writing, with a copy to the Market Monitoring Unit, of its determination whether the exception can continue, must be revised or is no longer supported by the data given the material change in the facts relied upon to support the exception. If the Office of the Interconnection determines that the exception is no longer supported by the data, the values specified in the parameter limited schedule matrix shall apply. If the generation resource owner does not submit a complete temporary exception request to the Office of the Interconnection and the Market Monitoring Unit and the resource does not clear in the Day-ahead Energy Market, the resource schedule shall be returned to its previous parameter limits.

The Office of the Interconnection and Market Monitoring Unit will review the operations of the generation resource after each of the first three full years of operation to verify the requested parameters. PJM will not accept the exception thereafter if it is not supported by the operating data.

- (f) On a daily basis each generation resource may submit notification to the Office of the

Interconnection of changed physical operational limitations at such generation resources that require a temporary exception to the otherwise applicable parameter limited schedule value. Each generation resource must supply the required operating data necessary to support the exception consistent with the requirements set forth in the PJM Manuals. Such exceptions may not continue past the next period (as described in section II.B of Attachment M - Appendix). Temporary exception requests shall be subject to acceptance by the Office of the Interconnection upon submission by a generation resource, and shall be subject to further subsequent review of the continuation of the exception by the Office of the Interconnection and the Market Monitoring Unit. Based on the further review and determination by the Office of the Interconnection and the Market Monitoring Unit, the generation resource may (i) continue to submit a parameter limited schedule value consistent with the Market Monitoring Unit's determination or, (ii) if dissatisfied with the Market Monitoring Unit's determination, continue to submit a parameter limited schedule value to the Office of Interconnection inconsistent with the Market Monitoring Unit's determination subject to acceptance by the Office of the Interconnection, with or without prior approval of the Commission. If the Office of the Interconnection denies an exception request, in whole or in part, the generation resource may contest the denial through the PJM Dispute Resolution Process set forth in this Agreement, in which case the generation resource shall continue to submit a parameter limited schedule value as determined during the exception process until the issue has been resolved. If physical conditions at the generation resource change, such that the exception is no longer required, the generation resource is required to so inform the Office of the Interconnection and the exception shall be terminated.

If during the period that an exception agreed to by the Market Monitoring Unit applies (or is approved by the Commission), there is a material change to the facts relied upon by the Market Monitoring Unit to support such exception (or the Commission in support of its approval), the generation resource shall bring the change to the attention of the Market Monitoring Unit (or the Commission) for a determination as to whether the exception continues to be appropriate.



# Attachment B

## Revisions to the PJM Open Access Transmission Tariff and PJM Operating Agreement

(Clean Format)

Section(s) of the  
PJM Open Access Transmission Tariff  
(Clean Format)

## **12A PJM Compliance Review**

The Office of the Interconnection 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 Office of the Interconnection has the final authority to determine whether an offer, bid or decision not to offer a committed resource complies with the PJM Market Rules. The Office of the Interconnection may accept an offer, bid or decision not to offer a committed resource regardless of whether the Market Monitoring Unit has made a finding that such conduct raises market power concerns, unless the Commission issues an order determining that the offer or bid must be rejected prior to the clearing of the relevant RPM Auction.

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.

A market participant may submit any offer or bid that it chooses or make a decision not to offer a committed resource, provided that the Office of the Interconnection determines that: (i) the market participant has participated in the review process conducted by the Market Monitoring Unit (without regard to whether an agreement is obtained) if required by the Tariff; (ii) offer is no higher, in the case of seller market power, or lower, in the case of buyer side market power, than the level to which the market participant has committed or agreed in the course of its participation in such review process; and (iii) the offer is compliant with the Tariff and PJM Manuals. The market participant assumes exclusive responsibility for any adverse findings at the Commission related to its offer.

The Office of the Interconnection has the exclusive authority to administer the Tariff. The Office of the Interconnection has the exclusive authority to implement the PJM Market Rules, except with respect to Attachment M and the Attachment M-Appendix and related provisions in the PJM Manuals. The Market Monitoring Unit has the exclusive authority to perform the functions set forth in Attachment M and the Attachment M-Appendix. The Office of the Interconnection shall oversee compliance with PJM Market Rules and may take action on compliance issues and/or request that the Market Monitoring Unit take action on compliance issues.

When the Tariff requires the Office of the Interconnection to provide written notice to or communication with a Market Participant, such notice or communication shall include, but not be limited to, a letter, email or posting to a Market Participant's account in the internet-based application designated by the Office of the Interconnection.

## **SCHEDULE 6A**

### **Black Start Service**

References to section numbers in this Schedule 6A refer to sections of this Schedule 6A, unless otherwise specified.

To ensure the reliable restoration following a shut down of the PJM transmission system, Black Start Service is necessary to facilitate the goal of complete system restoration. Black Start Service enables Transmission Provider and Transmission Owners to designate specific generators called Black Start Units whose location and capabilities are required to re-energize the transmission system following a system-wide blackout. The Transmission Provider shall administer the provision of Black Start Service. PJMSettlement shall be the Counterparty to the purchases and sales of Black Start Service.

### **TRANSMISSION CUSTOMERS**

1. All Transmission Customers and Network Customers must obtain Black Start Service through the Transmission Provider, with PJMSettlement as the Counterparty, pursuant to this Schedule 6A.

### **PROVISION OF BLACK START SERVICE**

2. A Black Start Unit is a generating unit that has equipment enabling it to start without an outside electrical supply or a generating unit with a high operating factor (subject to Transmission Provider concurrence) with the demonstrated ability to automatically remain operating, at reduced levels, when disconnected from the grid. A Black Start Unit shall be considered capable of providing Black Start Service only when it meets the criteria set forth in the PJM manuals. For the purposes of this Schedule 6A, the expected life of the Black Start Unit shall take into consideration expectations regarding both the enabling equipment and the generation unit itself.

3. A Black Start Plant is a generating plant that includes one or more Black Start Units. A generating plant with Black Start Units electrically separated at different voltage levels will be considered multiple Black Start Plants.

4. The Transmission Provider, in conjunction with the Transmission Owners, are responsible for developing a coordinated and efficient system restoration plan that identifies all of the locations where Black Start Units are needed. The PJM Manuals shall set forth the criteria and process for selecting or identifying the Black Start Units necessary to commit to providing Black Start Service at the identified locations. No more than three Black Start Units at a Black Start Plant will be eligible for compensation under this Schedule 6A, unless specifically approved by the Transmission Provider as an exception. No Black Start Unit shall be eligible to recover the costs of providing Black Start Service in the PJM Region unless it agrees to provide such service for a term of commitment established under section 5 or 6 below.

5. Owners of Black Start Units selected to provide Black Start Service in accordance with section 4 and electing to forego any recovery of new or additional Black Start Capital Costs shall

commit to provide Black Start Service from such Black Start Units for an initial term of no less than two years and authorize the Transmission Provider to resell Black Start Service from its Black Start Units. The term commitment shall continue to extend until the Black Start Unit owner, or the Transmission Owner, with the consent of the Transmission Provider, or the Transmission Provider, with the consent of the Transmission Owner, provides written, one-year advance notice of its intention to terminate the commitment.

6. Owners of Black Start Units selected to provide Black Start Service in accordance with section 4 and electing to recover new or additional Black Start Capital Costs shall commit to provide Black Start Service from such Black Start Units for a term based upon the age of the Black Start Unit or the longest expected life of the Incremental Black Start Capital Cost, as set forth in the applicable CRF Tables in Paragraph 18. For those Black Start Units that elect to recover new or additional Black Start Capital Costs in addition to a prior, FERC-approved cost recovery rate, the applicable commitment period shall be the longer of the FERC-approved recovery period or the applicable term of commitment as set forth in the CRF Tables in Paragraph 18. Either the Transmission Provider, with the consent of the Transmission Owner, or the Transmission Owner, with the consent of the Transmission Provider, may terminate the commitment with one year advance notice of its intention to the Black Start Unit owner, but the Transmission Owner shall reimburse the Black Start Unit owner for any amount of unrecovered Fixed Black Start Service Costs over a period not to exceed five years. A Black Start Unit owner may terminate the provision of Black Start Service with one year advance notice (or its commitment period may be involuntarily terminated pursuant to the section 15 below). Such Black Start Unit shall forego any otherwise existing entitlement to future revenues collected pursuant to this Schedule 6A and fully refund any amount of the Black Start Capital Costs recovered under a FERC-approved rate (recovered on an accelerated basis pursuant to the provisions of section 17(i)) in excess of the amount that would have been recovered pursuant to section 18 during the same period. At the conclusion of the term of commitment established under this section 6, a Black Start Unit shall commence a new term of commitment under either section 5 or 6, as applicable.

6A. In the event that a Black Start Unit fails to fulfill its commitment established under section 5 to provide Black Start Service, receipt of any Black Start Service revenues associated with the non-performing Black Start Unit shall cease and, for the period of the unit's non-performance, the Black Start Unit owner shall forfeit the Black Start Service revenues associated with the non-performing Black Start Unit that it received or would have received had the Black Start Unit performed, not to exceed revenues for a maximum of one year.

In the event that a Black Start Unit fails to fulfill its commitment established under section 6 above, such unit shall forego any otherwise existing entitlement to future revenues collected pursuant to this Schedule 6A and fully refund any amount of the Black Start Capital Costs recovered under a FERC-approved rate (recovered on an accelerated basis pursuant to the provisions of section 17(i)) in excess of the amount that would have been recovered pursuant to section 18 during the same period, but such unit remains eligible to establish a new commitment under section 5 or 6.

### **Performance Standards and Outage Restrictions**

7. Black Start Units must have the capabilities listed below. These capabilities must be demonstrated in accordance with the criteria set forth in the PJM manuals and will remain in effect for the duration of the commitment to provide Black Start Service.

- a. A Black Start Unit must be able to close its output circuit breaker to a dead (de-energized) bus within 90 minutes of a request from the Transmission Owner or the Transmission Provider.
- b. A Black Start Unit must be capable of maintaining frequency and voltage under varying load.
- c. A Black Start Unit must be able to maintain rated output for a period of time identified by each Transmission Owner's system restoration requirements, in conjunction with the Transmission Provider.

8. Each owner of Black Start Units or Black Start Plants must maintain procedures for the start-up of the Black Start Units.

9. If a Black Start Unit is a generating unit with a high operating factor (subject to Transmission Provider concurrence) with the ability to automatically remain operating at reduced levels when disconnected from the grid, this ability must be demonstrated in accordance with the criteria set forth in the PJM manuals.

10. No more than one Black Start Unit at a Black Start Plant may be subject to planned maintenance at any one time. This restriction excludes outages on common plant equipment that may make all units unavailable. A Black Start Unit not currently designated as critical and on the same voltage level may be substituted for a Black Start Unit that is subject to a planned outage to permit a concurrent planned outage of another critical Black Start Unit at the Black Start Plant to begin. The Black Start Unit used as a substitute must have had a valid annual test within the previous 12 months.

11. Concurrent planned outages at multiple Black Start Plants within a zone may be restricted based on Transmission Owner requirements for Black Start Service availability. Such restrictions must be predefined and approved by Transmission Provider in accordance with the PJM manuals.

### **Testing**

12. To verify that they can be started and operated without being connected to the Transmission System, Black Start Units designated as critical shall be tested annually in accordance with the PJM manuals. The Black Start Unit owner shall determine the time of the annual test.

13. Compensation for energy output delivered to the Transmission System during the annual test shall be provided for the Black Start Unit's minimum run time at the higher of the unit's

cost-capped offer or real-time Locational Marginal Price plus start-up and no-load costs for up to two start attempts, if necessary. For Black Start Units that are generating units with a high operating factor (subject to Transmission Provider's concurrence) with the ability to automatically remain operating at reduced levels when disconnected from the grid, an opportunity cost will be provided to compensate the unit for lost revenues during testing.

14. To receive Black Start Service revenues, a Black Start Unit must have a successful annual test on record with the Transmission Provider within the preceding 13 months.

15. If a Black Start Unit fails the annual test, the unit may be re-tested within a ten-day period without financial penalty. If the Black Start Unit does not successfully re-test within that ten-day period, monthly Black Start Service revenues will be forfeited by that unit from the time of the first unsuccessful test until such time as the unit passes an annual test. If the Black Start Unit owner determines not to make the necessary repairs to enable the Black Start Unit to pass the annual test, the Black Start Unit owner will have failed to fulfill its commitment pursuant to section 5 or section 6, whichever is applicable, of this Schedule 6A and will be subject to the additional forfeiture of revenues set forth in section 6A.

### **Revenue Requirements**

16. The annual Black Start Service revenue requirement shall be the sum of the annual Black Start Service revenue requirements for each generator that is designated as providing Black Start Service and has provided the Transmission Provider with a calculation of its annual Black Start Service revenue requirements. A separate line item shall appear on the participants' Transmission Provider bill for Black Start Service charges and credits.

17. Black Start Service revenue requirements for each Black Start Unit shall be based, at the election of the owner, on either (i) a FERC-approved rate for the recovery of the cost of providing such service for the entire duration of the commitment term set forth in either section 5 or 6, as applicable, or (ii) the formula rates set forth in section 18 of this Schedule 6A for the commitment term set forth in Paragraph 5 or 6 as applicable. Each generator's Black Start Service revenue requirements shall be an annual calculation. Requests for Black Start Service revenue requirements and for changes to the Black Start Service revenue requirements must be submitted to the Market Monitoring Unit for review and analysis, with supporting data and documentation, pursuant to section III of Attachment M – Appendix and the PJM Manuals, with a copy to the Office of the Interconnection, by no later than May 3 of each year. The Market Monitoring Unit and the Black Start Unit owner shall attempt to come to agreement on the level of each component included in the Black Start Service revenue requirements by no later than May 14 of each year. By no later than May 21 of each year, the Black Start Unit owner shall notify the Office of the Interconnection and the Market Monitoring Unit in writing whether it agrees or disagrees with the Market Monitoring Unit's determination of the level of each component included in the Black Start Service revenue requirements. The Black Start Unit owner may also submit Black Start Service revenue requirements that it chooses to the Office of the Interconnection by no later than May 21 of each year, provided that (i) it has participated in good faith with the process described in this section and in section III of Attachment M - Appendix, (ii) the Black Start Service revenue requirements are no higher than the level defined

in any agreement reached by the Black Start Unit owner and the Market Monitoring Unit that resulted from the foregoing process, and (iii) the Black Start Service revenue requirements are accepted by the Office of the Interconnection subject to the criteria set forth in the Tariff and PJM Manuals.

The Office of the Interconnection shall determine whether to accept the values submitted by the Black Start Unit owner subject to the requirements of the Tariff and the PJM Manuals by no later than May 27. If the Office of the Interconnection does not accept the values submitted by the Black Start Unit owner in such case, the Black Start Unit owner may file its proposed values with the Commission for approval. Pursuant to section III of Attachment M - Appendix, if the Office of the Interconnection accepts the Black Start Service revenue requirements submitted by the Black Start Unit owner in such case, the Market Monitoring Unit may petition the Commission for an order that would require the Black Start Unit owner to utilize the values determined by the Market Monitoring Unit or the Office of the Interconnection or such other values as determined by the Commission. The annual calculation of Black Start Service revenue requirements shall become effective on June 1 of each year, except that no change to a Black Start Service revenue requirement shall become effective until the existing revenue requirement has been effective for at least twelve months. Notwithstanding the foregoing, the deadlines set forth in this section 17 shall not apply to a Black Start Unit owner's election to select a new method of recovery for its Fixed BSSC.

18. The formula for calculating a generator's annual Black Start Service revenue requirement is:

$$\{(\text{Fixed BSSC}) + (\text{Variable BSSC}) + (\text{Training Costs}) + (\text{Fuel Storage Costs})\} * (1 + Z)$$

For units that have the demonstrated ability to operate at reduced levels when automatically disconnected from the grid, the formula is revised to:

$$(\text{Training Costs}) * (1 + Z)$$

Where:

**Fixed BSSC**

Black Start Units with a commitment established under Paragraph 5 shall calculate Fixed BSSC or "Fixed Black Start Service Costs" in accordance with the following Base Formula Rate:

**Base Formula Rate:**

$$\text{Net CONE} * \text{Black Start Unit Capacity} * X$$

Where:



“Net CONE” is the then current installed capacity (“ICAP”) net Cost of New Entry (expressed in \$/MW year) for the CONE Area where the Black Start Unit is located.

“Black Start Unit Capacity” is the Black Start Unit’s installed capacity, expressed in MW.

“X” is the Black Start Service allocation factor unless a higher or lower value is supported by the documentation of the actual costs of providing Black Start Service. For such units qualifying as Black Start Units on the basis of demonstrated ability to operate at reduced levels when automatically disconnected from the grid, X shall be zero. For Black Start Units with a commitment established under section 5, X shall be .01 for Hydro units, .02 for Diesel or CT units.

Black Start Units with a commitment established under Paragraph 6 above shall calculate Fixed BSSC or “Fixed Black Start Service Costs” in accordance with one of the following formulas, as applicable:

**Capital Cost Recovery Rate – NERC-CIP Specific Recovery**

$$(\text{Net Cone} * \text{Black Start NERC-CIP Unit Capacity} * X) + (\text{Incremental Black Start NERC-CIP Capital Costs} * \text{CRF})$$

Where:

“Net Cone” is the then current installed capacity (“ICAP”) net Cost of New Entry (expressed in \$/MW year) for the CONE are where the Black Start Unit is located.

“Black Start NERC-CIP Unit Capacity” is the Black Start Unit’s installed capacity, expressed in MW, but, for purposes of this calculation, capped at 100 MW for Hydro units, or 50 MW for Diesel or CT units.

“Incremental Black Start NERC-CIP Capital Cost” are those capital costs documented by the owner or accepted by the Commission for the incremental equipment solely necessary to enable a Black Start Unit to maintain compliance with mandatory Critical Infrastructure Protection Reliability Standards (as approved by the Commission and administered by the applicable Electric Reliability Organization).

“CRF” or “Capital Recovery Factor” is equal to the levelized CRF as set forth in the applicable CRF Table set forth below.

A Black Start Unit may elect to terminate forward cost recovery under this Capital Cost Recovery Rate – NERC-CIP Specific Recovery at any time and seek cost recovery under the Capital Cost Recovery Rate, pursuant to the terms and conditions set forth below.

### **Capital Cost Recovery Rate**

(FERC-approved rate) + (Incremental Black Start Capital Costs \* CRF)

Where:

“FERC-approved rate” is the Black Start Unit’s current FERC-approved recovery of costs to provide Black Start Service, if applicable. To the extent that a Black Start Unit owner is currently recovering black start costs pursuant to a FERC-approved rate, that cost recovery will be included as a formulaic component for calculating the Black Start Unit’s annual revenue requirement pursuant to this paragraph 18. However, under no circumstances will PJM or the Black Start Unit owner restructure or modify that existing FERC-approved rate without FERC approval.

“Incremental Black Start Capital Costs” are the new or additional capital costs documented by the owner or accepted by the Commission for the incremental equipment solely necessary to enable a unit to provide Black Start Service in addition to whatever other product or services such unit may provide. Such costs shall include those incurred by a Black Start Unit owner in order to meet NERC Reliability Standards that apply to Black Start Units solely on the basis of the provision of Black Start Service by such unit. However, Incremental Black Start Capital Costs shall not include any capital costs that the Black Start Unit owner is recovering for that unit pursuant to a FERC-approved recovery rate.

“CRF” or “Capital Recovery Factor “ is equal to the levelized CRF based on the age of the Black Start Unit, which is modified to provide Black Start Service, as present in the CRF Table below:

Age of Black Start Unit	Term of Black Start Commitment	Levelized CRF
1 to 5	20	0.125
6 to 10	15	0.146
11 to 15	10	0.198
16+	5	0.363

Or:

Optionally, a Black Start Unit owner may elect to apply an alternative Capital Recovery Factor, in lieu of the age-based CRF Table listed above, which is based upon to the expected Capital Improvement Lifespan of the new or additional capital

improvements (as determined by the applicable depreciation period of the capital improvement, as published from time to time by the US Internal Revenue Service). The applicable term of Black Start Service commitment shall be equal to the Capital Improvement Lifespan. In the event that the Black Start Unit seeks recovery of capital improvements that are included in more than one category of Capital Improvement Lifespan (as set forth below), its applicable commitment to provide black start service for such Black Start Unit shall be the longest expected life of those new or additional capital improvements.

Capital Improvement Lifespan (Years)	Levelized CRF
16-20	0.125
11-15	0.146
6-10	0.198
1-5	0.363

In those circumstances where a Black Start Unit owner has elected to recover Incremental Black Start Capital Costs, in addition to a FERC-approved recovery rate, its applicable term of commitment shall be the greater of: (i) the FERC-approved recovery period, or; (ii) the applicable term of commitment as established by the CRF Tables above.

After a Black Start Unit has recovered its allowable Incremental Black Start Capital Costs or Incremental Black Start NERC-CIP Capital Costs, as provided by the applicable Capital Cost Recovery Rate, and has satisfied its applicable commitment period required under Paragraph 6, the Black Start Unit shall be committed to providing black start in accordance with Paragraph 5 of this Schedule 6A and calculate its Fixed BSSC in accordance with the Base Formula Rate.

### **Variable BSSC**

All Black Start Units shall calculate Variable BSSC or “Variable Black Start Service Costs” in accordance with the following formula:

$$\text{Black Start Unit O\&M} * Y$$

Where:

“Black Start Unit O&M” are the operations and maintenance costs attributable to supporting Black Start Service and must equal the annual variable O&M outlined in the PJM Cost Development Guidelines set forth in the PJM Manuals. Such costs shall include those incurred by a Black Start Owner in order to meet NERC Reliability Standards that apply to the Black Start Unit solely on the basis of the provision of Black Start Service by unit.

“Y” is 0.01, unless a higher or lower value is supported by the documentation of costs. If a value of Y is submitted for this cost, a (1-Y) factor must be applied to the Black Start

Unit's O&M costs on the unit's cost-based energy schedule, calculated based on the Cost Development Guidelines in the PJM Manuals.

For units qualifying as Black Start Units on the basis of a demonstrated ability to operate at reduced levels when automatically disconnected from the grid, there are no variable costs associated with providing Black Start Service and the value for Variable BSSC shall be zero.

### **Training Costs:**

All Black Start Units shall calculate Training Costs in accordance with the following formula:

50 staff hours/year/plant\*75/hour

### **Fuel Storage Costs:**

Black Start Units that cannot use oil for fuel shall calculate Fuel Storage Costs or "FSC" as zero. Black Start Units that can use oil for fuel shall calculate Fuel Storage Costs in accordance with the following formula:

$$\{ \text{MTSL} + [(\# \text{ Run Hours}) * (\text{Fuel Burn Rate})] \} * \\ (12 \text{ Month Forward Strip} + \text{Basis}) * (\text{Bond Rate})$$

Where:

Run Hours are the actual number of hours a Transmission Provider requires a Black Start Unit to run. Run Hours shall be at least 16 hours or as defined by the Transmission Owner restoration plan, whichever is less.

"Fuel Burn Rate" is actual fuel burn rate for the Black Start Unit.

"12-Month Forward Strip" is the average of forward prices for the fuel burned in the Black Start Unit traded the first business day on or following May 1.

"Basis" is the transportation costs from the location referenced in the forward price data to the Black Start Unit plus any variable taxes.

"Bond rate" is the value determined with reference to the Moody's Utility Index for bonds rated Baa1 reported the first business day on or following May 1.

"MTSL" is the "minimum tank suction level" and shall apply where no direct current pumps are available for the Black Start Unit.

For units qualifying as Black Start Units on the basis of a demonstrated ability to operate at reduced levels when automatically disconnected from the grid, there are no associated fuel storage costs and the value for FSC shall be zero.

## **Z**

Z shall be an incentive factor solely for Black Start Units with a commitment established under section 5 above and shall be ten percent. For those Black Start Units that elect to recover new or additional Black Start Capital Costs under section 6 above, the incentive factor, Z, shall be equal to zero.

At least every two years, PJM shall review the formula and its costs components set forth in this section, and report on the results of that review to stakeholders.

19. Transmission Provider or its agent shall have the right to independently audit the accounts and records of each Black Start Unit that is receiving payments for providing Black Start Service.
20. PJM shall notify its Members when a Black Start Unit seeks to recover new or additional Black Start NERC-CIP Capital Costs under Paragraph 18 no later than thirty (30) days prior to the effective date of the recovery. At the written request of any PJM Member, made simultaneously to the Market Monitoring Unit and PJM, with notice to the Black Start Unit owner, the Market Monitoring Unit shall make available to the PJM Member for inspection at the offices of the Market Monitoring Unit, all data supporting the requested new or additional NERC-CIP specific Capital Costs. The Black Start Unit owner may elect to attend this review. In all cases, the supporting data is to be held confidential and may not be distributed.
21. The Market Monitoring Unit shall include a Black Start Service summary in its annual State of the Market report which will set forth a descriptive summary of the new or additional Black Start NERC-CIP Capital Costs requested by Black Start Units, and include a list of the types of capital costs requested and the overall cost of such capital improvements on an aggregate basis such that no data is attributable to an individual Black Start Unit.

## **Credits**

22. Monthly credits are provided to generators that submit to the Transmission Provider their annual revenue requirements established pursuant to section 17 of this Schedule 6A. The generator's monthly credit is equal to 1/12 of its annual Black Start Service revenue requirement for eligible critical Black Start Units.
23. Revenue requirements for jointly owned Black Start Units will be allocated to the owners based on ownership percentage.
24. Transmission Provider shall not compensate generators for Black Start Service unless they meet the Transmission Provider criteria for Black Start Service and the criteria for Black Start Service in the Applicable Standards and provide Transmission Provider with all necessary data in accordance with this Schedule 6A and the PJM manuals.

## Charges

25. Zonal rates will be based on Black Start Service capability of generation units nominated by each transmission zone and allocated to network service customers and point-to-point reservations.
26. Revenue requirements for Black Start Units nominated by a Transmission Owner as critical (regardless of zonal location) will be allocated to the nominating Transmission Owner's zone.
27. Purchasers of Black Start Service shall be charged for such service in accordance with the following formulae.

Monthly Charge for a purchaser receiving Network Integration Transmission Service or Point-to-Point Transmission Service to serve Non-Zone Load = Allocation Factor \* Total Generation Owner Monthly Black Start Service Revenue Requirement

Monthly Charge for a purchaser receiving Network Integration Transmission Service or Point-to-Point Transmission Service to serve Zone Load = Allocation Factor \* Zonal Generation Owner Monthly Black Start Service Revenue Requirement \* Adjustment Factor

Where:

Purchaser serving Non-Zone Load is a Network Customer serving Non-Zone Network Load or a Transmission Customer where the Point of Delivery is at the boundary of the PJM Region.

Zonal Generation Owner Monthly Black Start Service Revenue Requirement is the sum of the monthly Black Start Service revenue requirements for each generator nominated by the Transmission Owners in that zone.

Total Generation Owner Monthly Black Start Service Revenue Requirement is the sum of the Zonal Generation Owner Monthly Black Start Service Revenue Requirements for all Zones in the PJM Region.

Allocation Factor is the monthly transmission use of each Network Customer or Transmission Customer per Zone or Non-Zone, as applicable, on a megawatt basis divided by the total transmission use in the Zone or in the PJM Region, as applicable, on a megawatt basis.

For Network Customers, monthly transmission use on a megawatt basis is the sum of a Network Customer's daily values of DCPZ or DCPNZ (as those terms are defined in Section 34.1) as applicable, for all days of the month.

For Transmission Customers, monthly transmission use on a megawatt basis is the sum of the Transmission Customer's hourly amounts of Reserved Capacity for each day of the month (not curtailed by PJM) divided by the number of hours in the day.

Adjustment Factor is determined as the sum of the total monthly transmission use in the PJM Region on a megawatt basis, exclusive of such use by Network Customers and Transmission Customers serving Non-Zone Load, divided by the total monthly transmission use in the PJM Region on a megawatt basis.

In the event that a single customer is serving load in more than one Zone, or serving Non-Zone Load as well as load in one or more Zones, or is both a Network Customer and a Transmission Customer, the Monthly Charge for such a customer shall be the sum of the Monthly Charges determined by applying the appropriate formulae set forth in this Schedule 6A.

## **ATTACHMENT K**

### **Transmission Congestion and Loss Charges and Credits**

#### **Preface.**

This Attachment and Attachment K – Appendix specify the manner in which all Transmission Customers, Network Customers, and Transmission Owners using the Transmission System to serve their Native Load Customers and Market Participants submitting virtual bids and offers will be charged for the costs of congestion and losses on the Transmission System, the manner in which all FTR holders share in the allocation of revenues received as Transmission Congestion Charges, and the manner in which Network Service Users, Market Participants in the PJM Interchange Energy Market and Transmission Customers share in the allocation of Transmission Loss Charges. In addition, Attachment K - Appendix incorporates into the Tariff for ease of reference the provisions of Schedule 1 of the Operating Agreement (“Schedule 1”). Capitalized terms used in this Attachment which are not defined in the Tariff or in the Attachment, but which are defined in Schedule 1 shall have the meanings set forth in Schedule 1.



## **6.4 Offer Price Caps.**

### **6.4.1 Applicability.**

(a) If, at any time, it is determined by the Office of the Interconnection in accordance with Sections 1.10.8 or 6.1 of this Schedule that any generation resource may be dispatched out of economic merit order to maintain system reliability as a result of limits on transmission capability, the offer prices for energy from such resource shall be capped at the levels specified below. If the Office of the Interconnection is able to do so, such offer prices shall be capped only during each hour when the transmission limit affects the schedule of the affected resource, and otherwise shall be capped for the entire Operating Day. The energy offer prices as capped shall be used to determine any Locational Marginal Price affected by the offer price of such resource.

(b) The energy offer price by any generation resource requested to be dispatched in accordance with Section 6.3 of this Schedule shall be capped at the levels specified below. If the Office of the Interconnection is able to do so, such offer prices shall be capped only during each hour when the affected resource is so scheduled, and otherwise shall be capped for the entire Operating Day. The energy offer prices as capped shall be used to determine any Locational Marginal Price affected by the price of such resource.

(c) Generation resources subject to an offer price cap shall be paid for energy at the applicable Locational Marginal Price.

(d) [Reserved for Future Use]

(e) Except for the overall \$1,000 energy offer cap, offer price caps under section 6.4 of this Schedule shall be suspended for a generation resource with respect to transmission limit(s) for any hour in which (1) there are not three or fewer generation suppliers available for redispatch under subsection (a) that are jointly pivotal with respect to such transmission limit(s), and (2) the generation resource's owner, when combined with the two largest other generation suppliers, is not pivotal ("three pivotal supplier test").

(f) For the purposes of conducting the three pivotal supplier test in subsection (e), the following applies:

(i) All megawatts of available incremental supply for which the power distribution factor ("dfax") has an absolute value equal to or greater than the dfax used by the Office of the Interconnection's system operators when evaluating the impact of generation with respect to the constraint ("effective megawatts") will be included in the available supply analysis at costs equal to the cost-based offers of the available incremental supply adjusted for dfax ("effective costs"). The Office of the Interconnection will post on the PJM website the dfax value used by operators with respect to a constraint when it varies from three percent.

(ii) The three pivotal supplier test will include in the definition of the relevant market incremental supply up to and including all such supply available at an effective cost equal

to 150% of the cost-based clearing price calculated using effective costs and effective megawatts and the need for megawatts to solve the constraint.

(iii) Offer price caps will apply on a generation supplier basis (i.e. not a generating unit by generating unit basis) and only the generation suppliers that fail the three pivotal supplier test will have their units that are dispatched with respect to the constraint offer capped. A generation supplier for the purposes of this section includes corporate affiliates. Supply controlled by a generation supplier or its affiliates by contract with unaffiliated third parties or otherwise will be included as supply of that generation supplier; supply owned by a generation supplier but controlled by an unaffiliated third party by contract or otherwise will be included as supply of that third party. A generation supplier's units are offer capped if, when combined with the two largest other generation suppliers, the generation supplier is pivotal.

(iv) In the Day-ahead Energy Market, the Office of the Interconnection shall include price sensitive demand and virtual bids and offers as demand or supply, as applicable, in the relevant market.

#### **6.4.2 Level.**

(a) The offer price cap shall be one of the amounts specified below, as specified in advance by the Market Seller for the affected unit:

(i) The weighted average Locational Marginal Price at the generation bus at which energy from the capped resource was delivered during a specified number of hours during which the resource was dispatched for energy in economic merit order, the specified number of hours to be determined by the Office of the Interconnection and to be a number of hours sufficient to result in an offer price cap that reflects reasonably contemporaneous competitive market conditions for that unit;

(ii) The incremental operating cost of the generation resource as determined in accordance with Schedule 2 of the Operating Agreement and the PJM Manuals ("incremental cost"), plus 10% of such costs;

(iii) For units that are frequently offer capped ("Frequently Mitigated Unit" or "FMU"), the following shall apply:

(a) For units that are offer capped for 60% or more of their run hours, but less than 70% of their run hours, the offer price cap will be either (i) incremental cost plus 10% or (ii) incremental cost plus \$20 per megawatt-hour;

(b) For units that are offer capped for 70% or more of their run hours, but less than 80% of their run hours, the offer price cap will be either (i) incremental cost plus 15%, not to exceed incremental cost plus \$40 per megawatt-hour, or (ii) incremental cost plus \$30 per megawatt-hour;

(c) For units that are offer capped for 80% or more of their run hours, the offer price cap will be (i) incremental costs plus 10%; (ii) incremental cost plus \$40 per megawatt-hour; or (iii) the agreed unit-specific going forward costs of the affected unit as reflected in an agreement entered pursuant to subsection (iv), below; or

(iv) An amount determined by agreement between the Office of the Interconnection and the Market Seller, provided that, if the Office of the Interconnection and the Market Seller cannot reach agreement after sixty (60) days from the commencement of negotiations, then the Market Seller may submit the rates, terms, and conditions of its proposed offer cap to the Commission for resolution.

(b) For purposes of section 6.4.2(a)(iii), a generating unit shall qualify for the specified offer cap upon issuance of written notice from the Market Monitoring Unit that it is a “Frequently Mitigated Unit” or “FMU” because it was offer capped for the applicable percentage of its run hours, determined on a rolling 12-month average basis, effective with a one month lag, by no later than the 21st day of each month pursuant to Section II.A of Attachment M-Appendix.

(c) Any generating unit, without regard to ownership, located at the same site as a Frequently Mitigated Unit qualifying under Sections 6.4.2(a)(iii) shall become an “Associated Unit” upon issuance of written notice from the Market Monitoring Unit by no later than the 21st day of each month pursuant to Section II.A of Attachment M-Appendix, that it meets all of the following criteria:

1. The unit has the identical electric impact on the transmission system as the FMU;

2. The unit (i) belongs to the same design class (where a design class includes generation that is the same size and utilizes the same technology, without regard to manufacturer) and uses the identical primary fuel as the FMU or (ii) is regularly dispatched by PJM as a substitute for the FMU based on differences in cost that result from the currently applicable FMU adder;

3. The unit (i) has an average daily cost-based offer, as measured over the preceding 12-month period, that is less than or equal to the FMU’s average daily cost-based offer adjusted to include the currently applicable FMU adder or (ii) is regularly dispatched by PJM as a substitute for the FMU based on differences in cost that result from the currently applicable FMU adder.

The offer cap for an associated unit shall be equal to the incremental operating cost of such unit, as determined in accordance with Schedule 2 of the Operating Agreement and the PJM Manuals, plus the applicable percentage adder or dollar per megawatt-hour adder as specified in Section 6.4.2(a)(iii)(a), (b), or (c) for the unit with which it is associated.

(d) For purposes of section 6.4.2(a)(iii)(c), the unit-specific going forward costs determined by agreement between the Office of the Interconnection and the Market Seller shall

include only the costs included in the Deactivation Avoidable Cost Rate, excluding costs associated with the Avoidable Project Investment Recovery Rate (APIR), set forth in section 115 of the PJM Tariff. Any costs that would be capitalized according to generally accepted accounting principles, associated carrying costs, or other fixed costs shall not be included. The agreement shall further provide that (i) in order for such costs to qualify for inclusion in the amounts determined by the agreement, the Market Seller must agree to provide to PJM relevant cost data concerning fuel, operating and maintenance, and other avoidable costs, (ii) the maintenance practices and incurrence of expense at the unit shall be subject to audit by the Office of the Interconnection, and (iii) the unit owner agrees to operate the unit in accordance with Good Utility Practice.

(e) Any agreement entered pursuant to section 6.4.2(a)(iv) shall be filed with the Commission and shall be effective only upon acceptance of the agreement for filing by the Commission; provided however, that agreements to reflect unit-specific going forward costs in accordance with section 6.4.2(a)(iii) shall be filed with the Commission for informational purposes only and shall be effective the day following the date of the informational filing.

(f) Market Participants shall have exclusive responsibility for preparing and submitting their offers on the basis of accurate information and in compliance with the FERC Market Rules, inclusive of the level of any applicable offer cap, and in no event shall PJM be held liable for the consequences of or make any retroactive adjustment to any clearing price on the basis of any offer submitted on the basis of inaccurate or non-compliant information.

## **6.6 Minimum Generator Operating Parameters – Parameter Limited Schedules**

(a) Generation resources shall submit and be subject to pre-determined limits on non-price offer parameters (“parameter limited schedules”) under the following circumstances:

(i) The Operating Reserve markets fail the three pivotal supplier test. When this subsection applies, the parameter limited schedule shall be the less limiting of the defined parameter limited schedules or the submitted offer parameters.

(ii) The Office of the Interconnection: (i) declares a Maximum Generation Emergency; (ii) issues an alert that a Maximum Generation Emergency may be declared (“Maximum Generation Emergency Alert”); or (iii) schedules units based on the anticipation of a Maximum Generation Emergency or a Maximum Generation Emergency Alert for all, or any part, of an Operating Day.

(b) Parameter limited schedules shall be defined for the following parameters:

- (i) Turn Down Ratio;
- (ii) Minimum Down Time;
- (iii) Minimum Run Time;
- (iv) Maximum Daily Starts;
- (v) Maximum Weekly Starts.

(c) The following table specifies default parameter limited schedule values, by technology type, for generation resources:

### Parameter Limited Schedule Matrix

Parameter	Minimum Down Time (Hrs)	Minimum Run Time (Hrs)	Maximum Daily Starts	Maximum Weekly Starts	Turn Down Ratio = Economic Maximum MW / Economic Minimum MW
Small Frame CT and Aero CT Units - Up to 29 MW ICAP	2.0 or Less	2.0 or Less	2 or More	14 or More	1.0 or More
Medium Frame CT and Aero CT Units - 30 MW to 65 MW ICAP	2.0 or Less	3.0 or Less	2 or More	14 or More	1.0 or More
Medium-Large Frame CT Units - 65 MW to 125 MW ICAP	3.0 or Less	5.0 or Less	2 or More	14 or More	1.0 or More
Large Frame CT Units - 135 MW to 180 MW ICAP	4.0 or Less	5.0 or Less	2 or More	14 or More	1.0 or More
Combined Cycle Units	4.0 or Less	6.0 or Less	2 or More	11 or More	1.5 or More
Petroleum and Natural Gas Steam Units - Pre-1985	7.0 or Less	8.0 or Less	1 or More	7 or More	3.0 or More
Petroleum and Natural Gas Steam Units - Post-1985	3.5 or Less	5.5 or Less	2 or More	11 or More	2.0 or More
Sub-Critical Coal Units	9.0 or Less	15.0 or Less	1 or More	5 or More	2.0 or More
Super-Critical Coal Units	84.0	24.0 or Less	1 or More	2 or ore	1.5 or More

(d) Upon receipt of proposed revised parameter limited schedule values from the Market Monitoring Unit, prepared in accordance with the procedures for periodic review included in section II.B.1 of Attachment M - Appendix, the Office of the Interconnection shall file to revise the parameter limited schedule matrix in section 6.6(c) above accordingly. In the event that the Office of the Interconnection disagrees with the values proposed for revising the matrix, the Office of the Interconnection shall file the values that it determines are appropriate.

(e) The Market Monitoring Unit shall calculate and provide generation resources unit-specific default values in accordance with section II.B of Attachment M - Appendix. Generation resources having the ability to operate on multiple fuels may submit a parameter limited schedule associated with each fuel type. In addition, a generation resource may obtain an exception from the unit-specific values due to physical operational limitations that prevent the resource from meeting the minimum parameters by submitting a request for a period exception or persistent exception to the Office of the Interconnection and to the Market Monitoring Unit by no later than February 28. Each generation resource must supply the required historical unit operating data in support of the exception request, and if the exception requested is based on new physical operational limits for the resource for which some or all historical operating data is

unavailable, the generation resource may also submit technical information about the physical operational limits for period exceptions of the resource to support the requested parameters. The Market Monitoring Unit shall evaluate such request in accordance with the process set forth in Section II.B of Attachment M - Appendix. A generation resource (i) must submit a parameter limited schedule value consistent with its agreement under such process, or, (ii) if it has not agreed with the Market Monitoring Unit on an appropriate parameter limited schedule value, may submit its own determination of an appropriate value to the Office of the Interconnection and to the Market Monitoring Unit, by no later than April 8. Each exception request must indicate the expected duration of the requested exception including the termination date thereof. The proposed parameter limited schedule value submitted by the generation resource owner is subject to approval of the Office of the Interconnection pursuant to the requirements of the Tariff and the PJM Manuals. The Office of the Interconnection may engage the services of a consultant with technical expertise to evaluate the exception request. After it has completed its evaluation of the exception request, the Office of the Interconnection shall notify the generation resource owner in writing, with a copy to the Market Monitoring Unit, whether the exception request is approved or denied, by no later than April 15. The effective date of the exception, if approved by the Office of the Interconnection, shall be no earlier than May 1. The Office of the Interconnection's determination for an exception shall continue for the period requested and, if requested, for such longer period as the Office of the Interconnection may determine is supported by the data. A generation resource owner shall notify the Market Monitoring Unit and the Office of the Interconnection of a material change to the facts relied upon by the Market Monitoring Unit and/or the Office of the Interconnection to support a parameter limited schedule exception pursuant to Section 6.7 of Schedule 1 of the Operating Agreement (or the Commission in support of its approval). The Market Monitoring Unit shall make a determination, and simultaneously notify the Office of the Interconnection and the generation resource owner, of its determination whether the existing exception should continue, the exception should be revised or that no exception is supported by the data. The Office of the Interconnection shall notify the generation resource owner in writing, with a copy to the Market Monitoring Unit, of its determination whether the exception can continue, must be revised or is no longer supported by the data given the material change in the facts relied upon to support the exception. If the Office of the Interconnection determines that the exception is no longer supported by the data, the values specified in the parameter limited schedule matrix shall apply. If the generation resource owner does not submit a complete temporary exception request to the Office of the Interconnection and the Market Monitoring Unit and the resource does not clear in the Day-ahead Energy Market, the resource schedule shall be returned to its previous parameter limits.

The Office of the Interconnection and Market Monitoring Unit will review the operations of the generation resource after each of the first three full years of operation to verify the requested parameters. PJM will not accept the exception thereafter if it is not supported by the operating data.

(f) On a daily basis each generation resource may submit notification to the Office of the Interconnection of changed physical operational limitations at such generation resources that require a temporary exception to the otherwise applicable parameter limited schedule value. Each generation resource must supply the required operating data necessary to support the exception consistent with the requirements set forth in the PJM Manuals. Such exceptions may

not continue past the next period (as described in section II.B of Attachment M - Appendix). Temporary exception requests shall be subject to acceptance by the Office of the Interconnection upon submission by a generation resource, and shall be subject to further subsequent review of the continuation of the exception by the Office of the Interconnection and the Market Monitoring Unit. Based on the further review and determination by the Office of the Interconnection and the Market Monitoring Unit, the generation resource may (i) continue to submit a parameter limited schedule value consistent with the Market Monitoring Unit's determination or, (ii) if dissatisfied with the Market Monitoring Unit's determination, continue to submit a parameter limited schedule value to the Office of Interconnection inconsistent with the Market Monitoring Unit's determination subject to acceptance by the Office of the Interconnection, with or without prior approval of the Commission.

If the Office of the Interconnection denies an exception request, in whole or in part, the generation resource may contest the denial through the PJM Dispute Resolution Process set forth in this Agreement, in which case the generation resource shall continue to submit a parameter limited schedule value as determined during the exception process until the issue has been resolved. If physical conditions at the generation resource change, such that the exception is no longer required, the generation resource is required to so inform the Office of the Interconnection and the exception shall be terminated.

If during the period that an exception agreed to by the Market Monitoring Unit applies (or is approved by the Commission), there is a material change to the facts relied upon by the Market Monitoring Unit to support such exception (or the Commission in support of its approval), the generation resource shall bring the change to the attention of the Market Monitoring Unit (or the Commission) for a determination as to whether the exception continues to be appropriate.



## **ATTACHMENT M**

### **PJM MARKET MONITORING PLAN**

References to section numbers in this Attachment M refer to sections of this Attachment M, unless otherwise specified.

#### **I. OBJECTIVES**

The objectives of this PJM Market Monitoring Plan are to maintain an independent Market Monitoring Unit that will objectively monitor, investigate, evaluate and report on the PJM Markets, including, but not limited to, structural, design or operational flaws in the PJM Markets or the exercise of market power or manipulation in the PJM Markets. The Market Monitoring Unit shall have responsibility for implementing the Plan. In the event of any conflict between a provision in the Plan and a provision of the PJM Market Rules, the provision of the Plan shall control.

#### **II. DEFINITIONS**

Unless the context otherwise requires, for purposes of this Plan, capitalized terms shall have the meanings given below or in Section I of the PJM Tariff.

(a) **“Authorized Government Agency”** means a regulatory body or government agency, with jurisdiction over PJM, the PJM Market, or any entity doing business in the PJM Market, including, but not limited to, the Commission, State Commissions, and state and federal attorneys general.

(b) **“Commission”** means the Federal Energy Regulatory Commission.

(c) **“Corrective Action”** means an action set forth in section IV.I of this Plan.

(d) **“FERC Market Rules”** mean the market behavior rules and the prohibition against electric energy market manipulation codified by the Commission in its Rules and Regulations at 18 CFR §§ 1c.2 and 35.37, respectively; the Commission-approved PJM Market Rules and any related proscriptions or any successor rules that the Commission from time to time may issue, approve or otherwise establish.

(e) **“Market Monitor”** means the head of the Market Monitoring Unit.

(f) **“Market Monitoring Unit” or “MMU”** means the organization that is responsible for implementing this Plan, including the Market Monitor.

(g) **“Market Monitoring Unit Advisory Committee” or “MMU Advisory Committee”** means the committee established under Section III.H.

(h) **“Market Participant”** means an entity that generates, transmits, distributes, purchases, or sells electricity, ancillary services, or any other product or service provided under the PJM Tariff or Operating Agreement within, into, out of, or through the PJM Region.

“Market Participant” shall not include an Authorized Government Agency that consumes energy for its own use but does not purchase or sell energy at wholesale.

(h-1) **“Market Violation”** means a tariff violation, violation of a Commission-approved order, rule or regulation, market manipulation, or inappropriate dispatch that creates substantial concerns regarding unnecessary market inefficiencies, as defined in 18 C.F.R. § 35.28(b)(8).

(i) **“OPSI Advisory Committee”** means the committee established under Section III.G.

(j) **“PJM”** means PJM Interconnection, L.L.C., including the Office of the Interconnection as referenced in the PJM Operating Agreement.

(k) **“PJM Board”** means the Board of Managers of PJM or its designated representative, exclusive of any members of PJM Management.

(l) **“PJM Entities”** mean PJM, including the Market Monitoring Unit, the PJM Board, and PJM’s officers, employees, representatives, advisors, contractors, and consultants.

(m) **“PJM Liaison”** means the liaison established under Section III.I.

(n) **“PJM Management”** means the officers, executives, supervisors and employee managers of PJM.

(o) **“PJM Manuals”** mean those documents, including business rules, produced by PJM that describe detailed PJM operating and accounting procedures that are made publicly available in hard copy and on the Internet.

(p) **“PJM Markets”** mean the PJM Interchange Energy and Capacity Markets, including the RPM auctions, together with all bilateral or other wholesale electric power and energy transactions, capacity transactions, ancillary services transactions (including black start service), transmission transactions and any other market operated under the PJM Tariff or Operating Agreement within the PJM Region.

(q) **“PJM Market Rules”** mean the rules, standards, procedures, and practices of the PJM Markets set forth in the PJM Tariff, the PJM Operating Agreement, the PJM Reliability Assurance Agreement, the PJM Consolidated Transmission Owners Agreement, the PJM Manuals, the PJM Regional Practices Document, the PJM-Midwest Independent Transmission System Operator Joint Operating Agreement or any other document setting forth market rules.

(r) **“PJM Operating Agreement”** means the Amended and Restated Operating Agreement of PJM on file with the Commission.

(s) **“PJM Regional Practices Document”** means the document of that title that compiles and describes the practices in the PJM Markets and that is made available in hard copy and on the Internet.

(t) **“PJM Reliability Assurance Agreement”** means the Reliability Assurance Agreement among Load Serving Entities in the PJM Region on file with the Commission.

(u) **“PJM Tariff”** means the Open Access Transmission Tariff of PJM on file with the Commission.

(v) **“PJM Transmission Owners Agreement”** means the PJM Consolidated Transmission Owners Agreement on file with the Commission.

(w) **“Plan”** means the PJM market monitoring plan set forth in this Attachment M.

(x) **“State”** means the District of Columbia and any state or commonwealth in the PJM Region.

(y) **“State Commission”** means any state regulatory agency having jurisdiction over retail electricity sales in any State in the PJM Region.

### **III. MARKET MONITORING UNIT**

**A. Establishment:** PJM shall establish or retain a Market Monitoring Unit to perform the functions set forth in this Plan.

**B. Composition:** The Market Monitoring Unit shall be comprised of personnel having the experience and qualifications necessary to implement this Plan. In carrying out its responsibilities, the Market Monitoring Unit may retain such consultants, attorneys and experts as it deems necessary.

**C. Independence:** The Market Monitoring Unit shall be independent from, and not subject to, the direction or supervision of any person or entity, with the exception of the PJM Board as specified in Section III.D, and the Commission. No person or entity shall have the right to preview, screen, alter, delete, or otherwise exercise editorial control over or delay Market Monitoring Unit actions or investigations or the findings, conclusions, and recommendations developed by the Market Monitoring Unit that fall within the scope of market monitoring responsibilities contained in this Plan. Nothing in this section shall be interpreted to exempt the Market Monitoring Unit from any applicable provision of state or federal law.

#### **D. Role of PJM Board:**

1. The PJM Board shall have the authority and responsibility:

a. To review the budget of the Market Monitoring Unit, consistent with the budget processes and requirements set forth in Section III.E.

b. To propose to terminate, retain by contract renewal or replace the Market Monitoring Unit, consistent with the requirements of Section III.F.

2. The PJM Board and the Market Monitor shall meet and confer from time to time on matters relevant to the discharge of the PJM Board's and the Market Monitoring Unit's duties under this Plan.

3. Other than the matters set forth in Sections III.D.1 and D.2, the PJM Board shall have no responsibility for, or authority over, the Market Monitoring Unit.

**E. Budget:**

1. **Preparation:** The Market Monitor shall prepare a budget each year of its expenses on an accrual basis in accordance with generally accepted accounting principles that is sufficient to cover the anticipated actual costs to perform the services under this Plan, including, but not limited to, salary and benefits, rent and utilities, interest, depreciation and other operating expenses.

2. **Review:** The Market Monitor shall, not later than September 15, submit a draft budget to the Finance Committee, OPSI Advisory Committee, and PJM Board for review and comment. The draft budget shall include total labor compensation, non-employee labor expense, current full-time employee and contractor head count, depreciation expense, interest expense, technology expense, other expense and capital spending, including a level of supporting detail consistent with that provided by PJM in its annual budget review to the Finance Committee. The draft budget shall also be made available for inspection by the PJM members. The Finance Committee, OPSI Advisory Committee, and PJM Board shall have until October 15 to request changes in the budget. The Market Monitor shall consider those requests and, if they are not accepted by the Market Monitor, it shall provide, in writing, to the foregoing and to PJM members, an explanation of the reasons they are not acceptable. If, after discussing requested changes with such entities, there is no remaining dispute over such requested changes, the mutually agreeable budget shall go into effect on January 1 of the subsequent year.

3. **Commission Action:** If despite the foregoing process, there remains a dispute regarding the budget, PJM shall, not later than November 1, file the Market Monitor's proposed budget with the Commission for resolution of the dispute. PJM shall accompany such filing with an explanation of the nature of the dispute and any position of the PJM Board on such dispute. Any interested person may also file comments on such dispute. The fact that PJM is submitting the dispute for Commission review shall not be deemed to provide the views of the PJM Board any special weight, nor subject them to any special burden of proof. If the Commission has not taken action by December 31, the Market Monitor's proposed budget, filed by PJM, shall take effect, subject to any subsequent Commission order.

4. **Intra-year Amendments to the Budget:** If the Market Monitor requires an intra-year amendment to the budget to perform its functions under the Plan, it shall provide the proposed amendment, the reasons for the proposed amendment and reasonable supporting detail to the Finance Committee, OPSI Advisory Committee and the PJM Board for review and comment, and if any dispute regarding such proposed amendment remains 30 days thereafter, PJM shall file the proposed budget amendment with the Commission for resolution of the dispute. The proposed budget amendment and supporting explanation shall also be made available for inspection by the PJM members.

5. **Rates:** The Market Monitor's approved budget shall be collected pursuant to Schedule 9-MMU of the PJM Tariff.

**F. Term and Termination:**

1. **Term:** Upon the effective date of this revised Attachment M, there shall be a contract between PJM and the Market Monitoring Unit that has an initial term of six (6) years. Upon the expiration of that initial six (6) year term, the contract may be renewed for subsequent term(s) of three (3) years if both parties agree. If the PJM Board does not agree to renew the contract at the end of its term, it may propose to terminate the contract pursuant to the standards and processes set forth below.

2. **Standards for Proposed Termination:**

a. **Termination During Contract Term.** During the term of any contract with the Market Monitoring Unit, the PJM Board may propose to terminate the contract as follows:

(1) During the first three (3) years following the effective date of this revised Attachment M, the PJM Board may propose to terminate the contract with the Market Monitoring Unit upon a determination of willful misconduct or gross negligence by the Market Monitoring Unit.

(2) Following the expiration of this initial three (3) year period, the PJM Board may, during the term of any contract with the Market Monitoring Unit (or any successor Market Monitoring Unit), propose to terminate the contract with the Market Monitoring Unit upon a determination that the Market Monitoring Unit has not adequately performed its functions set forth in this Plan.

b. **Termination at End of Contract Term.** At the end of the term of any contract with the Market Monitoring Unit, the PJM Board may propose to terminate the contract with the Market Monitoring Unit (or any successor Market Monitoring Unit) (1) upon a determination that the Market Monitoring Unit has not adequately performed the functions set forth in this Plan, or (2) pursuant to an open, nondiscriminatory and transparent request for proposals.

3. **Process for Proposed Termination and Replacement:**

a. **Notice.** If the PJM Board proposes to terminate the contract with the Market Monitoring Unit pursuant to the standards set forth in Section III.F.2, it shall provide one hundred twenty (120) days prior notice to the

Market Monitoring Unit, the OPSI Advisory Committee, MMU Advisory Committee and the PJM members.

b. Contents of Notice. The notice shall include the following information:

(1) If the PJM Board proposes to terminate the contract with the Market Monitoring Unit based on willful misconduct or gross negligence, it shall set forth in detail the conduct that supports such determination and shall propose an open and transparent process (such as a request for proposals) for selecting a new Market Monitoring Unit.

(2) If the PJM Board proposes to terminate the contract with the Market Monitoring Unit because it has not adequately performed its functions under this Plan, it shall set forth in detail the performance deficiencies that support that determination and shall propose an open and transparent process (such as a request for proposals) for selecting a new Market Monitoring Unit.

(3) If the PJM Board proposes to conduct a request for proposals to determine whether to replace the Market Monitoring Unit at the end of a contract term, it shall propose an open, nondiscriminatory and transparent request for proposals and shall allow the existing Market Monitoring Unit to submit a bid or proposal in that process. Any such notice shall set forth in detail the criteria applicable to such request for proposals. Such criteria shall be subject to comment as provided in Section III.F.3.c and subject to approval by the Commission.

c. Comments on the Notice. Within forty-five (45) days of any such notice, the Market Monitoring Unit, the OPSI Advisory Committee, MMU Advisory Committee, any PJM member or any stakeholder may provide advice or comment to the PJM Board regarding the proposed termination and/or the proposed process for selecting a new Market Monitoring Unit. The PJM Board shall take such advice or comment into account in reaching a final determination as to whether to propose to terminate the contract with the Market Monitoring Unit and, if so, the process for selecting a new Market Monitoring Unit.

d. FERC Filing. Upon the expiration of the one hundred twenty (120) day prior notice period, the PJM Board may, after considering the advice and comment provided pursuant to Section III.F.3.c, propose in a filing to FERC that the contract with the Market Monitoring Unit be terminated. Any such proposal shall include a detailed explanation of the reasons therefor, including an explanation of why the standards set forth in Section III.F.2 have been satisfied, and an open, nondiscriminatory and

transparent process for selecting a new Market Monitoring Unit. The Market Monitoring Unit, OPSI Advisory Committee and any interested stakeholder may submit to FERC such comments, protests or other documents and advice as appropriate on such filing.

e. Termination. The contract with the Market Monitoring Unit shall not be terminated until (1) FERC has reviewed a termination proposal by the PJM Board and any comments or protests submitted by interested parties thereon (including the OPSI Advisory Committee), (2) FERC has made a finding that the PJM Board has demonstrated that termination is justified pursuant to the standards set forth in Section III.F.2 above, (3) FERC has approved a process for selecting a new Market Monitoring Unit, and (4) a new Market Monitoring Unit has been selected pursuant to such FERC-approved process.

**G. OPSI Advisory Committee:** 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.

**H. Market Monitoring Unit Advisory Committee:** 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.

**I. PJM Liaison:** PJM may appoint an employee to act as liaison with the Market Monitoring Unit. The function of the liaison will be to facilitate communications between PJM employees and the Market Monitoring Unit, as defined in Section V.E.

#### **IV. MARKET MONITORING UNIT FUNCTIONS AND RESPONSIBILITIES**

**A. General:** The Market Monitoring Unit shall objectively monitor the competitiveness of PJM Markets, investigate violations of FERC or PJM Market Rules, recommend changes to PJM Market Rules, prepare reports for the Authorized Government Agencies and take such other actions as are specified in this Plan.

**B. Monitored Activities:** The Market Monitoring Unit shall be responsible for monitoring the following:

1. Compliance with the PJM Market Rules.
2. Actual or potential design flaws in the PJM Market Rules.
3. Structural problems in the PJM Markets that may inhibit a robust and competitive market.
4. The potential for a Market Participant to exercise market power or violate any of the PJM or FERC Market Rules or the actual exercise of market power or violation of the PJM or FERC Market Rules.
5. PJM's implementation of the PJM Market Rules or operation of the PJM Markets, as further set forth in Section IV.C.
6. Such matters as are necessary to prepare the reports set forth in Section VI.

**C. Monitoring of PJM:** The Market Monitoring Unit shall monitor PJM's implementation of the PJM Market Rules and operation of the PJM Markets. If the Market Monitoring Unit disagrees with the implementation of the PJM Market Rules or the operation of the PJM Markets, the Market Monitoring Unit may so advise PJM. Excepting matters governed by Section IV.I, if the disagreement cannot be resolved informally, the Market Monitoring Unit may inform the Commission, Authorized Government Agencies, or the PJM members. The Market Monitoring Unit shall have no authority to direct PJM to modify its operation of the PJM Markets or implementation of the PJM Market Rules.

**C-1. Monitoring of ITCs:** The Market Monitoring Unit shall monitor the services provided by the independent transmission companies (ITCs), and the ITC-PJM relationship, to detect any problems that may inhibit a robust and competitive market. Transactions utilizing the ITC Transmission Facilities shall be subject to the authority of the Market Monitoring Unit on the same basis as transactions involving any other Market Participant using other portions of the Transmission System. This provision is also found in Section 12.1 of Attachment U of the PJM Tariff.

**D. Monitoring of PJM Market Rules, PJM Tariff and Market Design:** PJM is responsible for proposing for approval by the Commission, consistent with tariff procedures and applicable law, changes to the PJM Market Rules, PJM Tariff and design of the PJM Markets. The Market Monitoring Unit shall evaluate and monitor existing and proposed PJM Market Rules, PJM Tariff provisions, and the design of the PJM Markets. However, 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 Interconnection. 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. The Market Monitoring Unit may also recommend changes to the PJM Market Rules and PJM Tariff provisions to the staff of the Commission's Office of Energy Market Regulation, State Commissions, and the PJM Board.

**D-1. Market Monitoring Unit Compliance Review:** The Market Monitoring Unit shall monitor compliance with PJM Market Rules and shall take action on compliance issues. The Market Monitoring Unit has the exclusive authority to perform the functions set forth in Attachment M and the Attachment M-Appendix. If the Market Monitoring Unit detects a Market Violation involving potential misconduct, it shall, if the applicable criteria are met, refer the matter in accordance with Section IV.I of Attachment M. If the Market Monitoring Unit detects a compliance issue and determines that there is an issue about the proper and lawful application of a rule, and the Market Monitoring Unit makes a preliminary determination that no misconduct is evident and the issue involves a difference about the appropriate calculation of the level of an input, the Market Monitoring Unit may file a petition or initiate other regulatory proceedings addressing the issue. The Market Monitoring Unit may, where it deems appropriate, submit a confidential referral and initiate a public regulatory proceeding concerning the same underlying matter.

**E. Mitigation:** The Market Monitoring Unit may, consistent with the PJM Market Rules, recommend to PJM that it take specific mitigation action that PJM is authorized to take under the PJM Market Rules to address market behavior or conditions. The Market Monitoring Unit shall not, however, have authority to require modification of PJM operational decisions, including dispatch instructions. If PJM does not accept the Market Monitoring Unit's recommendations regarding mitigation actions, the Market Monitoring Unit may report its mitigation recommendation to the Authorized Government Agencies, Commission staff, State Commissions or the PJM members, as the Market Monitoring Unit deems appropriate. Nothing in this Plan shall be deemed to supersede any authority the Market Monitoring Unit may have under the PJM Market Rules, nor shall anything in this Plan preclude any person or entity from seeking to modify such authority in a filing with the Commission.

**E-1. Market Monitoring Unit Market Power Review:** Determinations about market power are the responsibility of the Market Monitoring Unit under Attachment M and Attachment M - Appendix. The Market Monitoring Unit shall review all proposed sell offers for a determination of whether they raise market power concerns. The Market Monitoring Unit shall determine whether the level of offer or cost inputs raises market power concerns. The Attachment M-Appendix sets forth the Market Monitoring Unit's role in evaluating these offer or cost inputs. The Market Monitoring Unit and market participants shall, in accordance with the applicable procedures and as set forth elsewhere in the Tariff, attempt to come to agreement about the level or value of offers or cost inputs. The Market Monitoring Unit shall make a determination about whether offer or cost inputs or a decision not to offer a committed resource is physical or economic withholding or otherwise involves a potential exercise of market power. In the event that a market participant determines to use an offer or cost input at a level or value that the Market Monitoring Unit has found to involve a potential exercise of market power, the

Market Monitoring Unit may file a petition or initiate other regulatory proceedings addressing the issue. If the potential exercise of market power is related to a Sell Offer submitted in an RPM Auction, the Market Monitoring Unit may file a complaint with the Commission addressing the issue. If, at the time of filing, market prices that have been settled and posted could be impacted by the subject of the complaint, the Market Monitoring Unit shall refrain from requesting relief from the Commission that would upset such market prices and shall limit the requested relief to appropriate restitution and/or penalties from the implicated market participant or participants.

**F. Studies or Reports for State Commissions:** Upon request in writing by the OPSI Advisory Committee, the Market Monitoring Unit may, in its discretion, provide such studies or reports on wholesale market issues, including wholesale market transactions occurring under a state-administered auction process, as may affect one or more states within the PJM area. Any such request for such a study or report, as well as any resulting study or report, shall be made simultaneously available to the public, with simultaneous notice to PJM members, subject to the protection of confidential information.

**G. Participation in Stakeholder Processes:** The Market Monitoring Unit may, as it deems appropriate or necessary to perform its functions under this Plan, participate (consistent with the rules applicable to all PJM stakeholders) in stakeholder working groups, committees or other PJM stakeholder processes.

**H. Referrals to State Commissions:** If during the ordinary course of its activities the Market Monitoring Unit discovers evidence of wrongdoing (other than minor misconduct) that the Market Monitor reasonably believes to be within a State Commission's jurisdiction, the Market Monitoring Unit shall report such information to the State Commission(s).

**I. Corrective Actions**

1. **Required Notice and Referral to Commission of Suspected Market Violations:** Immediately upon determining that it has identified a significant market problem or a potential Market Violation by a Market Participant or PJM that may require (a) further inquiry by the Market Monitoring Unit, (b) referral for investigation by the Commission and/or (c) action by the Commission, the Market Monitoring Unit shall notify the Commission's Office of Enforcement (or any successor), either orally or in writing. Nothing in this Section IV.I.1 shall limit the ability of the Market Monitoring Unit to engage in discussions with any such Market Participant as provided in Section IV.J.1.

In addition to the notification requirement above, where the Market Monitoring Unit has reason to believe, based on sufficient credible information, that the behavior of a Market Participant or PJM may require investigation, including but not limited to suspected Market Violations, the Market Monitoring Unit will refer the matter to the Commission's Office of Enforcement (or any successor) in the manner described below.

Such a referral shall be in writing, non-public, addressed to the Commission's Director of the Office of Enforcement, with a copy directed to the Commission's Director of the Office of Energy Market Regulation and the General Counsel, and should include, but need not be limited

to, the following sufficient credible information to warrant further investigation by the Commission:

- a. The name(s) of and, if possible, the contact information for, the Market Participants that allegedly took the action(s) that constitute that alleged Market Violation(s);
- b. The date(s) or time period during which the alleged Market Violation(s) occurred and whether the alleged wrongful conduct is ongoing;
- c. The specific rule, regulation, and/or tariff provision(s) that were allegedly violated or the nature of any inappropriate dispatch that may have occurred;
- d. The specific act(s) or conduct that allegedly constituted the Market Violation;
- e. The consequences to the market resulting from the act(s) or conduct, including, if known, an estimate of economic impact on the market;
- f. If the Market Monitoring Unit believes that the act(s) or conduct constituted a violation of the anti-manipulation rule of 18 C.F.R. § 1c.2, a description of the alleged manipulative effect on market prices, market conditions, or market rules; and
- g. Any other information that the Market Monitoring Unit believes is relevant and may be helpful to the Commission.

The referral may be transmitted to the Commission electronically, by fax, by mail or by courier. The Market Monitoring Unit may also provide the Commission with oral notice of the alleged Market Violation in advance of the submission of a written, non-public referral. Following the submission of such a referral, the Market Monitoring Unit will continue to inform the Commission staff of any information relating to the referral that it discovers within the scope of its regular monitoring function, but it shall desist from, and not independently undertake any investigative steps regarding, the alleged Market Violation or referral except at the express direction of the Commission or Commission staff. The Market Monitoring Unit must also respond to requests of the Commission for additional information in connection with the alleged Market Violation that it has referred. The Market Monitoring Unit is not precluded from continuing to monitor for any repeated instances of the activity in question by the same or other Market Participants, which activity would constitute new Market Violations.

The foregoing notwithstanding, a clear, objectively identifiable violation of the following PJM Market Rules, which provide for an explicit remedy that has been accepted by the Commission and can be administered by PJM, shall not be subject to the provisions of this Section IV.I.1:

- a. Default in obligations to the Office of the Interconnection by a Market Participant in violation of Section 1.7.10(a)(v) of Attachment K – Appendix of the PJM Tariff.

b. Default in obligations to the Office of the Interconnection by a Market Participant in violation of Section 1.7.19B(e) of Attachment K – Appendix of the PJM Tariff.

c. Failure of a Capacity Market Seller or Locational UCAP Seller to obtain replacement Unforced Capacity to the extent a Generation Capacity Resource that it committed for a Delivery Year is unavailable due to a planned or maintenance outage that occurs during the Peak Season without approval of the Office of the Interconnection, in violation of Section 9(b) of Attachment DD of the PJM Tariff.

d. Failure of an Electric Distributor to maintain the required underfrequency relays in violation of Schedule 7, Section 2 of the PJM Operating Agreement.

e. Failure to submit data to the Office of the Interconnection in conformance with Schedule 11 (Data Submittals) of the Reliability Assurance Agreement.

f. Failure of Black Start Units to fulfill their commitment to provide Black Start Service under Schedule 6A the PJM Tariff.

**2. Required Referral to Commission of Perceived Market Design Flaws and Recommended Tariff Changes:**

The Market Monitoring Unit is to make a referral to the Commission in all instances where the Market Monitoring Unit has reason to believe market design flaws exist that it believes could effectively be remedied by rule or PJM Tariff changes. The Market Monitoring Unit must limit distribution of its identifications and recommendations to PJM and to the Commission in the event it believes broader dissemination could lead to exploitation, with an explanation of why further dissemination should be avoided at that time.

All referrals to the Commission relating to perceived market design flaws and recommended PJM Tariff changes related thereto are to be in writing, whether transmitted electronically, by fax, mail, or courier. The Market Monitoring Unit may alert the Commission orally in advance of the written referral.

The referral should be addressed to the Commission's Director of the Office of Energy Market Regulation, with copies directed to both the Director of the Office of Enforcement and the General Counsel.

The referral must include, but need not be limited to, the following information:

- a. A detailed narrative describing the perceived market design flaw[s];
- b. The consequences of the perceived market design flaws, including, if known, an estimate of economic impact on the market;
- c. The rule or PJM Tariff revisions that the Market Monitoring Unit believes could remedy the perceived market design flaw; and

d. Any other information the Market Monitoring Unit believes is relevant and may be helpful to the Commission.

Following a referral to the Commission, the Market Monitoring Unit must continue to notify and inform the Commission of any additional information regarding the perceived market design flaw, its effects on the market, any additional or modified observations concerning the rule or PJM Tariff changes that could remedy the perceived design flaw. The Market Monitoring Unit must also notify and inform the Commission of any recommendations made by the Market Monitoring Unit to PJM, stakeholders, Market Participants or State Commissions regarding the perceived design flaw, and any actions taken by PJM regarding the perceived design flaw.

**J. Additional Market Monitoring Unit Authority:** In addition to notifications and referrals under Sections IV.I.1 and IV.I.2, respectively, the Market Monitoring Unit shall have the additional authority described in this section, as follows:

1. Engage in discussions regarding issues relating to the PJM Market Rules or FERC Market Rules, in order to understand such issues and to attempt to resolve informally such issues or other issues.

2. Excepting matters governed by Section IV.I, file reports and make appropriate regulatory filings with Authorized Government Agencies to address design flaws, structural problems, compliance, market power, or other issues, and seek such appropriate action or make such recommendations as the Market Monitoring Unit shall deem appropriate. The Market Monitoring Unit shall make such filings or reports publicly available and provide simultaneous notice of the existence of reports to the PJM members and PJM, subject to protection of confidential information.

3. Consult with Authorized Government Agencies concerning the need for specific investigations or monitoring activities.

4. Consider and evaluate a broad range of additional enforcement mechanisms that may be necessary to assure compliance with the PJM Market Rules. As part of this evaluation process, the Market Monitoring Unit shall consult with Authorized Government Agencies and other interested parties.

5. Report directly to the Commission staff on any matter.

**K. Confidentiality:**

1. All discussions between the Market Monitoring Unit and Market Participants concerning the informal resolution of compliance issues initially shall remain confidential, subject to the provisions in subsection IV.K.3.

2. Except as provided in subsection IV.K.3, in exercising its authority to take Corrective Actions, the Market Monitoring Unit shall observe the confidentiality provisions of the PJM Operating Agreement and Attachment M - Appendix.

3. Notwithstanding anything to the contrary in this Plan or the PJM Operating Agreement and Attachment M - Appendix, the Market Monitoring Unit: (a) may disclose any information to the Commission in connection with the reporting required under Sections IV.I.1 and IV.I.2 of this Plan, provided that any written submission to the Commission that includes information that is confidential under the PJM Operating Agreement or Attachment M - Appendix shall be accompanied by a request that the information be maintained as confidential, and (b) may make reports or other regulatory filings pursuant to Section IV.J or V of this Plan if accompanied by a request that information that is confidential under the PJM Operating Agreement or Attachment M - Appendix be maintained as confidential.

## **V. INFORMATION AND DATA**

A. **Primary Information Sources:** The Market Monitoring Unit shall rely primarily upon data and information that are customarily gathered in the normal course of business of PJM and such publicly available data and information that may be helpful to accomplish the objectives of the Plan, including, but not limited to, (1) information gathered or generated by PJM in connection with its scheduling and dispatch functions, its operation of the transmission grid in the PJM Region or its determination of Locational Marginal Prices, (2) information required to be provided to PJM in accordance with the PJM Market Rules and (3) any other information that is generated by, provided to, or in the possession of PJM. The foregoing information shall be provided to the Market Monitoring Unit as soon as practicable, including, but not limited to, real-time access to scheduling, dispatch and other operational data.

B. **Other Information Requests:** If other information is required from a Market Participant, the Market Monitoring Unit shall comply with the following procedures:

1. **Request for Additional Data:** If the Market Monitoring Unit determines that additional information is required to accomplish the objectives of the Plan, the Market Monitoring Unit may make reasonable requests of the entities possessing such information to provide the information. Any such request for additional information will be accompanied by an explanation of the need for the information and the Market Monitoring Unit's inability to acquire the information from alternate sources.

2. **Failure to Comply with Request:** The information request recipient shall provide the Market Monitoring Unit with all information that is reasonably requested. If an information request recipient does not provide requested information within a reasonable time, the Market Monitoring Unit may initiate such regulatory or judicial proceedings to compel the production of such information as may be available and deemed appropriate by the Market Monitoring Unit, including petitioning the Commission for an order that the information is necessary and directing its production. An information request recipient shall have the right to respond to any such petitions and participate in the proceedings thereon.

3. **Information Concerning Possible Undue Preference:** Notwithstanding subsection V.B.1, if the Market Monitoring Unit requests information relating to possible undue preference between Transmission Owners and their affiliates, Transmission Owners and their affiliates must provide requested information to the Market Monitoring Unit within a reasonable time, as specified by the Market Monitoring Unit; provided, however, that an information request

recipient may petition the Commission for an order limiting all or part of the information request, in which event the Commission's order on the petition shall determine the extent of the information request recipient's obligation to comply with the disputed portion of the information request.

4. **Confidentiality:** Except as provided in Section IV.K.3 of this Plan, the Market Monitoring Unit shall observe the confidentiality provisions of the PJM Operating Agreement and Attachment M - Appendix with respect to information provided under this section if an entity providing the information designates it as confidential.

C. **Complaints:** Any Market Participant or other interested entity may at any time submit information to the Market Monitoring Unit concerning any matter relevant to the Market Monitoring Unit's responsibilities under the Plan, or may request the Market Monitoring Unit to make inquiry or take any action contemplated by the Plan. Such submissions or requests may be made on a confidential basis. The Market Monitoring Unit may request further information from such Market Participant or other entity and make such inquiry as the Market Monitoring Unit considers appropriate. The Market Monitoring Unit shall not be required to act with respect to any specific complaint unless the Market Monitoring Unit determines action to be warranted.

D. **Collection and Availability of Information:** The Market Monitoring Unit shall regularly collect and maintain under its sole control the information that it deems necessary for implementing the Plan. A Market Participant shall have sole responsibility to make available to the Market Monitoring Unit any information that the Market Monitoring Unit deems reasonably necessary to document, verify or investigate a claim or request by such Market Participant. All load reduction data are subject to audit by the Market Monitoring Unit. The Market Monitoring Unit shall make publicly available a detailed description of the categories of data collected by the Market Monitoring Unit. To the extent it deems appropriate and upon specific request, the Market Monitoring Unit may release other data to the public, consistent with the obligations of the Market Monitoring Unit and PJM to protect confidential, proprietary, or commercially sensitive information as provided in Attachment M - Appendix and the PJM Operating Agreement.

E. **Access to Personnel and Facilities:** The Market Monitoring Unit shall have access to PJM personnel and facilities as necessary to perform the functions set forth in this Plan. If the Market Monitoring Unit seeks data or other information from PJM personnel, it may contact the appropriate personnel that may be in possession of such data or information. If the Market Monitoring Unit seeks a formal opinion or position on a matter from PJM, it shall contact the PJM Liaison or appropriate senior management official to provide such opinion or position.

F. **Market Monitoring Indices:** The Market Monitoring Unit shall develop, and shall refine on the basis of experience, indices or other standards to evaluate the information that it collects and maintains. Prior to using any such index or standard, the Market Monitoring Unit shall provide PJM members, Authorized Government Agencies, and other interested parties an opportunity to comment on the appropriateness of such index or standard. Following such opportunity for comments, the decision to use any index or standard shall be solely that of the Market Monitoring Unit.

G. **Evaluation of Information:** The Market Monitoring Unit shall evaluate, and shall refine on the basis of experience, the information it collects and maintains, or that it receives from other sources, regarding the operation of the PJM Markets or other matters relevant to the Plan. As so evaluated, such information shall provide the basis for reports or other actions of the Market Monitoring Unit under this Plan.

## VI. **REPORTS**

A. **Reports:** The Market Monitoring Unit shall prepare and submit contemporaneously to the Commission, the State Commissions, the PJM Board, PJM Management and to the PJM Members Committee, annual state-of-the-market reports on the state of competition within, and the efficiency of, the PJM Markets, and quarterly reports that update selected portions of the annual report and which may focus on certain topics of particular interest to the Market Monitoring Unit. The quarterly reports shall not be as extensive as the annual reports. In its annual, quarterly and other reports, the Market Monitoring Unit may make recommendations regarding any matter within its purview. The annual reports shall, and the quarterly reports may, address, among other things, the extent to which prices in the PJM Markets reflect competitive outcomes, the structural competitiveness of the PJM Markets, the effectiveness of bid mitigation rules, and the effectiveness of the PJM Markets in signaling infrastructure investment. These annual reports shall, and the quarterly reports may include recommendations as to whether changes to the Market Monitoring Unit or the Plan are required. In addition, the Market Monitoring Unit shall provide to the PJM Board, in a timely manner, copies of any reports submitted to Authorized Government Agencies pursuant to Section VI.B. The Market Monitoring Unit may from time-to-time prepare and submit additional reports to the Commission, the PJM Board and PJM Members Committee as the Market Monitoring Unit may deem appropriate in the discharge of its responsibilities under the Plan.

B. **Reports to Authorized Government Agencies:** The Market Monitoring Unit shall contemporaneously submit to the Authorized Government Agencies the reports provided to the PJM Board pursuant to Section VI.A. Subject to applicable law and regulation and any other applicable provisions of the PJM Operating Agreement or PJM Tariff, the Market Monitoring Unit shall, to the extent practicable, respond to reasonable requests by Authorized Government Agencies other than the Commission for reports, subject to protection of confidential, proprietary and commercially sensitive information, the protection of the confidentiality of ongoing inquiries and monitoring activities, and the availability of resources.

C. **Public Reports:** The Market Monitoring Unit shall 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. The Market Monitoring Unit may, instead of filing a separate report, include the referenced material in a report filed pursuant to Section VI.A hereof.

D. **State Commission Tailored Requests for Information:** Subject to the confidentiality restrictions of Attachment M – Appendix, Section I.D. of the PJM Tariff and Section 18.17.4 of the PJM Operating Agreement, the Market Monitoring Unit may provide, at its discretion, information regarding general market trends and the performance of the PJM



Markets in response to a State Commission's tailored request for information unless the requested information is designed to aid state enforcement actions or impinges upon the confidentiality rules of the Federal Energy Regulatory Commission with regard to referrals.

The Market Monitoring Unit shall provide to any Market Participant whose information has been requested, or who may be affected by the release of the requested information, written notice, which shall include electronic communication, of a State Commission's tailored request for information as soon as possible, but not later than two (2) business days after the receipt of the request. If the request for tailored information seeks to obtain Confidential Information, the requirements and limitations of Section I.D. of Attachment M – Appendix shall apply. If the request for tailored information seeks to obtain information that is not Confidential Information, if the Market Participant whose information has been requested or who may be affected by the release of the requested information objects to the request or any portion thereof, it shall be given the opportunity to contest the request and to provide a contextual explanation to supplement the information produced by the Market Monitoring Unit so long as the providing of the contextual explanation does not unduly delay the release of the information to the State Commission. To register its objection, the Market Participant must request, in writing, within four (4) business days following the Market Monitoring Unit's receipt of the request, a conference with the State Commission to resolve differences concerning the scope or timing of the tailored request for information; provided, however, nothing herein shall require the State Commission to participate in any conference. Any party to the conference may seek assistance from FERC staff in resolution of the dispute or terminate the conference process at any time. Should such conference be refused or terminated by any participant or should such conference not resolve the dispute, then the Market Participant whose information has been requested or who may be affected by the release of the requested information, may file a complaint with the FERC pursuant to Rule 206 objecting to the request for tailored information within ten (10) business days following receipt of written notice from any conference participant terminating such conference. Any complaints filed at the FERC objecting to a particular request for tailored information shall be designated by the party as a "fast track" complaint and each party shall bear its own costs in connection with such FERC proceeding.

If no complaint challenging the request for tailored information is filed within the ten (10) business day period defined above, the Market Monitoring Unit shall utilize its best efforts to respond to the request for tailored information promptly. If a complaint is filed, and the Commission does not act on that complaint within ninety (90) days, the complaint shall be deemed denied and the Market Monitoring Unit shall use its best efforts to respond to the request for tailored information promptly. Notwithstanding the foregoing, if the Market Monitoring Unit determines, in its discretion, that responding to the State Commission's request for tailored information is unreasonably burdensome and/or will interfere with the Market Monitoring Unit's ability to carry out its core functions based on time and resource availability of its staff, the Market Monitoring Unit may decline such a request.

E. **IMM Staff Availability:** The Market Monitoring Unit shall make one or more staff members available for regular conference calls, which may be attended telephonically or in person, by FERC Commission staff, State Commission staff, representatives of PJM, and Market Participants.

## **VII. AUDIT**

The Market Monitoring Unit shall annually (a) document, and advise PJM of, Market Monitoring Unit's actual expenses for the prior year by no later than March 15, and provide a copy of such documentation to the Finance Committee, and (b) provide audited financial statements of the Market Monitoring Unit of revenues and expenses related solely to the services provided to PJM, audited by a nationally recognized independent third party auditor selected by the Market Monitor, by no later than May 15. The audit report shall include, but not be limited to, a review of whether MMU expenditures were for purposes consistent with the functions set forth in this Plan and shall include documentation at a level of supporting detail consistent with that required in Section III.E above. The audit report shall be provided to the PJM Board, Finance Committee, Market Monitoring Unit, OPSI, OPSI Advisory Committee, PJM and PJM members subject to the protection of confidential information. The requirement that the Market Monitoring Unit annually document and advise PJM of its expenses for the prior year is also found in subsection (e) of Schedule 9-MMU.

## **VIII. LIMITATION OF LIABILITY**

Any liability of PJM arising under or in relation to this Plan shall be subject to this Section VIII. The PJM Entities shall not be liable to any Market Participant, any party to the PJM Operating Agreement, any customer under the PJM Tariff, or any other person subject to this Plan in respect of any matter described in or contemplated by this Plan, as the same may be amended or supplemented from time to time, including but not limited to liability for any financial loss, loss of economic advantage, opportunity cost, or actual or consequential damages of any kind resulting from or attributable to any act or omission of any of the PJM Entities under this Plan. Neither the OPSI Advisory Committee nor any State Commission (including commissioners and staff persons) shall be liable to any person under this Plan for any financial loss, loss of economic advantage, opportunity cost, or actual or consequential damages associated with performing any of its functions or duties under this Plan.

## **IX. ALTERNATIVE DISPUTE RESOLUTION**

Notwithstanding any provision of the PJM Tariff or the PJM Operating Agreement, PJM and the Market Monitoring Unit shall not be required to use the dispute resolution procedures in the PJM Tariff or the PJM Operating Agreement in carrying out its duties and responsibilities under this Plan. However, nothing herein shall prevent PJM or any other person from requesting the use of the dispute resolution procedure set forth in the PJM Tariff or the PJM Operating Agreement, as applicable.

## **X. EFFECTIVE DATE**

This Plan shall be effective as of August 1, 2008.

## **XI. CODE OF ETHICS**

The Market Monitoring Unit and its employees, as applicable, shall adhere to the following Code of Ethics, which is reproduced from Section 17 of PJM Rate Schedule No. 46, Market

Monitoring Services Agreement By And Between PJM Interconnection, L.L.C. And Monitoring Analytics, LLC entered into on December 18, 2007, and filed with the Commission to comply with order of the Federal Energy Regulatory Commission, Docket Nos. EL07-56 and EL07-58 et al., issued March 21, 2008, 122 FERC ¶ 61,257.

A. **Conflicts of Interest:**

1. The Market Monitoring Unit will use its best efforts to assure that all of its employees comply with this Code of Ethics and shall take appropriate disciplinary actions against employees who violate the policy.

2. The Market Monitoring Unit and its employees assisting on market monitoring matters for PJM, and their spouses and dependent children, may not have a direct equity or other financial interest in a Market Participant or in a parent, subsidiary, or affiliate of a Market Participant. (The term “direct” is meant to exclude investments such as mutual funds in which a person has no direct control, with the exception of sector-specific mutual funds.)

3. The Market Monitoring Unit and its employees assisting on market monitoring matters for PJM, may not undertake a matter for a third party where such representation would require disclosure of market-sensitive or proprietary information of PJM.

B. **Prohibited Engagements and Conduct by the Market Monitoring Unit:**

1. Neither the Market Monitoring Unit nor its employees will be engaged to provide advice to, or undertake a matter for or on behalf of, any entity on any entity’s participation in the PJM Markets, except as otherwise authorized under subparagraphs 3 and 5 below.

2. Neither the Market Monitoring Unit nor its employees will be engaged by any entity in any litigation, open regulatory docket, alternative dispute resolution procedure, or arbitration with PJM, except as otherwise authorized under subparagraphs 3 and 5 below.

3. Neither the Market Monitoring Unit nor its employees will be engaged to appear on behalf of or against any entity before a state regulatory commission within the PJM Region in any new engagement in the electricity business except as authorized under the PJM Tariff, as requested by a state regulatory commission, or as otherwise required by law.

4. Neither the Market Monitoring Unit nor its employees shall accept any engagement by any market participant outside of the PJM Region that would require the Market Monitoring Unit to take a position adverse to any PJM member or inconsistent with any position taken by the Market Monitoring Unit in the PJM Region.

5. Neither the Market Monitoring Unit nor its employees will be engaged to appear on behalf of or against any entity before the Commission on any matter within the PJM Region in any new engagement in the electricity business except as authorized under the PJM Tariff, as requested by the Commission, or as otherwise required by law.

6. Before the Market Monitoring Unit accepts any engagement on behalf of or against an Interested Party, it must inform the PJM General Counsel and the PJM Board of such potential engagement and provide the PJM Board with an opportunity to state its objection to such representation on the ground the engagement would present a conflict of interest or result in the material appearance of conflict. At the discretion of the Market Monitoring Unit, the Market Monitoring Unit may notify the PJM General Counsel that the proposed engagement is confidential and request that the General Counsel disclose the proposed engagement only to a PJM Board subcommittee in a manner which limits the disclosure of nonpublic information. Within seven (7) business days of being informed of the potential engagement by the Market Monitoring Unit, the PJM Board shall state any objection to such potential engagement. If the Market Monitoring Unit disagrees with the PJM Board's determination regarding the potential engagement by the Market Monitoring Unit, the Parties shall jointly engage the Commission's Dispute Resolution Service to determine whether the engagement would present a conflict of interest or result in the material appearance of a conflict. Unless the Commission's Dispute Resolution Service finds no conflict of interest the Market Monitoring Unit shall be precluded from accepting the challenged engagement. For these purposes, the term "Interested Party" means (x) a Market Participant; (v) a state regulatory commission within the PJM Region; or (z) a person or entity with a significant direct financial interest in the organization, governance or operation of PJM but shall not include PJM itself.

7. Employees of the Market Monitoring Unit shall not accept gifts, payments, favors, meals, transportation, entertainment, or services (individually, "Gift," and collectively, "Gifts"), of other than nominal value within a calendar year from PJM, Authorized Government Agencies, any market participant, contractor, supplier or vendor to the Market Monitoring Unit. Except that "Gifts" shall not include any of the foregoing that is generally provided to the attendees of business meetings (e.g. PJM stakeholder meetings). Gifts not exceeding One Hundred Fifty Dollars (\$150) shall be deemed to be of "nominal value." Similarly, neither the Market Monitoring Unit nor any employee of the Market Monitoring Unit shall offer any Gift to any public official or Market Participant unless such Gifts: are legal; not offered for specific gain or reciprocal action; follow generally accepted ethical standards; and are of nominal value.

8. Neither the Market Monitoring Unit nor its employees shall serve as an officer, employee or partner of a Market Participant.

9. Neither the Market Monitoring Unit nor its employees shall engage in any transactions in the PJM markets other than the performance of their duties under the PJM Tariff.

10. Neither the Market Monitoring Unit nor its employees shall be compensated, other than by PJM, for any expert witness testimony or commercial services, either to PJM or to any other party, in connection with legal or regulatory proceeding or commercial transaction relating to PJM or to PJM's markets.

11. Employees of the Market Monitoring Unit must advise their supervisor(s) in the event they seek employment with a Market Participant, and must disqualify themselves from participating in any matter that would have an effect on the financial interest of the Market Participant while still in the employ of the Market Monitoring Unit.

C. **Compliance with All Applicable Laws:** The Market Monitoring Unit will use its best efforts to assure the compliance of the Market Monitoring Unit and its employees with all applicable laws, including but not limited to those referenced in the PJM Code of Conduct.

## **XII. NOTICE TO MARKET PARTICIPANTS**

When the Tariff requires the MMU to provide written notice to or communication with a Market Participant, such notice or communication shall include, but not be limited to, a letter, email or posting to a Market Participant's account in the internet-based application designated by the Market Monitoring Unit.

## **ATTACHMENT M – APPENDIX**

### **I. CONFIDENTIALITY OF DATA AND INFORMATION**

#### **A. Party Access:**

1. No Member shall have a right hereunder to receive or review any documents, data or other information of another Member, including documents, data or other information provided to the Market Monitoring Unit, to the extent such documents, data or information have been designated as confidential pursuant to the procedures adopted by the Market Monitoring Unit or to the extent that they have been designated as confidential by such other Member; provided, however, a Member may receive and review any composite documents, data and other information that may be developed based on such confidential documents, data or information if the composite does not disclose any individual Member's confidential data or information.

2. Except as may be provided in this Appendix, the Plan, the PJM Operating Agreement or in the PJM Tariff, the Market Monitoring Unit shall not disclose to its Members or to third parties, any documents, data, or other information of a Member or entity applying for Membership, to the extent such documents, data, or other information has been designated confidential pursuant to the procedures adopted by the Market Monitoring Unit or by such Member or entity applying for membership; provided that nothing contained herein shall prohibit the Market Monitoring Unit from providing any such confidential information to its agents, representatives, or contractors to the extent that such person or entity is bound by an obligation to maintain such confidentiality. The Market Monitoring Unit shall collect and use confidential information only in connection with its authority under this Appendix, the Plan, the PJM Operating Agreement or in the PJM Tariff and the retention of such information shall be in accordance with PJM's data retention policies.

3. Nothing contained herein shall prevent the Market Monitoring Unit from releasing a Member's confidential data or information to a third party provided that the Member has delivered to the Market Monitoring Unit specific, written authorization for such release setting forth the data or information to be released, to whom such release is authorized, and the period of time for which such release shall be authorized. The Market Monitoring Unit shall limit the release of a Member's confidential data or information to that specific authorization received from the Member. Nothing herein shall prohibit a Member from withdrawing such authorization upon written notice to the Market Monitoring Unit, who shall cease such release as soon as practicable after receipt of such withdrawal notice.

4. Reciprocal provisions to this Section I hereof, delineating the confidentiality requirements of the Office of the Interconnection and PJM members, are set forth in Section 18.17 of the PJM Operating Agreement.

#### **B. Required Disclosure:**

1. Notwithstanding anything in the foregoing section to the contrary, and subject to the provisions of Section I.C below, if the Market Monitoring Unit is required by applicable law, or in the course of administrative or judicial proceedings, to disclose to third parties, information

that is otherwise required to be maintained in confidence pursuant to the PJM Tariff, PJM Operating Agreement, Attachment M or this Appendix, the Market Monitoring Unit may make disclosure of such information; provided, however, that as soon as the Market Monitoring Unit learns of the disclosure requirement and prior to making disclosure, the Market Monitoring Unit shall notify the affected Member or Members of the requirement and the terms thereof and the affected Member or Members may direct, at their sole discretion and cost, any challenge to or defense against the disclosure requirement. The Market Monitoring Unit shall cooperate with such affected Members to the maximum extent practicable to minimize the disclosure of the information consistent with applicable law. The Market Monitoring Unit shall cooperate with the affected Members to obtain proprietary or confidential treatment of such information by the person to whom such information is disclosed prior to any such disclosure.

2. Nothing in this Section I shall prohibit or otherwise limit the Market Monitoring Unit's use of information covered herein if such information was: (i) previously known to the Market Monitoring Unit without an obligation of confidentiality; (ii) independently developed by or for the Office of the Interconnection and/or the PJM Market Monitor using non-confidential information; (iii) acquired by the Office of the Interconnection and/or the PJM Market Monitor from a third party which is not, to the Office of the Market Monitoring Unit's knowledge, under an obligation of confidence with respect to such information; (iv) which is or becomes publicly available other than through a manner inconsistent with this Section I.

3. The Market Monitoring Unit shall impose on any contractors retained to provide technical support or otherwise to assist with the implementation of the Plan or this Appendix a contractual duty of confidentiality consistent with the Plan or this Appendix. A Member shall not be obligated to provide confidential or proprietary information to any contractor that does not assume such a duty of confidentiality, and the Market Monitoring Unit shall not provide any such information to any such contractor without the express written permission of the Member providing the information.

### **C. Disclosure to FERC:**

1. Notwithstanding anything in this Section I to the contrary, if the FERC or its staff, during the course of an investigation or otherwise, requests information from the Market Monitoring Unit that is otherwise required to be maintained in confidence pursuant to the PJM Tariff, the PJM Operating Agreement, the Plan or this Appendix, the Market Monitoring Unit shall provide the requested information to the FERC or its staff, within the time provided for in the request for information. In providing the information to the FERC or its staff, the Market Monitoring Unit may, consistent with 18 C.F.R. § 388.112, request that the information be treated as confidential and non-public by the FERC and its staff and that the information be withheld from public disclosure. The Market Monitoring Unit shall notify any affected Member(s) when it is notified by FERC or its staff, that a request for disclosure of, or decision to disclose, confidential information has been received, at which time the Office of the Interconnection, the Market Monitoring Unit, and/or the affected Member may respond before such information would be made public, pursuant to 18 C.F.R. § 388.112.

2. The foregoing Section I.C.1 shall not apply to requests for production of information under Subpart D of the FERC's Rules of Practice and Procedure (18 CFR Part 385) in

proceedings before FERC and its administrative law judges. In all such proceedings, PJM and/or the Market Monitoring Unit shall follow the procedures in Section 18.17.2.

**D. Disclosure to Authorized Commissions:**

1. Notwithstanding anything in this Section I to the contrary, the Market Monitoring Unit shall disclose confidential information, otherwise required to be maintained in confidence pursuant to the PJM Tariff, the PJM Operating Agreement, the Plan or this Appendix, to an Authorized Commission under the following conditions:

(i) The Authorized Commission has provided the FERC with a properly executed Certification in the form attached to the PJM Operating Agreement as Schedule 10A. Upon receipt of the Authorized Commission's Certification, the FERC shall provide public notice of the Authorized Commission's filing pursuant to 18 C.F.R. § 385.2009. If any interested party disputes the accuracy and adequacy of the representations contained in the Authorized Commission's Certification, that party may file a protest with the FERC within 14 days of the date of such notice, pursuant to 18 C.F.R. § 385.211. The Authorized Commission may file a response to any such protest within seven days. Each party shall bear its own costs in connection with such a protest proceeding. If there are material changes in law that affect the accuracy and adequacy of the representations in the Certification filed with the FERC, the Authorized Commission shall, within thirty (30) days, submit an amended Certification identifying such changes. Any such amended Certification shall be subject to the same procedures for comment and review by the FERC as set forth above in this paragraph.

(ii) Neither the Office of the Interconnection nor the Market Monitoring Unit may disclose data to an Authorized Commission during the FERC's consideration of the Certification and any filed protests. If the FERC does not act upon an Authorized Commission's Certification within 90 days of the date of filing, the Certification shall be deemed approved and the Authorized Commission shall be permitted to receive confidential information pursuant to this Section I. In the event that an interested party protests the Authorized Commission's Certification and the FERC approves the Certification, that party may not challenge any Information Request made by the Authorized Commission on the grounds that the Authorized Commission is unable to protect the confidentiality of the information requested, in the absence of a showing of changed circumstances.

(iii) Any confidential information provided to an Authorized Commission pursuant to this Section I shall not be further disclosed by the recipient Authorized Commission except by order of the FERC.

(iv) The Market Monitoring Unit shall be expressly entitled to rely upon such Authorized Commission Certifications in providing confidential information to the Authorized Commission, and shall in no event be liable, or subject to damages or claims of any kind or nature hereunder, due to the ineffectiveness or inaccuracy of such Authorized Commission Certifications.

(v) The Authorized Commission may provide confidential information obtained from the Market Monitoring Unit to such of its employees, attorneys and contractors as needed to



examine or handle that information in the course and scope of their work on behalf of the Authorized Commission, provided that (a) the Authorized Commission has internal procedures in place, pursuant to the Certification, to ensure that each person receiving such information agrees to protect the confidentiality of such information (such employees, attorneys or contractors to be defined hereinafter as “Authorized Persons”); (b) the Authorized Commission provides, pursuant to the Certification, a list of such Authorized Persons to the Office of the Interconnection and the Market Monitoring Unit and updates such list, as necessary, every ninety (90) days; and (c) any third-party contractors provided access to confidential information sign a nondisclosure agreement in the form attached to the PJM Operating Agreement as Schedule 10 before being provided access to any such confidential information.

2. The Market Monitoring Unit may, in the course of discussions with an Authorized Person, orally disclose information otherwise required to be maintained in confidence, without the need for a prior Information Request. Such oral disclosures shall provide enough information to enable the Authorized Person or the Authorized Commission with which that Authorized Person is associated to determine whether additional Information Requests are appropriate. The Market Monitoring Unit will not make any written or electronic disclosures of confidential information to the Authorized Person pursuant to this Section I.D.2. In any such discussions, the Market Monitoring Unit shall ensure that the individual or individuals receiving such confidential information are Authorized Persons as defined herein, orally designate confidential information that is disclosed, and refrain from identifying any specific Affected Member whose information is disclosed. The Market Monitoring Unit shall also be authorized to assist Authorized Persons in interpreting confidential information that is disclosed. The Market Monitoring Unit shall provide any Affected Member with oral notice of any oral disclosure immediately, but not later than one (1) business day after the oral disclosure. Such oral notice to the Affected Member shall include the substance of the oral disclosure, but shall not reveal any confidential information of any other Member and must be received by the Affected Member before the name of the Affected Member is released to the Authorized Person; provided however, disclosure of the identity of the Affected Party must be made to the Authorized Commission with which the Authorized Person is associated within two (2) business days of the initial oral disclosure.

3. As regards Information Requests:

(i) Information Requests to the Office of the Interconnection and/or Market Monitoring Unit by an Authorized Commission shall be in writing, which shall include electronic communications, addressed to the Market Monitoring Unit, and shall: (a) describe the information sought in sufficient detail to allow a response to the Information Request; (b) provide a general description of the purpose of the Information Request; (c) state the time period for which confidential information is requested; and (d) re-affirm that only Authorized Persons shall have access to the confidential information requested. The Market Monitoring Unit shall provide an Affected Member with written notice, which shall include electronic communication, of an Information Request by an Authorized Commission as soon as possible, but not later than two (2) business days after the receipt of the Information Request.

(ii) Subject to the provisions of Section I.D.3(iii) below, the Market Monitoring Unit shall supply confidential information to the Authorized Commission in response to any

Information Request within five (5) business days of the receipt of the Information Request, to the extent that the requested confidential information can be made available within such period; provided however, that in no event shall confidential information be released prior to the end of the fourth (4th) business day without the express consent of the Affected Member. To the extent that the Market Monitoring Unit cannot reasonably prepare and deliver the requested confidential information within such five (5) day period, it shall, within such period, provide the Authorized Commission with a written schedule for the provision of such remaining confidential information. Upon providing confidential information to the Authorized Commission, the Market Monitoring Unit shall either provide a copy of the confidential information to the Affected Member(s), or provide a listing of the confidential information disclosed; provided, however, that the Market Monitoring Unit shall not reveal any Member's confidential information to any other Member.

(iii) Notwithstanding Section I.D.3(ii), above, should the Office of the Interconnection, the Market Monitoring Unit or an Affected Member object to an Information Request or any portion thereof, any of them may, within four (4) business days following the Market Monitoring Unit's receipt of the Information Request, request, in writing, a conference with the Authorized Commission to resolve differences concerning the scope or timing of the Information Request; provided, however, nothing herein shall require the Authorized Commission to participate in any conference. Any party to the conference may seek assistance from FERC staff in resolution of the dispute or terminate the conference process at any time. Should such conference be refused or terminated by any participant or should such conference not resolve the dispute, then the Office of the Interconnection, Market Monitoring Unit, or the Affected Member may file a complaint with the FERC pursuant to Rule 206 objecting to the Information Request within ten (10) business days following receipt of written notice from any conference participant terminating such conference. Any complaints filed at the FERC objecting to a particular Information Request shall be designated by the party as a "fast track" complaint and each party shall bear its own costs in connection with such FERC proceeding. The grounds for such a complaint shall be limited to the following: (a) the Authorized Commission is no longer able to preserve the confidentiality of the requested information due to changed circumstances relating to the Authorized Commission's ability to protect confidential information arising since the filing of or rejection of a protest directed to the Authorized Commission's Certification; (b) complying with the Information Request would be unduly burdensome to the complainant, and the complainant has made a good faith effort to negotiate limitations in the scope of the requested information; or (c) other exceptional circumstances exist such that complying with the Information Request would result in harm to the complainant. There shall be a presumption that "exceptional circumstances," as used in the prior sentence, does not include circumstances in which an Authorized Commission has requested wholesale market data (or Market Monitoring Unit workpapers that support or explain conclusions or analyses) generated in the ordinary course and scope of the operations of the Market Monitoring Unit. There shall be a presumption that circumstances in which an Authorized Commission has requested personnel files, internal emails and internal company memos, analyses and related work product constitute "exceptional circumstances" as used in the prior sentence. If no complaint challenging the Information Request is filed within the ten (10) day period defined above, the Office of the Interconnection and/or Market Monitoring Unit shall utilize its best efforts to respond to the Information Request promptly. If a complaint is filed, and the Commission does not act on that complaint within ninety (90) days, the complaint shall be

deemed denied and the Market Monitoring Unit shall use its best efforts to respond to the Information Request promptly.

(iv) Any Authorized Commission may initiate appropriate legal action at the FERC within ten (10) business days following receipt of information designated as “Confidential,” challenging such designation. Any complaints filed at FERC objecting to the designation of information as “Confidential” shall be designated by the party as a “fast track” complaint and each party shall bear its own costs in connection with such FERC proceeding. The party filing such a complaint shall be required to prove that the material disclosed does not merit “Confidential” status because it is publicly available from other sources or contains no trade secret or other sensitive commercial information (with “publicly available” not being deemed to include unauthorized disclosures of otherwise confidential data).

4. In the event of any breach of confidentiality of information disclosed pursuant to an Information Request by an Authorized Commission or Authorized Person:

(i) The Authorized Commission or Authorized Person shall promptly notify the Market Monitoring Unit, who shall, in turn, promptly notify any Affected Member of any inadvertent or intentional release, or possible release, of confidential information provided pursuant to this Section I.

(ii) The Office Market Monitoring Unit shall terminate the right of such Authorized Commission to receive confidential information under this Section I upon written notice to such Authorized Commission unless: (i) there was no harm or damage suffered by the Affected Member; or (ii) similar good cause is shown. Any appeal of the Market Monitoring Unit’s actions under this Section I shall be to Commission. An Authorized Commission shall be entitled to reestablish its certification as set forth in Section I.D.1 by submitting a filing with the Commission showing that it has taken appropriate corrective action. If the Commission does not act upon an Authorized Commission’s recertification filing with sixty (60) days of the date of the filing, the recertification shall be deemed approved and the Authorized Commission shall be permitted to receive confidential information pursuant to this section.

(iii) The Office of the Interconnection, the Market Monitoring Unit, and/or the Affected Member shall have the right to seek and obtain at least the following types of relief: (a) an order from the FERC requiring any breach to cease and preventing any future breaches; (b) temporary, preliminary, and/or permanent injunctive relief with respect to any breach; and (c) the immediate return of all confidential information to the Market Monitoring Unit.

(iv) No Authorized Person or Authorized Commission shall have responsibility or liability whatsoever under this section for any and all liabilities, losses, damages, demands, fines, monetary judgments, penalties, costs and expenses caused by, resulting from, or arising out of or in connection with the release of confidential information to persons not authorized to receive it, provided that such Authorized Person is an agent, servant, employee or member of an Authorized Commission at the time of such unauthorized release. Nothing in this Section I.D.4(iv) is intended to limit the liability of any person who is not an agent, servant, employee or member of an Authorized Commission at the time of such unauthorized release for any and all

economic losses, damages, demands, fines, monetary judgments, penalties, costs and expenses caused by, resulting from, or arising out of or in connection with such unauthorized release.

(v) Any dispute or conflict requesting the relief in Section I.D.4(ii) or I.D.4(iii)(a) above, shall be submitted to the FERC for hearing and resolution. Any dispute or conflict requesting the relief in Section I.D.4(iii)(c) above may be submitted to FERC or any court of competent jurisdiction for hearing and resolution.

## **E. Market Monitoring:**

1. Subject to the requirements of Section E.2, the Market Monitoring Unit may release confidential information of Public Service Electric & Gas Company (“PSE&G”), Consolidated Edison Company of New York (“ConEd”), and their affiliates, and the confidential information of any Member regarding generation and/or transmission facilities located within the PSE&G Zone to the New York Independent System Operator, Inc. (“New York ISO”), the market monitoring unit of New York ISO and the New York ISO Market Advisor to the limited extent that PJM or the Market Monitoring Unit determines necessary to carry out the responsibilities of PJM, New York ISO or the market monitoring units of PJM and the New York ISO under FERC Opinion No. 476 (see Consolidated Edison Company v. Public Service Electric and Gas Company, et al., 108 FERC ¶ 61,120, at P 215 (2004)) to conduct joint investigations to ensure that gaming, abuse of market power, or similar activities do not take place with regard to power transfers under the contracts that are the subject of FERC Opinion No. 476.

2. The Market Monitoring Unit may release a Member’s confidential information pursuant to Section I.E.1 to the New York ISO, the market monitoring unit of the New York ISO and the New York ISO Market Advisor only if the New York ISO, the market monitoring unit of the New York ISO and the New York ISO Market Advisor are subject to obligations limiting the disclosure of such information that are equivalent to or greater than the limitations on disclosure specified in this Section I.E. Information received from the New York ISO, the market monitoring unit of the New York ISO, or the New York ISO Market Advisor under Section I.E.1 that is designated as confidential shall be protected from disclosure in accordance with this Section I.E.

## **II. DEVELOPMENT OF INPUTS FOR PROSPECTIVE MITIGATION**

### **A. Offer Price Caps:**

1. The Market Monitor or his designee shall advise the Office of the Interconnection whether it believes that the cost references, methods and rules included in the Cost Development Guidelines are accurate and appropriate, as specified in the PJM Manuals.

2. The Market Monitoring Unit shall review upon request of a Market Seller, and may review upon its own initiative at any time, the incremental costs (defined in Section 6.4.2 of Schedule 1 of the Operating Agreement) included in the Offer Price Cap of a generating unit in order to ensure that the Market Seller has correctly applied the Cost Development Guidelines and that the level of the Offer Price Cap is otherwise acceptable.

3. On or before the 21st day of each month, the Market Monitoring Unit shall compute the cost capping percentages for each Frequently Mitigated Unit and Associated Unit for the prior rolling twelve-month period, consistent with Section 6.4.2 of Schedule 1 of the Operating Agreement and shall issue a written notice to a unit, as applicable, indicating that it is a “Frequently Mitigated Unit” or “FMU,” or an “Associated Unit,” and provide a copy of the same to the Office of the Interconnection, when the Market Monitoring Unit determines that the unit meets the criteria delineated in Section 6.4.2 of Schedule 1 of the Operating Agreement.

4. Notwithstanding the number of jointly pivotal suppliers in any hour, if the Market Monitoring Unit determines that a reasonable level of competition will not exist based on an evaluation of all facts and circumstances, it may propose to the Commission the removal of offer-capping suspensions otherwise authorized by Section 6.4 of Schedule 1 of the Operating Agreement. Such proposals shall take effect upon Commission acceptance of the Market Monitoring Unit’s filing.

**B. Minimum Generator Operating Parameters:**

1. The Market Monitoring Unit shall provide to the Office of the Interconnection a table of default unit class specific parameter limits to be known as the “Parameter Limited Schedule Matrix” to be included in Section 6.6(c) of Schedule 1 of the Operating Agreement. The Parameter Limited Schedule Matrix shall include default values on a unit-type basis as specified in Section 6.6(c). The Market Monitoring Unit shall review the Parameter Limited Schedule Matrix annually, and, in the event it determines that revision is appropriate, shall provide a revised matrix to the Office of the Interconnection by no later than December 31 prior to the annual enrollment period.

2. The Market Monitoring Unit shall notify generation resources and the Office of the Interconnection no later than April 1 of its determination regarding each request for a period exception or persistent exception to a value specified in the Parameter Limited Schedule Matrix or the parameters defined in Section 6.6 of Schedule 1 of the Operating Agreement and the PJM Manuals, provided that the Market Monitoring Unit receives such request by no later than February 28.

3. When a generation resource notifies the Market Monitoring Unit of a material change to the facts relied upon by the Market Monitoring Unit and/or the Office of the Interconnection to support a parameter limited schedule exception pursuant to Section 6.7 of Schedule 1 of the Operating Agreement (or the Commission in support of its approval), the Market Monitoring Unit shall make a determination, and notify the Office of the Interconnection and the generation resource, either that the existing exception should continue, that the exception should be revised, or that no exception is supported by the data.

4. The Market Monitoring Unit shall notify the Office of the Interconnection of any risk premium to which it and a nuclear generation resource agree or its determination if agreement is not obtained. If a nuclear generation resource submits a risk premium inconsistent with its agreement or inconsistent with the Market Monitoring Unit’s determination regarding such risk premium, the Market Monitoring Unit may exercise its powers to inform Commission staff of its

concerns and request a determination that would require the nuclear generation resource to submit an appropriate risk premium.

**C. RPM Must-Offer Obligation:**

1. The Market Monitoring Unit shall maintain, post on its website and provide to the Office of the Interconnection prior to each RPM Auction (updated, as necessary, on at least a quarterly basis), a list of Existing Generation Capacity Resources located in the PJM Region that are subject to the “must-offer” obligation set forth in Section 6.6 of Attachment DD.

2. The Market Monitoring Unit shall evaluate requests submitted by Capacity Market Sellers for a determination that a Generation Capacity Resource, or any portion thereof, be removed from Capacity Resource status or exempted from status as a Generation Capacity Resource subject to Section II.C.1 above and inform both the Capacity Market Seller and the Office of the Interconnection of such determination in writing by no later ninety (90) days prior to the commencement of the offer period for the applicable RPM Auction. A Generation Capacity Resource located in the PJM Region shall not be removed from Capacity Resource status to the extent the resource is committed to service of PJM loads as a result of an RPM Auction, FRR Capacity Plan, Locational UCAP transaction and/or by designation as a replacement resource under this Attachment DD.

3. The Market Monitoring Unit shall evaluate the data and documentation provided to it by a potential Capacity Market Seller to establish the EFORD to be included in a Sell Offer applicable to each resource pursuant to Section 6.6(b) of Attachment DD. If a Capacity Market Seller timely submits a request for an alternative maximum level of EFORD that may be used in a Sell Offer for RPM Auctions held prior to the date on which the final EFORDs used for a Delivery Year are posted, the Market Monitoring Unit shall attempt to reach agreement with the Capacity Market Seller on the alternate maximum level of the EFORD by no later than ninety (90) days prior to the commencement of the offer period for the Base Residual Auction for the applicable Delivery Year. By no later than ninety (90) days prior to the commencement of the offer period for the Base Residual Auction for the applicable Delivery Year, the Market Monitoring Unit shall notify the Office of the Interconnection in writing, notifying the Capacity Market Seller by copy of the same, of any alternative maximum EFORD to which it and the Capacity Market Seller agree or its determination of the alternative maximum EFORD if agreement is not obtained.

4. The Market Monitoring Unit shall consider the documentation provided to it by a potential Capacity Market Seller pursuant to Section 6.6 of Attachment DD, and determine whether a resource owned or controlled by such Capacity Market Seller meets the criteria to qualify for an exception to the must-offer requirement because the resource (i) is reasonably expected to be physically unable to participate in the relevant auction; (ii) has a financially and physically firm commitment to an external sale of its capacity; or (iii) was interconnected to the Transmission System as an Energy Resource and not subsequently converted to a Capacity Resource. The Market Monitoring Unit shall notify the Capacity Market Seller and the Office of the Interconnection of its determination by no later than ninety (90) days prior to the commencement of the offer period for the applicable RPM Auction.

In order to establish that a resource is reasonably expected to be physically unable to participate in the relevant auction as set forth in (i) above, the Capacity Market Seller must demonstrate that:

A. It has a documented plan in place to retire the resource prior to or during the Delivery Year, and has submitted a notice of Deactivation to the Office of the Interconnection consistent with Section 113.1 of the PJM Tariff, without regard to whether the Office of the Interconnection has requested the Capacity Market Seller to continue to operate the resource beyond its desired deactivation date in accordance with Section 113.2 of the PJM Tariff for the purpose of maintaining the reliability of the PJM Transmission System and the Capacity Market Seller has agreed to do so;

B. Significant physical operational restrictions cause long term or permanent changes to the installed capacity value of the resource, or the resource is under major repair that will extend into the applicable Delivery Year, that will result in the imposition of RPM performance penalties pursuant to Attachment DD of the PJM Tariff;

C. The Capacity Market Seller is involved in an ongoing regulatory proceeding (e.g. – regarding potential environmental restrictions) specific to the resource and has received an order, decision, final rule, opinion or other final directive from the regulatory authority that will result in the retirement of the resource; or,

D. A resource considered an Existing Generating Capacity Resource because it cleared an RPM Auction for a Delivery Year prior to the Delivery Year of the relevant auction, but which is not yet in service, is unable to achieve full commercial operation prior to the Delivery Year of the relevant auction. The Capacity Market Seller must submit to the Office of the Interconnection and the Market Monitoring Unit a written sworn, notarized statement of a corporate officer certifying that the resource will not be in full commercial operation prior to the referenced Delivery Year.

5. If a Capacity Market Seller submits for the portion of a Generation Capacity Resource that it owns or controls, and the Office of Interconnection accepts, a Sell Offer (i) at a level of installed capacity that the Market Monitoring Unit believes is inconsistent with the level established under Section 5.6.6 of Attachment DD of the PJM Tariff, (ii) at a level of installed capacity inconsistent with its determination of eligibility for an exception listed in Section II.C.4 above, or (iii) a maximum EFORD that the Market Monitoring Unit believes is inconsistent with the maximum level determined under Section II.C.3 of this Appendix, the Market Monitoring Unit may exercise its powers to inform Commission staff of its concerns and/or request a determination from the Commission that would require the Generation Capacity Resource to submit a new or revised Sell Offer, notwithstanding any determination to the contrary made under Section 6.6 of Attachment DD.

The Market Monitoring Unit shall also consider the documentation provided by the Capacity Market Seller pursuant to Section 6.6 of Attachment DD, for generation resources for which the Office of the Interconnection has not approved an exception to the must-offer requirement as set forth in Section 6.6(g) of Attachment DD, to determine whether the Capacity Market Seller's failure to offer part or all of one or more generation resources into an RPM Auction would result in an increase of greater than five percent in any Zonal Capacity Price

determined through such auction as required by Section 6.6(i) of Attachment DD, and shall inform both the Capacity Market Seller and the Office of the Interconnection of its determination by no later than two (2) business days after the close of the offer period for the applicable RPM Auction.

**D. Unit Specific Minimum Sell Offers:**

1. If a Capacity Market Seller timely submits an exception request under Section 5.14(h) of Attachment DD, with all of the required supporting documentation, the Market Monitoring Unit shall review the request and documentation and shall provide in writing to the Capacity Market Seller and the Office of the Interconnection by no later than ninety (90) days prior the commencement of the offer period for the RPM Auction in which it seeks to submit its Sell Offer (a) its determination whether the level of the proposed Sell Offer raises market power concerns, and (b) if so it shall calculate and provide to such Capacity Market Seller a minimum Sell Offer based on the data and documentation received.

2. All data submitted to the Office of the Interconnection or the Market Monitoring Unit by a Market Participant is subject to verification by the Market Monitoring Unit.

**E. Market Seller Offer Caps:**

1. Based on the data and calculations submitted by the Capacity Market Sellers for each Existing Generation Capacity Resource and the formulas specified in Section 6.7(d) of Attachment DD, the Market Monitoring Unit shall calculate the Market Seller Offer Cap for each such resource and provide it to the Capacity Market Seller and the Office of the Interconnection by no later than ninety (90) days before the commencement of the offer period for the applicable RPM Auction.

2. The Market Monitoring Unit must attempt to reach agreement with the Capacity Market Seller on the appropriate level of the Market Seller Offer Cap by no later than ninety (90) days prior to the commencement of the offer period for the applicable RPM Auction. If such agreement cannot be reached, then the Market Monitoring Unit shall inform the Capacity Market Seller and the Office of the Interconnection of its determination of the appropriate level of the Market Seller Offer Cap by no later than ninety (90) days prior to the commencement of the offer period for the applicable RPM Auction, and the Market Monitoring Unit may pursue any action available to it under Attachment M.

3. Nothing herein shall preclude any Capacity Market Seller and the Market Monitoring Unit from agreeing to, nor require either such entity to agree to, an alternative market seller offer cap determined on a mutually agreeable basis. Any such alternative offer cap shall be filed with the Commission for its approval. This provision is duplicated in Section 6.4(a) of Attachment DD.

**F. Mitigation of Offers from Planned Generation Capacity Resources:**



Pursuant to Section 6.5 of Attachment DD, the Market Monitoring Unit shall evaluate Sell Offers for Planned Generation Capacity Resources to determine whether market power mitigation should be applied and notify in writing each Capacity Market Seller whose Sell Offer has been determined to be non-competitive and subject to mitigation, with a copy to the Office of the Interconnection, by no later than one (1) business day after the close of the offer period for the applicable RPM Auction.

**G. Data Submission:**

Pursuant to Section 6.7 of Attachment DD, the Market Monitoring Unit may request additional information from any potential auction participant as deemed necessary by the Market Monitoring Unit, including, without limitation, additional cost data on resources in a class that is not otherwise expected to include the marginal price setting resource. All data submitted to the Office of the Interconnection or the Market Monitoring Unit by a Market Participant is subject to verification by the Market Monitoring Unit.

**H. Determination of Default Avoidable Cost Rates:**

1. The Market Monitoring Unit shall conduct an annual review of the table of default Avoidable Cost Rates included in Section 6.7(c) of Attachment DD and calculated on the bases set forth therein, and determine whether the values included therein need to be updated. If the Market Monitoring Unit determines that the Avoidable Cost Rates need to be updated, it shall provide to the Office of the Interconnection updated values or notice of its determination that updated values are not needed by no later than September 30<sup>th</sup> of each year.

2. The Market Monitoring Unit shall indicate in its posted reports on RPM performance the number of Generation Capacity Resources and megawatts per LDA that use the retirement default Avoidable Cost Rates.

3. If a Capacity Market Seller does not elect to use a default Avoidable Cost Rate and has timely provided to the Market Monitoring Unit its request to apply a unit-specific Avoidable Cost Rate, along with the data described in Section 6.7 of Attachment DD, the Market Monitoring Unit shall calculate the Avoidable Cost Rate and provide a unit-specific value to the Capacity Market Seller for each such resource, and notify the Capacity Market Seller and the Office of the Interconnection in writing by no later than ninety (90) days prior to the commencement of the offer period for the applicable RPM Auction whether it agrees that the unit-specific Avoidable Cost Rate is acceptable. The Capacity Market Seller and Office of the Interconnection's deadlines relating to the submittal and acceptance of a request for a unit-specific Avoidable Cost Rate are delineated in section 6.7(d) of Attachment DD.

**I. Determination of PJM Market Revenues:**

The Market Monitoring Unit shall calculate the Projected PJM Market Revenues for any Generation Capacity Resource to which the Avoidable Cost Rate is applied pursuant to Section 6.8(d) of Attachment DD, and notify the Capacity Market Seller and the Office of the Interconnection of its determination in writing by no later than ninety (90) days prior to the commencement of the offer period for the applicable RPM Auction.

## **J. Determination of Opportunity Costs:**

The Market Monitoring Unit shall review and verify the documentation of prices available to Existing Generation Capacity Resources in markets external to PJM and proposed for inclusion in Opportunity Costs pursuant to Section 6.7(d)(ii) of Attachment DD. The Market Monitoring Unit shall notify, in writing, such Generation Capacity Resource and the Office of the Interconnection if it is dissatisfied with the documentation provided and whether it objects to the inclusion of such Opportunity Costs in a Market Seller Offer by no later than ninety (90) days prior to the commencement of the offer period for the applicable RPM Auction. If such Generation Capacity Resource submits a Market Seller Offer that includes Opportunity Costs that have not been documented and verified to the Market Monitoring Unit's satisfaction, then the Market Monitoring Unit may exercise its powers to inform Commission staff of its concerns and request a determination that would require the Generation Capacity Resource to remove them.

## **III. BLACKSTART SERVICE**

A. Upon the submission by a Black Start Unit owner of a request for Black Start Service revenue requirements and changes to the Black Start Service revenue requirements for the Black Start Unit, the Black Start Unit owner and the Market Monitoring Unit shall attempt to agree to values on the level of each component included in the Black Start Service revenue requirements by no later than May 14 of each year. The Market Monitoring Unit shall calculate the revenue requirement for each Black Start Unit and provide its calculation to the Office of the Interconnection by no later than May 14 of each year.

B. Pursuant to the terms of Schedule 6A of the PJM Tariff and the PJM Manuals, the Market Monitoring Unit will analyze any requested generator black start cost changes on an annual basis and shall notify the Office of the Interconnection of any costs to which it and the Black Start Unit owner have agreed or the Market Monitoring Unit's determination regarding any cost components to which agreement has not been obtained. If a Black Start Unit owner includes a cost component inconsistent with its agreement or inconsistent with the Market Monitoring Unit's determination regarding such cost component, and the Office of the Interconnection accepts the Black Start Service revenue requirements submitted by the Black Start Unit owner, the Market Monitoring Unit may exercise its powers to inform Commission staff of its concerns and request a determination that would require the Black Start Service generator to utilize the values determined by the Market Monitoring Unit or the Office of the Interconnection or such other values as determined by the Commission.

## **IV. DEACTIVATION RATES**

1. Upon receipt of a notice to deactivate a generating unit under Part V of the PJM Tariff from the Office of the Interconnection forwarded pursuant to Section 113.1 of the PJM Tariff, the Market Monitoring Unit shall analyze the effects of the proposed deactivation with regard to potential market power issues and shall notify the Office of the Interconnection and the generator owner (of, if applicable, its designated agent) within 30 days of the deactivation request if a market power issue has been identified. Such notice shall include the specific market power

impact resulting from the proposed deactivation of the generating unit, as well as an initial assessment of any steps that could be taken to mitigate the market power impact.

2. The Market Monitoring Unit and the generating unit owner shall attempt to come to agreement on the level of each component included in the Deactivation Avoidable Cost Credit. In the case of cost of service filing submitted to the Commission in alternative to the Deactivation Cost Credit, the Market Monitoring Unit shall indicate to the generating unit owner in advance of filing its views regarding the proposed method or cost components of recovery. The Market Monitoring Unit shall notify the Office of the Interconnection of any costs to which it and the generating unit owner have agreed or the Market Monitoring Unit's determination regarding any cost components to which agreement has not been obtained. If a generating unit owner includes a cost component inconsistent with its agreement or inconsistent with the Market Monitoring Unit's determination regarding such cost components, the Market Monitoring Unit may exercise its powers to inform Commission staff of its concerns and seek a determination that would require the Generating unit to include an appropriate cost component. This provision is duplicated in Sections 114 and 119 of Part V of the PJM Tariff.

## **V. OPPORTUNITY COST CALCULATION**

The Market Monitoring Unit shall review requests for opportunity cost compensation under Sections 3.2.3(f-3) and 3.2.3B(h) of Schedule 1 of the Operating Agreement, discuss with the Office of the Interconnection and individual Market Sellers the amount of compensation, and file exercise its powers to inform Commission staff of its concerns and request a determination of compensation as provided by such sections. These requirements are duplicated in Sections 3.2.3(f-3) and 3.2.3B(h) of Schedule 1 of the Operating Agreement.

## **VI. FTR FORFEITURE RULE**

The Market Monitoring Unit shall calculate Transmission Congestion Credits as required under Section 5.2.1(b) of Schedule 1 of the Operating Agreement, including the determination of the identity of the holder of FTRs and an evaluation of the overall benefits accrued by an entity or affiliated entities trading in FTRs and virtual trading in the Day-ahead Energy Market, and provide such calculations to the Office of the Interconnection. Nothing in this section shall preclude the Market Monitoring Unit from action to recover inappropriate benefits from the subject activity if the amount forfeited is less than the benefit derived by the FTR holder. If the Office of the Interconnection imposes a forfeiture of the Transmission Congestion Credit in an amount that the Market Monitoring Unit disagrees with, then it may exercise its powers to inform Commission staff of its concerns and request an adjustment.

## **VII. FORCED OUTAGE RULE**

1. The Market Monitoring Unit shall observe offers submitted in the Day-ahead Energy Market to determine whether all or part of a generating unit's capacity (MW) is designated as Maximum Emergency and (i) such offer in the Real-time Energy Market designates a smaller amount of capacity from that unit as Maximum Emergency for the same time period, and (ii) there is no physical reason to designate a larger amount of capacity as Maximum Emergency in

the offer in the Day-ahead Energy Market than in the Real-time Energy Market, the Market Monitoring Unit shall notify the Office of Interconnection.

2. If the Market Monitoring Unit observes that (i) an offer submitted in the Day-ahead Energy market designates all or part of capacity (MW) of a Generating unit as economic maximum that is less than the economic maximum designated in the offer in the Real-time Energy Market, and (ii) there is no physical reason to designate a lower economic maximum in the offer in the Day-ahead Energy Market than in the offer in the Real-time Energy Market, the Market Monitoring Unit shall notify the Office of Interconnection.

## **VIII. DATA COLLECTION AND VERIFICATION**

The Market Monitoring Unit shall gather and keep confidential detailed data on the procurement and usage of fuel to produce electric power transmitted in the PJM Region in order to assist the performance of its duties under Attachment M. To achieve this objective, the Market Monitoring Unit shall maintain on its website a mechanism that allows Members to conveniently and confidentially submit such data and develop a manual in consultation with stakeholders that describes the nature of and procedure for collecting data. Members of PJM owning a Generating unit that is located in the PJM Region (including dynamically scheduled units), or is included in a PJM Black Start Service plan, committed as a Generation Capacity Resource for the current or future Delivery Year, or otherwise subject to a commitment to provide service to PJM, shall provide data to the Market Monitoring Unit.

## **2. DEFINITIONS**

Definitions specific to this Attachment are set forth below. In addition, any capitalized terms used in this Attachment not defined herein shall have the meaning given to such terms elsewhere in this Tariff or in the RAA. References to section numbers in this Attachment DD refer to sections of this attachment, unless otherwise specified.

### **2.1A Annual Demand Resource**

“Annual Demand Resource” shall have the meaning specified in the Reliability Assurance Agreement.

### **2.1B Annual Resource**

“Annual Resource” shall mean a Generation Capacity Resource, an Energy Efficiency Resource or an Annual Demand Resource.

### **2.1C Annual Resource Price Adder**

“Annual Resource Price Adder” shall mean an addition to the marginal value of Unforced Capacity and the Extended Summer Resource Price Adder as necessary to reflect the price of Annual Resources required to meet the applicable Minimum Annual Resource Requirement.

### **2.1D Annual Revenue Rate**

“Annual Revenue Rate” shall mean the rate employed to assess a compliance penalty charge on a Demand Resource Provider or ILR Provider under section 11.

## **2.2 Avoidable Cost Rate**

“Avoidable Cost Rate” shall mean a component of the Market Seller Offer Cap calculated in accordance with section 6.

## **2.3 Base Load Generation Resource**

“Base Load Generation Resource” shall mean a Generation Capacity Resource that operates at least 90 percent of the hours that it is available to operate, as determined by the Office of the Interconnection in accordance with the PJM Manuals.

## **2.4 Base Offer Segment**

“Base Offer Segment” shall mean a component of a Sell Offer based on an existing Generation Capacity Resource, equal to the Unforced Capacity of such resource, as determined in accordance with the PJM Manuals. If the Sell Offers of multiple Market Sellers are based on a single existing Generation Capacity Resource, the Base Offer Segments of such Market Sellers

shall be determined pro rata based on their entitlements to Unforced Capacity from such resource.

## **2.5 Base Residual Auction**

“Base Residual Auction” shall mean the auction conducted three years prior to the start of the Delivery Year to secure commitments from Capacity Resources as necessary to satisfy any portion of the Unforced Capacity Obligation of the PJM Region not satisfied through Self-Supply.

## **2.6 Buy Bid**

“Buy Bid” shall mean a bid to buy Capacity Resources in any Incremental Auction.

## **2.7 Capacity Credit**

“Capacity Credit” shall have the meaning specified in Schedule 11 of the Operating Agreement, including Capacity Credits obtained prior to the termination of such Schedule applicable to periods after the termination of such Schedule.

## **2.8 Capacity Emergency Transfer Limit**

“Capacity Emergency Transfer Limit” or “CETL” shall have the meaning provided in the Reliability Assurance Agreement.

## **2.9 Capacity Emergency Transfer Objective**

“Capacity Emergency Transfer Objective” or “CETO” shall have the meaning provided in the Reliability Assurance Agreement.

## **2.9A Capacity Export Transmission Customer**

“Capacity Export Transmission Customer” shall mean a customer taking point to point transmission service under Part II of this Tariff to export capacity from a generation resource located in the PJM Region that is delisted from Capacity Resource status as described in section 5.6.6(d).

## **2.10 Capacity Market Buyer**

“Capacity Market Buyer” shall mean a Member that submits bids to buy Capacity Resources in any Incremental Auction.

## **2.11 Capacity Market Seller**

“Capacity Market Seller” shall mean a Member that owns, or has the contractual authority to control the output or load reduction capability of, a Capacity Resource, that has not transferred

such authority to another entity, and that offers such resource in the Base Residual Auction or an Incremental Auction.

## **2.12 Capacity Resource**

“Capacity Resource” shall have the meaning specified in the Reliability Assurance Agreement.

## **2.13 Capacity Resource Clearing Price**

“Capacity Resource Clearing Price” shall mean the price calculated for a Capacity Resource that offered and cleared in a Base Residual Auction or Incremental Auction, in accordance with Section 5.

## **2.14 Capacity Transfer Right**

“Capacity Transfer Right” shall mean a right, allocated to LSEs serving load in a Locational Deliverability Area, to receive payments, based on the transmission import capability into such Locational Deliverability Area, that offset, in whole or in part, the charges attributable to the Locational Price Adder, if any, included in the Zonal Capacity Price calculated for a Locational Delivery Area.

## **2.14A Conditional Incremental Auction**

“Conditional Incremental Auction” shall mean an Incremental Auction conducted for a Delivery Year if and when necessary to secure commitments of additional capacity to address reliability criteria violations arising from the delay in a Backbone Transmission upgrade that was modeled in the Base Residual Auction for such Delivery Year.

## **2.15 CONE Area**

“CONE Area” shall mean the areas listed in section 5.10(a)(iv)(A) and any LDAs established as CONE Areas pursuant to section 5.10(a)(iv)(B).

## **2.16 Cost of New Entry**

“Cost of New Entry” or “CONE” shall mean the nominal levelized cost of a Reference Resource, as determined in accordance with section 5.

## **2.16A Credit-Limited Offer**

“Credit-Limited Offer” shall have the meaning provided in Attachment Q to this Tariff.

## **2.17 Daily Deficiency Rate**

“Daily Deficiency Rate” shall mean the rate employed to assess certain deficiency charges under sections 7, 8, 9, or 13.

## **2.18 Daily Unforced Capacity Obligation**

“Daily Unforced Capacity Obligation” shall mean the capacity obligation of a Load Serving Entity during the Delivery Year, determined in accordance with Schedule 8 of the Reliability Assurance Agreement.

## **2.19 Delivery Year**

Delivery Year shall mean the Planning Period for which a Capacity Resource is committed pursuant to the auction procedures specified in Section 5.

## **2.20 Demand Resource**

“Demand Resource” shall have the meaning specified in the Reliability Assurance Agreement.

## **2.21 Demand Resource Factor**

“Demand Resource Factor” shall have the meaning specified in the Reliability Assurance Agreement.

## **2.22 Demand Resource Provider**

“Demand Resource Provider” shall mean a PJM Member that has the capability to reduce load, or that aggregates customers capable of reducing load. The Demand Resource Provider shall notify the Office of the Interconnection whether such load reduction is provided by a Limited Demand Resource, Extended Summer Demand Resource or an Annual Demand Resource. A Curtailment Service Provider, as defined in the Operating Agreement, may be a Demand Resource Provider, provided it qualifies its load reduction capability as a Limited Demand Resource, Extended Summer Demand Resource, or Annual Demand Resource.

## **2.23 EFORD**

“EFORD” shall have the meaning specified in the PJM Reliability Assurance Agreement.

## **2.24 Energy Efficiency Resource**

“Energy Efficiency Resource” shall have the meaning specified in the PJM Reliability Assurance Agreement.

## **2.24A Extended Summer Demand Resource**

“Extended Summer Demand Resource” shall have the meaning specified in the Reliability Assurance Agreement.

## **2.24B Extended Summer Resource Price Adder**



“Extended Summer Resource Price Adder” shall mean an addition to the marginal value of Unforced Capacity as necessary to reflect the price of Annual Resources and Extended Summer Demand Resources required to meet the applicable Minimum Extended Summer Resource Requirement.

#### **2.24C Extended Summer Demand Resource Reliability Target**

“Extended Summer Demand Resource Reliability Target” for the PJM Region or an LDA, shall mean the maximum amount of the combination of Extended Summer Demand Resources and Limited Demand Resources in Unforced Capacity determined by PJM to be consistent with the maintenance of reliability, stated in Unforced Capacity, that shall be used to calculate the Minimum Annual Resource Requirement. As more fully set forth in the PJM Manuals, PJM calculates the Extended Summer DR Reliability Target, by first determining a reference annual loss of load expectation (“LOLE”) assuming no Demand Resources. The calculation for the unconstrained portion of the PJM Region uses a daily distribution of loads under a range of weather scenarios (based on the most recent load forecast and iteratively shifting the load distributions to result in the Installed Reserve Margin established for the Delivery Year in question) and a weekly capacity distribution (based on the cumulative capacity availability distributions developed for the Installed Reserve Margin study for the Delivery Year in question). The calculation for each relevant LDA uses a daily distribution of loads under a range of weather scenarios (based on the most recent load forecast for the Delivery Year in question) and a weekly capacity distribution (based on the cumulative capacity availability distributions developed for the Capacity Emergency Transfer Objective study for the Delivery Year in question). For the relevant LDA calculation, the weekly capacity distributions are adjusted to reflect the Capacity Emergency Transfer Limit for the Delivery Year in question.

For both the PJM Region and LDA analyses, PJM then models the commitment of varying amounts of DR (displacing otherwise committed generation) as interruptible from May 1 through October 31 and unavailable from November 1 through April 30 and calculates the LOLE at each DR level. The Extended Summer DR Reliability Target is the DR amount, stated as a percentage of the unrestricted peak load, that produces no more than a ten percent increase in the LOLE, compared to the reference value. The Extended Summer Demand Resource Reliability Target shall be expressed as a percentage of the forecasted peak load of the PJM Region or such LDA and is converted to Unforced Capacity by multiplying [the reliability target percentage] times [the Forecast Pool Requirement] times [the DR Factor] times [the forecasted peak load of the PJM Region or such LDA, reduced by the amount of load served under the FRR Alternative].

#### **2.25 [Reserved]**

#### **2.26 Final RTO Unforced Capacity Obligation**

“Final RTO Unforced Capacity Obligation” shall mean the capacity obligation for the PJM Region, determined in accordance with Schedule 8 of the Reliability Assurance Agreement.

#### **2.26A Final Zonal ILR Price**

“Final Zonal ILR Price” shall mean the Adjusted Zonal Capacity Price after the Second Incremental Auction, less the amount paid in CTR credits per MW of load in the Zone in which the ILR is to be certified.

## **2.27 First Incremental Auction**

“First Incremental Auction” shall mean an Incremental Auction conducted 20 months prior to the start of the Delivery Year to which it relates.

## **2.28 Forecast Pool Requirement**

“Forecast Pool Requirement” shall have the meaning specified in the Reliability Assurance Agreement.

## **2.29 Forecast RTO ILR Obligation**

“Forecast RTO ILR Obligation” shall mean, in unforced capacity terms, the ILR Forecast for the PJM Region times the DR Factor, times the Forecast Pool Requirement, less the Unforced Capacity of all Demand Resources committed in FRR Capacity Plans by all FRR Entities in the PJM Region, for use in Delivery Years through May 31, 2012.

## **2.30 Forecast Zonal ILR Obligation**

“Forecast Zonal ILR Obligation” shall mean, in unforced capacity terms, the ILR Forecast for the Zone times the DR Factor, times the Forecast Pool Requirement, less the Unforced Capacity of all Demand Resources committed in FRR Capacity Plans by all FRR Entities in such Zone, for use in Delivery Years through May 31, 2012.

## **2.31 Generation Capacity Resource**

“Generation Capacity Resource” shall have the meaning specified in the Reliability Assurance Agreement.

## **2.32 ILR Forecast**

“ILR Forecast” shall mean, for any Delivery Year ending on or before May 31, 2012, the average annual megawatt quantity of ILR certified for the five Planning Periods preceding the date of the forecast; provided, however, that before such data becomes available for five Delivery Years under the Reliability Pricing Model, comparable data on Active Load Management (as defined in the preexisting reliability assurance agreements) from up to five prior Planning Periods shall be substituted as necessary; and provided further that, for transmission zones that were integrated into the PJM Region less than five years prior to the conduct of the Base Residual Auction for the Delivery Year, data on incremental load subject to mandatory interruption by Electric Distribution Companies within such zones shall be substituted as necessary.

### **2.33 ILR Provider**

“ILR Provider” shall mean a Member that has the capability to reduce load, or that aggregates customers capable of reducing load. A Curtailment Service Provider, as such term is defined in the PJM Operating Agreement, may be an ILR Provider, provided it obtains certification of its load reduction capability as ILR.

### **2.34 Incremental Auction**

“Incremental Auction” shall mean any of several auctions conducted for a Delivery Year after the Base Residual Auction for such Delivery Year and before the first day of such Delivery Year, including the First Incremental Auction, Second Incremental Auction, Third Incremental Auction or Conditional Incremental Auction. Incremental Auctions (other than the Conditional Incremental Auction), shall be held for the purposes of:

(i) allowing Market Sellers that committed Capacity Resources in the Base Residual Auction for a Delivery Year, which subsequently are determined to be unavailable to deliver the committed Unforced Capacity in such Delivery Year (due to resource retirement, resource cancellation or construction delay, resource derating, EFORD increase, a decrease in the Nominated Demand Resource Value of a Planned Demand Resource, delay or cancellation of a Qualifying Transmission Upgrade, or similar occurrences) to submit Buy Bids for replacement Capacity Resources; and

(ii) allowing the Office of the Interconnection to reduce or increase the amount of committed capacity secured in prior auctions for such Delivery Year if, as a result of changed circumstances or expectations since the prior auction(s), there is, respectively, a significant excess or significant deficit of committed capacity for such Delivery Year, for the PJM Region or for an LDA.

### **2.35 Incremental Capacity Transfer Right**

“Incremental Capacity Transfer Right” shall mean a Capacity Transfer Right allocated to a Generation Interconnection Customer or Transmission Interconnection Customer obligated to fund a transmission facility or upgrade, to the extent such upgrade or facility increases the transmission import capability into a Locational Deliverability Area, or a Capacity Transfer Right allocated to a Responsible Customer in accordance with Schedule 12A of the Tariff.

### **2.36 Interruptible Load for Reliability (ILR)**

“Interruptible Load for Reliability” or “ILR” shall have the meaning specified in the Reliability Assurance Agreement.

#### **2.36A Limited Demand Resource**

“Limited Demand Resource” shall have the meaning specified in the Reliability Assurance Agreement.

## **2.36B Limited Demand Resource Reliability Target**

“Limited Demand Resource Reliability Target” for the PJM Region or an LDA, shall mean the maximum amount of Limited Demand Resources determined by PJM to be consistent with the maintenance of reliability, stated in Unforced Capacity that shall be used to calculate the Minimum Extended Summer Demand Resource Requirement for the PJM Region or such LDA. As more fully set forth in the PJM Manuals, PJM calculates the Limited Demand Resource Reliability Target by first: i) testing the effects of the ten-interruption requirement by comparing possible loads on peak days under a range of weather conditions (from the daily load forecast distributions for the Delivery Year in question) against possible generation capacity on such days under a range of conditions (using the cumulative capacity distributions employed in the Installed Reserve Margin study for the PJM Region and in the Capacity Emergency Transfer Objective study for the relevant LDAs for such Delivery Year) and, by varying the assumed amounts of DR that is committed and displaces committed generation, determines the DR penetration level at which there is a ninety percent probability that DR will not be called (based on the applicable operating reserve margin for the PJM Region and for the relevant LDAs) more than ten times over those peak days; and ii) testing the six-hour duration requirement by calculating the MW difference between the highest hourly unrestricted peak load and seventh highest hourly unrestricted peak load on certain high peak load days (e.g., the annual peak, loads above the weather normalized peak, or days where load management was called) in recent years, then dividing those loads by the forecast peak for those years and averaging the result. Second, PJM adopts the lower result from these two tests as the Limited Demand Resource Reliability Target. The Limited Demand Resource Reliability Target shall be expressed as a percentage of the forecasted peak load of the PJM Region or such LDA and is converted to Unforced Capacity by multiplying [the reliability target percentage] times [the Forecast Pool Requirement] times [the DR Factor] times [the forecasted peak load of the PJM Region or such LDA, reduced by the amount of load served under the FRR Alternative].

## **2.37 Load Serving Entity (LSE)**

“Load Serving Entity” or “LSE” shall have the meaning specified in the Reliability Assurance Agreement.

## **2.38 Locational Deliverability Area (LDA)**

“Locational Deliverability Area” or “LDA” shall mean a geographic area within the PJM Region that has limited transmission capability to import capacity to satisfy such area’s reliability requirement, as determined by the Office of the Interconnection in connection with preparation of the Regional Transmission Expansion Plan, and as specified in Schedule 10.1 of the Reliability Assurance Agreement.

## **2.39 Locational Deliverability Area Reliability Requirement**

“Locational Deliverability Area Reliability Requirement” shall mean the projected internal capacity in the Locational Deliverability Area plus the Capacity Emergency Transfer Objective

for the Delivery Year, as determined by the Office of the Interconnection in connection with preparation of the Regional Transmission Expansion Plan, less the minimum internal resources required for all FRR Entities in such Locational Deliverability Area, and less any necessary adjustment for Price Responsive Demand proposed in a PRD Plan or committed following an RPM Auction for the Zones comprising such Locational Deliverability Area for such Delivery Year.

#### **2.40 Locational Price Adder**

“Locational Price Adder” shall mean an addition to the marginal value of Unforced Capacity within an LDA as necessary to reflect the price of Capacity Resources required to relieve applicable binding locational constraints.

#### **2.41 Locational Reliability Charge**

“Locational Reliability Charge” shall have the meaning specified in the Reliability Assurance Agreement.

##### **2.41A Locational UCAP**

“Locational UCAP” shall mean unforced capacity that a Member with available uncommitted capacity sells in a bilateral transaction to a Member that previously committed capacity through an RPM Auction but now requires replacement capacity to fulfill its RPM Auction commitment. The Locational UCAP Seller retains responsibility for performance of the resource providing such replacement capacity.

##### **2.41B Locational UCAP Seller**

“Locational UCAP Seller” shall mean a Member that sells Locational UCAP.

##### **2.41C Market Seller Offer Cap**

“Market Seller Offer Cap” shall mean a maximum offer price applicable to certain Market Sellers under certain conditions, as determined in accordance with section 6 of Attachment DD and section II.E of Attachment M - Appendix.

##### **2.41D Minimum Annual Resource Requirement**

“Minimum Annual Resource Requirement” shall mean the minimum amount of capacity that PJM will seek to procure from Annual Resources for the PJM Region and for each Locational Deliverability Area for which the Office of the Interconnection is required under section 5.10(a) of this Attachment DD to establish a separate VRR Curve for such Delivery Year. For the PJM Region, the Minimum Annual Resource Requirement shall be equal to the RTO Reliability Requirement minus [the Extended Summer Demand Resource Reliability Target for the RTO in Unforced Capacity]. For an LDA, the Minimum Annual Resource Requirement shall be equal to the LDA Reliability Requirement minus [the LDA CETL] minus [the Extended Summer

Demand Resource Reliability Target for such LDA in Unforced Capacity]. The LDA CETL may be adjusted pro rata for the amount of load served under the FRR Alternative.

#### **2.41E Minimum Extended Summer Resource Requirement**

“Minimum Extended Summer Resource Requirement” shall mean the minimum amount of capacity that PJM will seek to procure from Extended Summer Demand Resources and Annual Resources for the PJM Region and for each Locational Deliverability Area for which the Office of the Interconnection is required under section 5.10(a) of this Attachment DD to establish a separate VRR Curve for such Delivery Year. For the PJM Region, the Minimum Extended Summer Resource Requirement shall be equal to the RTO Reliability Requirement minus [the Limited Demand Resource Reliability Target for the PJM Region in Unforced Capacity]. For an LDA, the Minimum Extended Summer Resource Requirement shall be equal to the LDA Reliability Requirement minus [the LDA CETL] minus [the Limited Demand Resource Reliability Target for such LDA in Unforced Capacity]. The LDA CETL may be adjusted pro rata for the amount of load served under the FRR Alternative.

#### **2.42 Net Cost of New Entry**

“Net Cost of New Entry” shall mean the Cost of New Entry minus the Net Energy and Ancillary Service Revenue Offset, as defined in Section 5.

#### **2.43 Nominated Demand Resource Value**

“Nominated Demand Resource Value” shall mean the amount of load reduction that a Demand Resource commits to provide either through direct load control, firm service level or guaranteed load drop programs. For existing Demand Resources, the maximum Nominated Demand Resource Value is limited, in accordance with the PJM Manuals, to the value appropriate for the method by which the load reduction would be accomplished, at the time the Base Residual Auction or Incremental Auction is being conducted.

#### **2.43A Nominated Energy Efficiency Value**

“Nominated Energy Efficiency Value” shall mean the amount of load reduction that an Energy Efficiency Resource commits to provide through installation of more efficient devices or equipment or implementation of more efficient processes or systems.

#### **2.44 Nominated ILR Value**

“Nominated ILR Value” shall mean the amount of load reduction that an ILR resource commits to provide either through direct load control, firm service level or guaranteed load drop programs. For ILR, the maximum Nominated ILR Capacity Value is limited, in accordance with the PJM Manuals, to the value appropriate for the method by which the load reduction would be accomplished, at the time the ILR is certified.

#### **2.45 Opportunity Cost**

“Opportunity Cost” shall mean a component of the Market Seller Offer Cap calculated in accordance with section 6.

#### **2.46 Peak-Hour Dispatch**

“Peak-Hour Dispatch” shall mean, for purposes of calculating the Energy and Ancillary Services Revenue Offset under section 5 of this Attachment, an assumption, as more fully set forth in the PJM Manuals, that the Reference Resource is committed in the Day-Ahead Energy Market in four distinct blocks of four hours of continuous output for each block from the peak-hour period beginning with the hour ending 0800 EPT through to the hour ending 2300 EPT for any day when the average day-ahead LMP for the area for which the Net Cost of New Entry is being determined is greater than, or equal to, the cost to generate (including the cost for a complete start and shutdown cycle) for at least two hours during each four-hour block, where such blocks shall be assumed to be committed independently; provided that, if there are not at least two economic hours in any given four-hour block, then the Reference Resource shall be assumed not to be committed for such block; and to the extent not committed in any such block in the Day-Ahead Energy Market under the above conditions based on Day-Ahead LMPs, is dispatched in the Real-Time Energy Market for such block if the Real-Time LMP is greater than or equal to the cost to generate under the same conditions as described above for the Day-Ahead Energy Market.

#### **2.47 Peak Season**

“Peak Season” shall mean the weeks containing the 24th through 36th Wednesdays of the calendar year. Each such week shall begin on a Monday and end on the following Sunday, except for the week containing the 36th Wednesday, which shall end on the following Friday.

#### **2.48 Percentage Internal Resources Required**

“Percentage Internal Resources Required” shall have the meaning specified in the Reliability Assurance Agreement.

#### **2.49 Planned Demand Resource**

“Planned Demand Resource” shall have the meaning specified in the Reliability Assurance Agreement.

#### **2.50 Planned External Generation Capacity Resource**

“Planned External Generation Capacity Resource” shall have the meaning specified in the Reliability Assurance Agreement.

#### **2.50A Planned Generation Capacity Resource**

“Planned Generation Capacity Resource” shall have the meaning specified in the Reliability Assurance Agreement.

#### **2.51 Planning Period**

“Planning Period” shall have the meaning specified in the Reliability Assurance Agreement.

#### **2.52 PJM Region**

“PJM Region” shall have the meaning specified in the Reliability Assurance Agreement.

#### **2.53 PJM Region Installed Reserve Margin**

“PJM Region Installed Reserve Margin” shall have the meaning specified in the Reliability Assurance Agreement.

#### **2.54 PJM Region Peak Load Forecast**

“PJM Region Peak Load Forecast” shall mean the peak load forecast used by the Office of the Interconnection in determining the PJM Region Reliability Requirement, and shall be determined on both a preliminary and final basis as set forth in section 5.

#### **2.55 PJM Region Reliability Requirement**

“PJM Region Reliability Requirement” shall mean, for purposes of the Base Residual Auction, the Forecast Pool Requirement multiplied by the Preliminary PJM Region Peak Load Forecast, less the sum of all Preliminary Unforced Capacity Obligations of FRR Entities in the PJM Region; and, for purposes of the Incremental Auctions, the Forecast Pool Requirement multiplied by the updated PJM Region Peak Load Forecast, less the sum of all updated Unforced Capacity Obligations of FRR Entities in the PJM Region, and less any necessary adjustment for Price Responsive Demand proposed in a PRD Plan or committed following an RPM Auction (as applicable) for such Delivery Year.

#### **2.56 Projected PJM Market Revenues**

“Projected PJM Market Revenues” shall mean a component of the Market Seller Offer Cap calculated in accordance with section 6.

#### **2.57 Qualifying Transmission Upgrade**

“Qualifying Transmission Upgrade” shall mean a proposed enhancement or addition to the Transmission System that: (a) will increase the Capacity Emergency Transfer Limit into an LDA by a megawatt quantity certified by the Office of the Interconnection; (b) the Office of the Interconnection has determined will be in service on or before the commencement of the first Delivery Year for which such upgrade is the subject of a Sell Offer in the Base Residual Auction; (c) is the subject of a Facilities Study Agreement executed before the conduct of the



Base Residual Auction for such Delivery Year and (d) a New Service Customer is obligated to fund through a rate or charge specific to such facility or upgrade.

## **2.58 Reference Resource**

“Reference Resource” shall mean a combustion turbine generating station, configured with two General Electric Frame 7FA turbines with inlet air cooling to 50 degrees, Selective Catalytic Reduction technology in CONE Areas 1, 2, 3, and 4, dual fuel capability, and a heat rate of 10.096 Mmbtu/ MWh.

## **2.59 Reliability Assurance Agreement**

“Reliability Assurance Agreement” shall mean that certain “Reliability Assurance Agreement Among Load-Serving Entities in the PJM Region,” on file with FERC as PJM Interconnection, L.L.C. Rate Schedule FERC No.44.

## **2.60 Reliability Pricing Model Auction**

“Reliability Pricing Model Auction” or “RPM Auction” shall mean the Base Residual Auction or any Incremental Auction.

## **2.61 Resource Substitution Charge**

“Resource Substitution Charge” shall mean a charge assessed on Capacity Market Buyers in an Incremental Auction to recover the cost of replacement Capacity Resources.

## **2.61A Scheduled Incremental Auctions**

“Scheduled Incremental Auctions” shall refer to the First, Second, or Third Incremental Auction.

## **2.62 Second Incremental Auction**

“Second Incremental Auction” shall mean an Incremental Auction conducted ten months before the Delivery Year to which it relates.

## **2.63 Sell Offer**

“Sell Offer” shall mean an offer to sell Capacity Resources in a Base Residual Auction, Incremental Auction, or Reliability Backstop Auction.

## **2.64 [Reserved for Future Use]**

## **2.65 Self-Supply**

“Self-Supply” shall mean Capacity Resources secured by a Load-Serving Entity, by ownership or contract, outside a Reliability Pricing Model Auction, and used to meet obligations under this

Attachment or the Reliability Assurance Agreement through submission in a Base Residual Auction or an Incremental Auction of a Sell Offer indicating such Market Seller's intent that such Capacity Resource be Self-Supply. Self-Supply may be either committed regardless of clearing price or submitted as a Sell Offer with a price bid. A Load Serving Entity's Sell Offer with a price bid for an owned or contracted Capacity Resource shall not be deemed "Self-Supply," unless it is designated as Self-Supply and used by the LSE to meet obligations under this Attachment or the Reliability Assurance Agreement.

#### **2.65A Short-Term Resource Procurement Target**

"Short-Term Resource Procurement Target" shall mean, as to the PJM Region, for purposes of the Base Residual Auction, 2.5% of the PJM Region Reliability Requirement determined for such Base Residual Auction, for purposes of the First Incremental Auction, 2% of the of the PJM Region Reliability Requirement as calculated at the time of the Base Residual Auction; and, for purposes of the Second Incremental Auction, 1.5% of the of the PJM Region Reliability Requirement as calculated at the time of the Base Residual Auction; and, as to any Zone, an allocation of the PJM Region Short-Term Resource Procurement Target based on the Preliminary Zonal Forecast Peak Load, reduced by the amount of load served under the FRR Alternative. For any LDA, the LDA Short-Term Resource Procurement Target shall be the sum of the Short-Term Resource Procurement Targets of all Zones in the LDA.

#### **2.65B Short-Term Resource Procurement Target Applicable Share**

"Short-Term Resource Procurement Target Applicable Share" shall mean: (i) for the PJM Region, as to the First and Second Incremental Auctions, 0.2 times the Short-Term Resource Procurement Target used in the Base Residual Auction and, as to the Third Incremental Auction for the PJM Region, 0.6 times such target; and (ii) for an LDA, as to the First and Second Incremental Auctions, 0.2 times the Short-Term Resource Procurement Target used in the Base Residual Auction for such LDA and, as to the Third Incremental Auction, 0.6 times such target.

#### **2.66 Third Incremental Auction**

"Third Incremental Auction" shall mean an Incremental Auction conducted three months before the Delivery Year to which it relates.

#### **2.67 [Reserved for Future Use]**

#### **2.68 Unconstrained LDA Group**

"Unconstrained LDA Group" shall mean a combined group of LDAs that form an electrically contiguous area and for which a separate Variable Resource Requirement Curve has not been established under Section 5.10 of Attachment DD. Any LDA for which a separate Variable Resource Requirement Curve has not been established under Section 5.10 of Attachment DD shall be combined with all other such LDAs that form an electrically contiguous area.

#### **2.69 Unforced Capacity**

“Unforced Capacity” shall have the meaning specified in the Reliability Assurance Agreement.

#### **2.69A Updated VRR Curve**

“Updated VRR Curve” shall mean the Variable Resource Requirement Curve as defined in section 5.10(a) of this Attachment for use in the Base Residual Auction of the relevant Delivery Year, updated to reflect the Short-term Resource Procurement Target applicable to the relevant Incremental Auction and any change in the Reliability Requirement from the Base Residual Auction to such Incremental Auction.

#### **2.69B Updated VRR Curve Increment**

“Updated VRR Curve Increment” shall mean the portion of the Updated VRR Curve to the right of a vertical line at the level of Unforced Capacity on the x-axis of such curve equal to the net Unforced Capacity committed to the PJM Region as a result of all prior auctions conducted for such Delivery Year.

#### **2.69C Updated VRR Curve Decrement**

“Updated VRR Curve Decrement” shall mean the portion of the Updated VRR Curve to the left of a vertical line at the level of Unforced Capacity on the x-axis of such curve equal to the net Unforced Capacity committed to the PJM Region as a result of all prior auctions conducted for such Delivery Year.

#### **2.70 Variable Resource Requirement Curve**

“Variable Resource Requirement Curve” shall mean a series of maximum prices that can be cleared in a Base Residual Auction for Unforced Capacity, corresponding to a series of varying resource requirements based on varying installed reserve margins, as determined by the Office of the Interconnection for the PJM Region and for certain Locational Deliverability Areas in accordance with the methodology provided in Section 5.

#### **2.71 Zonal Capacity Price**

“Zonal Capacity Price” shall mean the clearing price required in each Zone to meet the demand for Unforced Capacity and satisfy Locational Deliverability Requirements for the LDA or LDAs associated with such Zone. If the Zone contains multiple LDAs with different Capacity Resource Clearing Prices, the Zonal Capacity Price shall be a weighted average of the Capacity Resource Clearing Prices for such LDAs, weighted by the Unforced Capacity of Capacity Resources cleared in each such LDA.

## **5.8 Submission of Sell Offers and Buy Bids**

The Office of the Interconnection shall evaluate and accept or reject Sell Offers and Buy Bids submitted by Capacity Market Sellers on the basis of the following requirements and criteria:

- a) A Sell Offer or Buy Bid that fails to specify a positive megawatt quantity shall be rejected by the Office of the Interconnection.
- b) A Buy Bid that fails to specify price shall be rejected by the Office of the Interconnection. A Sell Offer that fails to either designate such offer as self-scheduled or to specify an offer price shall be rejected by the Office of the Interconnection.
- c) A Buy Bid that fails to designate the type of Unforced Capacity desired, i.e., an Annual Resource, Extended Summer Demand Resource, or Limited Demand Resource, shall be rejected by the Office of the Interconnection.
- d) All Sell Offers and Buy Bids must be received by the Office of the Interconnection during a specified period, as determined by the Office of the Interconnection, in accordance with the PJM Manuals. A Sell Offer or Buy Bid may be withdrawn by a notification of withdrawal received by the Office of the Interconnection at any time during the foregoing period, but may not be withdrawn after such period.
- e) Sell Offers or Buy Bids shall be submitted or withdrawn via the Internet site designated by the Office of the Interconnection; provided, however, that if the Internet site cannot be accessed at any time during the period specified for the applicable auction, a Sell Offer or Buy Bid may be submitted or withdrawn by electronic mail transmitted to the e-mail address, or faxed to the fax number specified by the Office of the Interconnection.
- f) Sell Offers must be based on the Capacity Market Seller's Capacity Resource position at the opening of the auction's bidding window.
- g) The Office of the Interconnection shall accept a Sell Offer only up to the megawatt amount of installed capacity of Capacity Resources owned or controlled by such Capacity Market Seller that has not previously been committed for the applicable Delivery Year.
- h) No Sell Offer shall be accepted from an FRR Entity unless it meets the requirements applicable to such offers under Schedule 8.1 of the Reliability Assurance Agreement.
- i) The Office of the Interconnection shall have final authority to determine whether to accept or reject a Sell Offer in accordance with the terms of the Tariff and the PJM Manuals.
- j) A Capacity Market Seller and Capacity Market Buyer may submit any Sell Offer or Buy Bid, respectively, that it chooses or make a decision not to offer a committed resource, provided that the Office of the Interconnection determines that: (i) the Capacity Market Seller has participated in the review process conducted by the Market Monitoring Unit (without regard

to whether an agreement is obtained) if required by the Tariff; (ii) the Sell Offer is no higher, in the case of seller market power, or lower, in the case of buyer side market power, than the level to which the Capacity Market Seller has committed or agreed in the course of its participation in such review process; and (iii) the Sell Offer or Buy Bid is compliant with the Tariff and PJM Manuals. Capacity Market Sellers and Capacity Market Buyers assume exclusive responsibility for their Sell Offers and Buy Bids, respectively, and any adverse findings at the Commission related to its Sell Offers and Buy Bids.

## **5.11 Posting of Information Relevant to the RPM Auctions**

a) In accordance with the schedule provided in the PJM Manuals, PJM will post the following information for a Delivery Year prior to conducting the Base Residual Auction for such Delivery Year:

i) The Preliminary PJM Region Peak Load Forecast (for the PJM Region, and allocated to each Zone) and, for Delivery Years through May 31, 2012, the ILR Forecast by Locational Deliverability Area;

ii) The PJM Region Installed Reserve Margin, the Pool-wide average EFORD, and the Forecast Pool Requirement;

iii) The Demand Resource Factor;

iv) The PJM Region Reliability Requirement, and the Variable Resource Requirement Curve for the PJM Region, including the details of any adjustments to account for Price Responsive Demand and any associated PRD Reservation Prices;

v) The Locational Deliverability Area Reliability Requirement and the Variable Resource Requirement Curve for each Locational Deliverability Area for which a separate Variable Resource Requirement Curve has been established for such Base Residual Auction, including the details of any adjustments to account for Price Responsive Demand and any associated PRD Reservation Prices, and the CETO and CETL values for all Locational Deliverability Areas;

vi) For Delivery Years starting with June 1, 2014, the Minimum Annual Resource Requirement and the Minimum Extended Summer Resource Requirement for the PJM Region and for each Locational Deliverability Area for which PJM is required under section 5.10(a) of this Attachment DD to establish a separate VRR Curve for such Delivery Year;

vii) Any Transmission Upgrades that are expected to be in service for such Delivery Year, provided that a Transmission Upgrade that is Backbone Transmission satisfies the project development milestones set forth in section 5.11A;

viii) The bidding window time schedule for each auction to be conducted for such Delivery Year; and

ix) The Net Energy and Ancillary Services Revenue Offset values for the PJM Region for use in the Variable Resource Requirement Curves for the PJM Region and each Locational Deliverability Area for which a separate Variable Resource Requirement Curve has been established for such Base Residual Auction.

b) The information listed in (a) will be posted and applicable for the First, Second, Third, and Conditional Incremental Auctions for such Delivery Year, except to the extent updated or adjusted as required by other provisions of this Tariff.

c) In accordance with the schedule provided in the PJM Manuals, PJM will post the Final PJM Region Peak Load Forecast and the allocation to each zone of the obligation resulting from such final forecast, following the completion of the final Incremental Auction (including any Conditional Incremental Auction) conducted for such Delivery Year;

d) In accordance with the schedule provided in the PJM Manuals, PJM will advise owners of Generation Capacity Resources of the updated EFORD values for such Generation Capacity Resources prior to the conduct of the Third Incremental Auction for such Delivery Year.

e) After conducting the Reliability Pricing Model Auctions, PJM will post the results of each auction as soon thereafter as possible, including any adjustments to PJM Region or LDA Reliability Requirements to reflect Price Responsive Demand with a PRD Reservation Price equal to or less than the applicable Base Residual Auction clearing price. The posted results shall include graphical supply curves that are (a) provided for the entire PJM Region, (b) provided for any Locational Deliverability Area for which there are four (4) or more suppliers, and (c) developed using a formulaic approach to smooth the curves using a statistical technique that fits a smooth curve to the underlying supply curve data while ensuring that the point of intersection between supply and demand curves is at the market clearing price.

If PJM discovers an error in the initial posting of auction results for a particular Reliability Pricing Model Auction, it shall notify Market Participants of the error as soon as possible after it is found, but in no event later than 5:00 p.m. of the fifth business day following the initial publication of the results of the auction. After this initial notification, if PJM determines it is necessary to post modified results, it shall provide notification of its intent to do so, together with all available supporting documentation, by no later than 5:00 p.m. of the seventh business day following the initial publication of the results of the auction. Thereafter, PJM must post on its Web site any corrected auction results by no later than 5:00 p.m. of the tenth business day following the initial publication of the results of the auction. Should any of the above deadlines pass without the associated action on the part of the Office of the Interconnection, the originally posted results will be considered final. Notwithstanding the foregoing, the deadlines set forth above shall not apply if the referenced auction results are under publicly noticed review by the FERC.

## **5.14 Clearing Prices and Charges**

### **a) Capacity Resource Clearing Prices**

For each Base Residual Auction and Incremental Auction, the Office of the Interconnection shall calculate a clearing price to be paid for each megawatt-day of Unforced Capacity that clears in such auction. The Capacity Resource Clearing Price for each LDA will be the sum of the following: (1) the marginal value of system capacity for the PJM Region, without considering locational constraints, (2) the Locational Price Adder, if any in such LDA, (3) the Annual Resource Price Adder, if any, and (4) the Extended Summer Resource Price Adder, if any, all as determined by the Office of the Interconnection based on the optimization algorithm. If a Capacity Resource is located in more than one Locational Deliverability Area, it shall be paid the highest Locational Price Adder in any applicable LDA in which the Sell Offer for such Capacity Resource cleared. The Annual Resource Price Adder is applicable for Annual Resources only. The Extended Summer Resource Price Adder is applicable for Annual Resources and Extended Summer Demand Resources.

### **b) Resource Make-Whole Payments**

If a Sell Offer specifies a minimum block, and only a portion of such block is needed to clear the market in a Base Residual or Incremental Auction, the MW portion of such Sell Offer needed to clear the market shall clear, and such Sell Offer shall set the marginal value of system capacity. In addition, the Capacity Market Seller shall receive a Resource Make-Whole Payment equal to the Capacity Resource Clearing Price in such auction times the difference between the Sell Offer's minimum block MW quantity and the Sell Offer's cleared MW quantity. The cost for any such Resource Make-Whole Payments required in a Base Residual Auction or Incremental Auction for adjustment of prior capacity commitments shall be collected pro rata from all LSEs in the LDA in which such payments were made, based on their Daily Unforced Capacity Obligations. The cost for any such Resource Make-Whole Payments required in an Incremental Auction for capacity replacement shall be collected from all Capacity Market Buyers in the LDA in which such payments were made, on a pro-rata basis based on the MWs purchased in such auction.

### **c) New Entry Price Adjustment**

A Capacity Market Seller that submits a Sell Offer based on a Planned Generation Capacity Resource that clears in the BRA for a Delivery Year may, at its election, submit Sell Offers with a New Entry Price Adjustment in the BRAs for the two immediately succeeding Delivery Years if:

1. Such Capacity Market Seller provides notice of such election at the time it submits its Sell Offer for such resource in the BRA for the first Delivery Year for which such resource is eligible to be considered a Planned Generation Capacity Resource;
2. All or any part of a Sell Offer from the Planned Generation Capacity Resource submitted in accordance with section 5.14(c)(1) is the marginal Sell Offer that sets the Capacity Resource Clearing Price for the LDA.



3. Acceptance of all or any part of a Sell Offer that meets the conditions in section 5.14(c)(1)-(2) in the BRA increases the total Unforced Capacity committed in the BRA (including any minimum block quantity) for the LDA in which such Resource will be located from a megawatt quantity below the LDA Reliability Requirement to a megawatt quantity at or above a megawatt quantity at the price-quantity point on the VRR Curve at which the price is 0.40 times the applicable Net CONE divided by (one minus the pool-wide average EFORd); and

4. Such Capacity Market Seller submits Sell Offers in the BRA for the two immediately succeeding Delivery Years for the entire Unforced Capacity of such Generation Capacity Resource committed in the first BRA under section 5.14(c)(1)-(2) equal to the lesser of: A) the price in such seller's Sell Offer for the BRA in which such resource qualified as a Planned Generation Capacity Resource that satisfies the conditions in section 5.14(c)(1)-(3); or B) 0.90 times the Net CONE applicable in the first BRA in which such Planned Generation Capacity Resource meeting the conditions in section 5.14(c)(1)-(3) cleared, on an Unforced Capacity basis, for such LDA.

5. If the Sell Offer is submitted consistent with section 5.14(c)(1)-(4) the foregoing conditions, then:

- (i) in the first Delivery Year, the Resource sets the Capacity Resource Clearing Price for the LDA and all cleared resources in the LDA receive the Capacity Resource Clearing Price set by the Sell Offer as the marginal offer, in accordance with sections 5.12(a) and 5.14(a).
- (ii) in either of the subsequent two BRAs, if any part of the Sell Offer from the Resource clears, it shall receive the Capacity Resource Clearing Price for such LDA for its cleared capacity and for any additional minimum block quantity pursuant to section 5.14(b); or
- (iii) if the Resource does not clear, it shall be deemed resubmitted at the highest price per MW-day at which the megawatt quantity of Unforced Capacity of such Resource that cleared the first-year BRA will clear the subsequent-year BRA pursuant to the optimization algorithm described in section 5.12(a) of this Attachment, and
- (iv) the resource with its Sell Offer submitted shall clear and shall be committed to the PJM Region in the amount cleared, plus any additional minimum-block quantity from its Sell Offer for such Delivery Year, but such additional amount shall be no greater than the portion of a minimum-block quantity, if any, from its first-year Sell Offer satisfying section 5.14(c)(1)-(3) that is entitled to compensation pursuant to section 5.14(b) of this Attachment; and
- (v) the Capacity Resource Clearing Price, and the resources cleared, shall be re-determined to reflect the resubmitted Sell Offer. In such case, the Resource for which the Sell Offer is submitted pursuant to section

5.14(c)(1)-(4) shall be paid for the entire committed quantity at the Sell Offer price that it initially submitted in such subsequent BRA. The difference between such Sell Offer price and the Capacity Resource Clearing Price (as well as any difference between the cleared quantity and the committed quantity), will be treated as a Resource Make-Whole Payment in accordance with Section 5.14(b). Other capacity resources that clear the BRA in such LDA receive the Capacity Resource Clearing Price as determined in Section 5.14(a).

6. The failure to submit a Sell Offer consistent with Section 5.14(c)(i)-(iii) in the BRA for Delivery Year 3 shall not retroactively revoke the New Entry Price Adjustment for Delivery Year 2. However, the failure to submit a Sell Offer consistent with section 5.14(c)(4) in the BRA for Delivery Year 2 shall make the resource ineligible for the New Entry Pricing Adjustment for Delivery Years 2 and 3.

7. For each Delivery Year that the foregoing conditions are satisfied, the Office of the Interconnection shall maintain and employ in the auction clearing for such LDA a separate VRR Curve, notwithstanding the outcome of the test referenced in Section 5.10(a)(ii) of this Attachment.

8. On or before August 1, 2012, PJM shall file with FERC under FPA section 205, as determined necessary by PJM following a stakeholder process, tariff changes to establish a long-term auction process as a not unduly discriminatory means to provide adequate long-term revenue assurances to support new entry, as a supplement to or replacement of this New Entry Price Adjustment.

d) Qualifying Transmission Upgrade Payments

A Capacity Market Seller that submitted a Sell Offer based on a Qualifying Transmission Upgrade that clears in the Base Residual Auction shall receive a payment equal to the Capacity Resource Clearing Price, including any Locational Price Adder, of the LDA into which the Qualifying Transmission Upgrade is to increase Capacity Emergency Transfer Limit, less the Capacity Resource Clearing Price, including any Locational Price Adder, of the LDA from which the upgrade was to provide such increased CETL, multiplied by the megawatt quantity of increased CETL cleared from such Sell Offer. Such payments shall be reflected in the Locational Price Adder determined as part of the Final Zonal Capacity Price for the Zone associated with such LDAs, and shall be funded through a reduction in the Capacity Transfer Rights allocated to Load-Serving Entities under section 5.15, as set forth in that section. PJMSettlement shall be the Counterparty to any cleared capacity transaction resulting from a Sell Offer based on a Qualifying Transmission Upgrade.

e) Locational Reliability Charge

In accordance with the Reliability Assurance Agreement, each LSE shall incur a Locational Reliability Charge (subject to certain offsets and other adjustments as described in sections 5.13, 5.14A, and 5.15) equal to such LSE's Daily Unforced Capacity Obligation in a Zone during such Delivery Year multiplied by the applicable Final Zonal Capacity Price in such Zone.

PJMSettlement shall be the Counterparty to the LSEs' obligations to pay, and payments of, Locational Reliability Charges.

f) The Office of the Interconnection shall determine Zonal Capacity Prices in accordance with the following, based on the optimization algorithm:

i) The Office of the Interconnection shall calculate and post the Preliminary Zonal Capacity Prices for each Delivery Year following the Base Residual Auction for such Delivery Year. The Preliminary Zonal Capacity Price for each Zone shall be the sum of: 1) the marginal value of system capacity for the PJM Region, without considering locational constraints; 2) the Locational Price Adder, if any, for the LDA in which such Zone is located; provided however, that if the Zone contains multiple LDAs with different Capacity Resource Clearing Prices, the Zonal Capacity Price shall be a weighted average of the Capacity Resource Clearing Prices for such LDAs, weighted by the Unforced Capacity of Capacity Resources cleared in each such LDA; 3) an adjustment, if required, to account for adders paid to Annual Resources and Extended Summer Demand Resources in the LDA for which the zone is located; and 4) an adjustment, if required, to account for Resource Make-Whole Payments, all as determined in accordance with the optimization algorithm.

ii) The Office of the Interconnection shall calculate and post the Adjusted Zonal Capacity Price following each Incremental Auction. The Adjusted Zonal Capacity Price for each Zone shall equal the sum of: (1) the average marginal value of system capacity weighted by the Unforced Capacity cleared in all auctions previously conducted for such Delivery Year (excluding any Unforced Capacity cleared as replacement capacity); (2) the average Locational Price Adder weighted by the Unforced Capacity cleared in all auctions previously conducted for such Delivery Year (excluding any Unforced Capacity cleared as replacement capacity); (3) an adjustment, if required, to account for adders paid to Annual Resources and Extended Summer Demand Resources for all auctions previously conducted for such Delivery Year (excluding any Unforced Capacity cleared as replacement capacity); and (4) an adjustment, if required, to account for Resource Make-Whole Payments for all actions previously conducted (excluding any Resource Make-Whole Payments to be charged to the buyers of replacement capacity). The Adjusted Zonal Capacity Price may decrease if Unforced Capacity is decommitted or the Resource Clearing Price decreases in an Incremental Auction.

iii) The Office of the Interconnection shall, through May 31, 2012, calculate and post the Final Zonal Capacity Price after all ILR resources are certified for the Delivery Years and, thereafter, shall calculate and post such price after the final auction is held for such Delivery Year, as set forth above. The Final Zonal Capacity Price for each Zone shall equal the Adjusted Zonal Capacity Price, as further adjusted (for the Delivery Years through May 31, 2012) to reflect the certified ILR compared to the ILR Forecast previously used for such Delivery Year, and any decreases in the Nominated Demand Resource Value of any existing Demand Resource cleared in the Base Residual Auction and Second Incremental Auction. For such purpose, for the three consecutive Delivery Years ending May 31, 2012 only, the Forecast ILR allocated to loads located in the AEP transmission zone that are served under the Reliability Pricing Model shall be in proportion for each such year to the load ratio share of such RPM loads compared to the total peak loads of such zone for such year; and any remaining ILR Forecast that

otherwise would be allocated to such loads shall be allocated to all Zones in the PJM Region pro rata based on their Preliminary Zonal Peak Load Forecasts.

g) Resource Substitution Charge

Each Capacity Market Buyer in an Incremental Auction securing replacement capacity shall pay a Resource Substitution Charge equal to the Capacity Resource Clearing Price resulting from such auction multiplied by the megawatt quantity of Unforced Capacity purchased by such Market Buyer in such auction.

h) Minimum Offer Price Rule for Certain Planned Generation Capacity Resources

(1) For purposes of this section, the Net Asset Class Costs of New Entry shall be asset-class estimates of competitive, cost-based nominal levelized Cost of New Entry, net of energy and ancillary service revenues. Determination of the gross Cost of New Entry component of the Net Asset Class Cost of New Entry shall be consistent with the methodology used to determine the Cost of New Entry set forth in Section 5.10(a)(iv)(A) of this Attachment. The gross Cost of New Entry component of Net Asset Class Cost of New Entry shall be, for purposes of the Delivery Year commencing on June 1, 2014, the values indicated in the table below for each CONE Area for a combustion turbine generator ("CT") and a combined cycle generator ("CC"), respectively, and shall be adjusted for subsequent Delivery Years in accordance with subsection (h)(2) below. The estimated energy and ancillary service revenues for each type of plant shall be determined as described in subsection (h)(3) below. Notwithstanding the foregoing, the Net Asset Class Cost of New Entry shall be zero for: (i) Sell Offers based on nuclear, coal or Integrated Gasification Combined Cycle facilities; or (ii) Sell Offers based on hydroelectric, wind, or solar facilities.

	CONE Area 1	CONE Area 2	CONE Area 3	CONE Area 4	CONE Area 5
CT \$/MW-yr	134,000	123,700	123,500	130,100	111,000
CC \$/MW-yr	168,200	147,600	162,200	161,800	143,800

(2) Beginning with the Delivery Year that begins on June 1, 2015, the Cost of New Entry component of the Net Asset Class Cost of New Entry shall be adjusted to reflect changes in generating plant construction costs based on changes in the Applicable H-W Index, in the same manner as set forth for the cost of new entry in section 5.10(a)(iv)(B), provided, however, that nothing herein shall preclude the Office of the Interconnection from filing to change the Net Asset Class Cost of New Entry for any Delivery Year pursuant to appropriate filings with FERC under the Federal Power Act.

(3) For purposes of this provision, the net energy and ancillary services revenue estimate for a combustion turbine generator shall be that determined by section 5.10(a)(v)(A) of this Attachment DD, provided that the energy revenue estimate for each CONE Area shall be based on the Zone within such CONE Area that has the highest energy revenue estimate calculated under the methodology in that subsection. The net energy and ancillary services revenue estimate for a combined cycle generator shall be determined in the same manner as that prescribed for a combustion turbine generator in the previous sentence, except

that the heat rate assumed for the combined cycle resource shall be 6.722 MMBtu/Mwh, the variable operations and maintenance expenses for such resource shall be \$3.23 per MWh, the Peak-Hour Dispatch scenario for both the Day-Ahead and Real-Time Energy Markets shall be modified to dispatch the CC resource continuously during the full peak-hour period, as described in section 2.46, for each such period that the resource is economic (using the test set forth in such section), rather than only during the four-hour blocks within such period that such resource is economic, and the ancillary service revenues shall be \$3198 per MW-year.

(4) Any Sell Offer that is based on

(i) a Generation Capacity Resource located in the PJM Region that is submitted in an RPM Auction for a Delivery Year unless a Sell Offer based on that resource has cleared an RPM Auction for that or any prior Delivery Year, or until a Sell Offer based on that resource clears an RPM auction for that or any subsequent Delivery Year; or

(ii) a Generation Capacity Resource located outside the PJM Region (where such Sell Offer is based solely on such resource) that requires sufficient transmission investment for delivery to the PJM Region to indicate a long-term commitment to providing capacity to the PJM Region, unless a Sell Offer based on that resource has cleared an RPM Auction for that or any prior Delivery Year, or until a Sell offer based on that resource clears an RPM Auction for that or any subsequent Delivery Year, in any LDA for which a separate VRR Curve is established for use in the Base Residual Auction for the Delivery Year relevant to the RPM Auction in which such offer is submitted, and that is less than 90 percent of the applicable Net Asset Class Cost of New Entry or, if there is no applicable Net Asset Class Cost of New Entry, less than 70 percent of the Net Asset Class Cost of New Entry for a combustion turbine generator as provided in subsection (h)(1) above shall be set to equal 90 percent of the applicable Net Asset Class Cost of New Entry (or set equal to 70 percent of such cost for a combustion turbine, where there is no otherwise applicable net asset class figure), unless the Capacity Market Seller obtains the prior determination from the Office of the Interconnection described in subsection (5) hereof. This provision applies to Sell Offers submitted in Incremental Auctions conducted after December 19, 2011, provided that the Net Asset Class Cost of New Entry values for any such Incremental Auctions for the 2012-13 or 2013-14 Delivery Years shall be the Net Asset Class Cost of New Entry values posted by the Office of the Interconnection for the Base Residual Auction for the 2014-15 Delivery Year.

(5) A Sell Offer meeting the criteria in subsection (4) shall be permitted and shall not be re-set to the price level specified in that subsection if the Capacity Market Seller obtains a determination from the Office of the Interconnection or the Commission, prior to the RPM Auction in which it seeks to submit the Sell Offer, that such Sell Offer is permissible because it is consistent with the competitive, cost-based, fixed, net cost of new entry were the resource to rely solely on revenues from PJM-administered markets. The following process and requirements shall apply to requests for such determinations:

(i) The Capacity Market Seller may request such a determination by no later than one hundred twenty (120) days prior to the commencement of the offer period for the RPM Auction in which it seeks to submit its Sell Offer, by submitting simultaneously to the Office of the Interconnection and the Market Monitoring Unit a written request with all of the required documentation as described below and in the PJM Manuals. For such purpose, the Office of the Interconnection shall post, by no later than one hundred fifty (150) days prior to the commencement of the offer period for the relevant RPM Auction, a preliminary estimate for the relevant Delivery Year of the minimum offer level expected to be established under subsection (4). If the minimum offer level subsequently established for the relevant Delivery Year is less than the Sell Offer, the Sell Offer shall be permitted and no exception shall be required.

(ii) As more fully set forth in the PJM Manuals, the Capacity Market Seller must include in its request for an exception under this subsection documentation to support the fixed development, construction, operation, and maintenance costs of the planned generation resource, as well as estimates of offsetting net revenues. Estimates of costs or revenues shall be supported at a level of detail comparable to the cost and revenue estimates used to support the Net Asset Class Cost of New Entry established under this section 5.14(h). As more fully set forth in the PJM Manuals, supporting documentation for project costs may include, as applicable and available, a complete project description; environmental permits; vendor quotes for plant or equipment; evidence of actual costs of recent comparable projects; bases for electric and gas interconnection costs and any cost contingencies; bases and support for property taxes, insurance, operations and maintenance (“O&M”) contractor costs, and other fixed O&M and administrative or general costs; financing documents for construction-period and permanent financing or evidence of recent debt costs of the seller for comparable investments; and the bases and support for the claimed capitalization ratio, rate of return, cost-recovery period, inflation rate, or other parameters used in financial modeling. Such documentation also shall identify and support any sunk costs that the Capacity Market Seller has reflected as a reduction to its Sell Offer. The request shall include a certification, signed by an officer of the Capacity Market Seller, that the claimed costs accurately reflect, in all material respects, the seller’s reasonably expected costs of new entry and that the request satisfies all standards for an exception hereunder. The request also shall identify all revenue sources relied upon in the Sell Offer to offset the claimed fixed costs, including, without limitation, long-term power supply contracts, tolling agreements, or tariffs on file with state regulatory agencies, and shall demonstrate that such offsetting revenues are consistent, over a reasonable time period identified by the Capacity Market Seller, with the standard prescribed above. In making such demonstration, the Capacity Market Seller may rely upon forecasts of competitive electricity prices in the PJM Region based on well defined models that include fully documented estimates of future fuel prices, variable operation and maintenance expenses, energy demand, emissions allowance prices, and expected environmental or energy policies that affect the seller’s forecast of electricity prices in such region, employing input data from sources readily available to the public. Documentation for net revenues also may include, as available and applicable, plant performance and capability information, including heat rate, start-up times and costs, forced outage rates, planned outage schedules, maintenance cycle, fuel costs and other variable operations and

maintenance expenses, and ancillary service capabilities. In addition to the documentation identified herein and in the PJM Manuals, the Capacity Market Seller shall provide any additional supporting information reasonably requested by the Office of the Interconnection or the Market Monitoring Unit to evaluate the Sell Offer. Requests for additional documentation will not extend the deadline by which the Office of the Interconnection or the Market Monitoring Unit must provide their determinations of the Minimum Offer Price Rule exception request.

(iii) A Sell Offer evaluated hereunder shall be permitted if the information provided reasonably demonstrates that the Sell Offer's competitive, cost-based, fixed, net cost of new entry is below the minimum offer level prescribed by subsection (4), based on competitive cost advantages relative to the costs estimated for subsection (4), including, without limitation, competitive cost advantages resulting from the Capacity Market Seller's business model, financial condition, tax status, access to capital or other similar conditions affecting the applicant's costs, or based on net revenues that are reasonably demonstrated hereunder to be higher than estimated for subsection (4). Capacity Market Sellers shall be asked to demonstrate that claimed cost advantages or sources of net revenue that are irregular or anomalous, that do not reflect arm's-length transactions, or that are not in the ordinary course of the Capacity Market Seller's business are consistent with the standards of this subsection. Failure to adequately support such costs or revenues so as to enable the Office of the Interconnection to make the determination required in this section will result in denial of an exception hereunder by the Office of the Interconnection.

(iv) The Market Monitoring Unit shall review the information and documentation in support of the request and shall provide its findings whether the proposed Sell Offer is acceptable, in accordance with the standards and criteria hereunder, in writing, to the Capacity Market Seller and the Office of the Interconnection by no later than ninety (90) days prior to the commencement of the offer period for such auction. The Office of the Interconnection shall also review all exception requests and documentation and shall provide in writing to the Capacity Market Seller and the Market Monitoring Unit its determination whether the requested Sell Offer is acceptable and if not it shall calculate and provide to such Capacity Market Seller, a minimum Sell Offer based on the data and documentation received, by no later than sixty-five (65) days prior to the commencement of the offer period for the relevant RPM Auction. If the Office of the Interconnection determines that the requested Sell Offer is acceptable, the Capacity Market Seller shall notify the Market Monitoring Unit and the Office of the Interconnection, in writing, of the minimum level of Sell Offer to which it agrees to commit by no later than sixty (60) days prior to the commencement of the offer period for the relevant RPM Auction.

i) Capacity Export Charges and Credits

(1) Charge

Each Capacity Export Transmission Customer shall incur for each day of each Delivery Year a Capacity Export Charge equal to the Reserved Capacity of Long-Term Firm Transmission

Service used for such export (“Export Reserved Capacity”) multiplied by (the Final Zonal Capacity Price for such Delivery Year for the Zone encompassing the interface with the Control Area to which such capacity is exported minus the Final Zonal Capacity Price for such Delivery Year for the Zone in which the resources designated for export are located, but not less than zero). If more than one Zone forms the interface with such Control Area, then the amount of Reserved Capacity described above shall be apportioned among such Zones for purposes of the above calculation in proportion to the flows from such resource through each such Zone directly to such interface under CETO/CETL analysis conditions, as determined by the Office of the Interconnection using procedures set forth in the PJM Manuals. The amount of the Reserved Capacity that is associated with a fully controllable facility that crosses such interface shall be completely apportioned to the Zone within which such facility terminates.

## (2) Credit

To recognize the value of firm Transmission Service held by any such Capacity Export Transmission Customer, such customer assessed a charge under section 5.14(i)(1) also shall receive a credit, comparable to the Capacity Transfer Rights provided to Load-Serving Entities under section 5.15. Such credit shall be equal to the locational capacity price difference specified in section 5.14(i)(1) times the Export Customer's Allocated Share determined as follows:

Export Customer's Allocated Share equals

$(\text{Export Path Import} * \text{Export Reserved Capacity}) /$

$(\text{Export Reserved Capacity} + \text{Daily Unforced Capacity Obligations of all LSEs in such Zone}).$

Where:

“Export Path Import” means the megawatts of Unforced Capacity imported into the export interface Zone from the Zone in which the resource designated for export is located.

If more than one Zone forms the interface with such Control Area, then the amount of Export Reserved Capacity shall be apportioned among such Zones for purposes of the above calculation in the same manner as set forth in subsection (i)(1) above.

## (3) Distribution of Revenues

Any revenues collected from the Capacity Export Charge with respect to any capacity export for a Delivery Year, less the credit provided in subsection (i)(2) for such Delivery Year, shall be distributed to the Load Serving Entities in the export-interface Zone that were assessed a

Locational Reliability Charge for such Delivery Year, pro rata based on the Daily Unforced Capacity Obligations of such Load-serving Entities in such Zone during such Delivery Year. If more than one Zone forms the interface with such Control Area, then the revenues shall be apportioned among such Zones for purposes of the above calculation in the same manner as set forth in subsection (i)(1) above.



#### **5.14A Demand Response Transition Provision for RPM Delivery Years 2012/2013, 2013/2014, and 2014/2015**

A. This Transition Provision applies only with respect to Demand Resources cleared in the Base Residual Auction for any or all of the 2012/2013, 2013/2014, or 2014/2015 Delivery Years (hereafter, “Transition Delivery Years” and each a “Transition Delivery Year”) by a Curtailment Service Provider as an aggregator of end-use customers registered for the Emergency Load Response Program as Full Program Option or Capacity Only Option. A Curtailment Service Provider meeting the description of the preceding sentence is hereafter in this Section 5.14A referred to as a “Qualified DR Provider.”

B. In the event that a Qualified DR Provider concludes that its cleared Demand Resource for a Transition Delivery Year is not viable under the revised Reporting and Compliance provisions of the Emergency Load Response Program which became effective on November 7, 2011, pursuant to the Commission’s order issued on November 4, 2011, in Docket No. ER11-3322-000 (137 FERC ¶ 61,108), the Qualified DR Provider must so inform PJM in writing by no later than 30 days prior to the next Incremental Auction for the Transition Delivery Year for which the identified Demand Resource was cleared. A Qualified DR Provider that does not timely provide the notice described in this paragraph shall be excluded from application of the remainder of this Transition Provision. A Demand Resource cleared for a Transition Delivery Year is not viable for purposes of this Transition Provision to the extent that it relies upon load reduction by any end-use customer for which the applicable Qualified DR Provider anticipated, when it offered the Demand Resource, measuring load reduction at loads in excess of such customer’s peak load contribution during Emergency Load Response dispatch events or tests.

1. In the event a Qualified DR Provider that participates in an Incremental Auction after providing notice pursuant to paragraph B. above purchases Capacity Resources to replace its previously cleared Demand Resource at a price that exceeds the price at which the provider’s Demand Resource cleared in the Base Residual Auction for the same Transition Delivery Year, the Qualified DR Provider shall receive a DR Capacity Transition Credit in an amount determined by the following:

$$\text{DRTC} = (\text{IAP} - \text{BRP}) * \text{DRMW}$$

Where:

DRTC is the amount of the DR Capacity Transition Credit for the Qualified DR Provider, expressed in dollars;

IAP = the Capacity Resource Clearing Price paid by the Qualified DR Provider for replacement Capacity Resources in the Incremental Auction for the relevant Transition Delivery Year;

BRP = the Capacity Resource Clearing Price at which the Qualified DR Provider’s Demand Resource cleared in the Base Residual Auction for the same Transition Delivery Year; and

DRMW = the capacity in MW of the Qualified DR Provider's previously cleared Demand Resource.

2. All DR Capacity Transition Credits will be paid weekly to the recipient Qualified DR Providers by PJMSettlement during the relevant Transition Delivery Year.
3. The cost of payments of DR Capacity Transition Credits to Qualified DR Providers shall be included in the Locational Reliability Charge collected by PJMSettlement during the relevant Transition Delivery Year from Load-Serving Entities in the LDA(s) for which the Qualified DR Provider's subject Demand Resource was cleared.

C. A Qualified DR Provider may seek compensation related to its previously cleared Demand Resource for a particular Transition Delivery Year, in lieu of any DR Capacity Transition Credits for which it otherwise might be eligible under paragraph B.1. above, under the following conditions:

1. The Qualified DR Provider must provide timely notice to PJM in accordance with paragraph B of this Transition Provision, and
2. The Qualified DR Provider must demonstrate to PJM's reasonable satisfaction, not later than 60 days prior to the start of the applicable Transition Delivery Year, that
  - a. the Qualified DR Provider entered into contractual arrangements on or before April 7, 2011, with one or more end-use customers registered for the Emergency Load Response Program as Full Program Option or Capacity Only Option in association with the Demand Resource identified in the provider's notice pursuant to paragraph B above,
  - b. under which the Qualified DR Provider is unavoidably obligated to pay to such end-use customers during the relevant Transition Delivery Year
  - c. an aggregate amount that exceeds:
    - (i) any difference of (A) the amount the Qualified DR Provider is entitled to receive in payment for the previously cleared Demand Resource it designated as not viable in its notice pursuant to paragraph B of this provision, minus (B) the amount the provider is obligated to pay for capacity resources it purchased in the Incremental Auctions to replace the Demand Resource the provider designated as not viable, plus
    - (ii) any monetary gains the Qualified DR Provider realizes from purchases of Capacity Resources in Incremental Auctions for the same Transition Delivery Year to replace any Demand Resources that the Qualified DR Provider cleared in the applicable Base Residual Auction other than the resource designated as not viable in the provider's notice pursuant to paragraph (B) of

this provision,

(iii) where “monetary gains” for the purpose of clause (ii) shall be any positive difference of (A) the aggregate amount the Qualified DR Provider is entitled to receive in payment for any such other Demand Resource it cleared in the Base Residual Auction, minus (B) the aggregate amount the provider is obligated to pay for capacity resources it purchased in the applicable Incremental Auctions to replace any such other Demand Resource the provider cleared in the Base Residual Auction.

D. A Qualified DR Provider which demonstrates satisfaction of the conditions of paragraph C of this Transition Provision shall be entitled to an Alternative DR Transition Credit equal to the amount described in paragraph C.2.c. above. Any Alternative DR Transition Credit provided in accordance with this paragraph shall be paid and collected by PJMSettlement in the same manner as described in paragraphs B.2. and B.3. of this Transition Provision, provided, however, that each Qualified DR Provider receiving an Alternative DR Transition Credit shall submit to PJM within 15 days following the end of each month of the relevant Transition Delivery Year a report providing the calculation described in paragraph C.2.c. above, using actual amounts paid and received through the end of the month just ended. The DR Provider’s Alternative DR Transition Credit shall be adjusted as necessary (including, if required, in the month following the final month of the Transition Delivery Year) to ensure that the total credit paid to the Qualified DR Provider for the Transition Delivery Year will equal, but shall not exceed, the amount described in paragraph C.2.c. above, calculated using the actual amounts paid and received by the Qualified DR Provider.

## **6. MARKET POWER MITIGATION**

### **6.1 Applicability**

The provisions of the Market Monitoring Plan (in Attachment M and Attachment - M Appendix to this Tariff and this section 6) shall apply to the Reliability Pricing Model Auctions.

### **6.2 Process**

(a) [Reserved for Future Use]

(b) In accordance with the schedule specified in the PJM Manuals, following PJM's conduct of a Base Residual Auction or Incremental Auction pursuant to section 5.12, but prior to the Office of the Interconnection's final determination of clearing prices and charges pursuant to section 5.14, the Office of the Interconnection shall: (i) apply the Market Structure Test to any LDA having a Locational Price Adder greater than zero and to the entire PJM region; (ii) apply Market Seller Offer Caps, if required under this section 6; and (iii) recompute the optimization algorithm to clear the auction with the Market Seller Offer Caps in place.

(c) Within seven days after the deadline for submission of Sell Offers in a Base Residual Auction or Incremental Auction, the Office of the Interconnection shall file with FERC a report of any determination made pursuant to sections 5.14(h), 6.5(a)(ii), or 6.7(c) identified in such sections as subject to the procedures of this section. Such report shall list each such determination, the information considered in making each such determination, and an explanation of each such determination. Any entity that objects to any such determination may file a written objection with FERC no later than seven days after the filing of the report. Any such objection must not merely allege that the determination was in error, and must provide support for the objection, demonstrating that the determination overlooked or failed to consider relevant evidence. In the event that no objection is filed, the determination shall be final. In the event that an objection is filed, FERC shall issue any decision modifying the determination no later than 60 days after the filing of such report; otherwise, the determination shall be final. Final auction results shall reflect any decision made by FERC regarding the report.

### **6.3 Market Structure Test**

(a) [Reserved for Future Use]

(b) Market Structure Test.

A constrained LDA or the PJM Region shall fail the Market Structure Test, and mitigation shall be applied to all jointly pivotal suppliers (including all Affiliates of such suppliers, and all third-party supply in the relevant LDA controlled by such suppliers by contract), if, as to the Sell Offers that comprise the incremental supply determined pursuant to section 6.3(c) that are based on Generation Capacity Resources, there are not more than three jointly pivotal suppliers. The Office of the Interconnection shall apply the Market Structure Test. The Office of the Interconnection shall confirm the results of the Market Structure Test with the Market Monitoring Unit.

(c) Determination of Incremental Supply

In applying the Market Structure Test, the Office of the Interconnection shall consider all (i) incremental supply (provided, however, that the Office of the Interconnection shall consider only such supply available from Generation Capacity Resources) available to solve the constraint applicable to a constrained LDA offered at less than or equal to 150% of the cost-based clearing price; or (ii) supply for the PJM Region, offered at less than or equal to 150% of the cost-based clearing price, provided that supply in this section includes only the lower of cost-based or priced based offers from Generation Capacity Resources. Cost-based clearing prices are the prices resulting from the RPM auction algorithm using the lower of cost-based or price-based offers for all Capacity Resources.

#### **6.4 Market Seller Offer Caps**

(a) The Market Seller Offer Cap, stated in dollars per MW/day of unforced capacity, applicable to price-quantity offers within the Base Offer Segment for an Existing Generation Capacity Resource shall be the Avoidable Cost Rate for such resource, less the Projected PJM Market Revenues for such resource, stated in dollars per MW/day of unforced capacity. The Market Seller Offer Cap for an Existing Generation Capacity Resource shall be the Opportunity Cost for such resource, if applicable, as determined in accordance with section 6.7. Nothing herein shall preclude any Capacity Market Seller and the Market Monitoring Unit from agreeing to, nor require either such entity to agree to, an alternative market seller offer cap determined on a mutually agreeable basis. Any such alternative offer cap shall be filed with the Commission for its approval. This provision is duplicated in section II.E.3 of Attachment M- Appendix.

(b) For each Existing Generation Capacity Resource, a potential Capacity Market Seller must provide to the Market Monitoring Unit and the Office of the Interconnection data and documentation required under section 6.6 to establish the level of the Market Seller Offer Cap applicable to each resource by no later than one hundred twenty (120) days prior to the commencement of the offer period for the applicable RPM Auction. The Capacity Market Seller must promptly address any concerns identified by the Market Monitoring Unit regarding the data and documentation provided, review the Market Seller Offer Cap proposed by the Market Monitoring Unit, and attempt to reach agreement with the Market Monitoring Unit on the level of the Market Seller Offer Cap by no later than ninety (90) days prior to the commencement of the offer period for the applicable RPM Auction. The Capacity Market Seller shall notify the Market Monitoring Unit in writing, with a copy to the Office of the Interconnection, whether an agreement with the Market Monitoring Unit has been reached or, if no agreement has been reached, specifying the level of Market Seller Offer Cap to which it commits by no later than eighty (80) days prior to the commencement of the offer period for the applicable RPM Auction. The Office of the Interconnection shall review the data submitted by the Capacity Market Seller, make a determination whether to accept or reject the requested unit-specific Market Seller Offer Cap, and notify the Capacity Market Seller and the Market Monitoring Unit of its determination in writing, by no later than sixty-five (65) days prior to the commencement of the offer period for the applicable RPM Auction. If the Market Monitoring Unit does not provide its determination to the Capacity Market Seller and the Office of the Interconnection by the specified deadline, by no later than sixty-five (65) days prior to the commencement of the offer period for the

applicable RPM Auction the Office of the Interconnection will make the determination of the level of the Market Seller Offer Cap, which shall be deemed to be final. If the Capacity Market Seller does not notify the Market Monitoring Unit and the Office of the Interconnection of the Market Seller Offer Cap it desires to utilize by no later than eighty (80) days prior to the commencement of the offer period for the applicable RPM Auction, it shall be required to utilize a Market Seller Offer Cap determined using the applicable default Avoidable Cost Rate specified in section 6.7(c).

(c) Nothing in this section precludes the Capacity Market Seller from filing a petition with FERC seeking a determination of whether the Sell Offer complies with the requirements of the Tariff.

(d) For any Third Incremental Auction, the Market Seller Offer Cap for an Existing Generation Capacity Resource shall be determined pursuant to paragraph (a) of this Section 6.4, or if elected by the Capacity Market Seller, shall be equal to 1.1 times the Capacity Resource Clearing Price in the Base Residual Auction for the relevant LDA and Delivery Year.

## **6.5 Mitigation**

The Office of the Interconnection shall apply market power mitigation measures in any Base Residual Auction or Incremental Auction for any LDA, Unconstrained LDA Group, or the PJM Region that fails the Market Structure Test.

(a) Mitigation for Generation Capacity Resources.

i) Existing Generation Capacity Resource

Mitigation will be applied on a unit-specific basis and only if the Sell Offer of Unforced Capacity from an Existing Generation Capacity Resource: (1) is greater than the Market Seller Offer Cap applicable to such resource; and (2) would, absent mitigation, increase the Capacity Resource Clearing Price in the relevant auction. If such conditions are met, such Sell Offer shall be set equal to the Market Seller Offer Cap.

ii) Planned Generation Capacity Resources

(A) Sell Offers based on Planned Generation Capacity Resources (including External Planned Generation Capacity Resources) shall be presumed to be competitive and shall not be subject to market power mitigation in any Base Residual Auction or Incremental Auction for which such resource qualifies as a Planned Generation Capacity Resource, but any such Sell Offer shall be rejected if it meets the criteria set forth in subsection (C) below, unless the Capacity Market Seller obtains approval from FERC for use of such offer prior to the deadline for submission of such offers in the applicable auction. Such resources are Existing Generation Capacity Resources in the auctions for any Delivery Year following the Delivery Year for which such resource cleared an RPM Auction. Such resources may receive certain price assurances for the two

Delivery Years immediately following the first Delivery Year of service under certain conditions as set forth in section 5.14 of this Attachment. Notwithstanding the foregoing, a Generation Capacity Resource for which construction has not commenced and which would otherwise have been treated as a Planned Generation Capacity Resource but for the fact that it was bid into RPM Auctions for at least two consecutive Delivery Years, and cleared the last such auction only because it was considered existing and its mitigated offer cap was accepted when its price offer would not have otherwise been accepted, shall be deemed to be a Planned Generation Capacity Resource.

(B) Sell Offers based on Planned Generation Capacity Resources (including External Planned Generation Capacity Resources) submitted for the first year in which such resources qualify as Planned Generation Capacity Resources shall be deemed competitive and not be subject to mitigation if: (1) collectively all such Sell Offers provide Unforced Capacity in an amount equal to or greater than two times the incremental quantity of new entry required to meet the LDA Reliability Requirement; and (2) at least two unaffiliated suppliers have submitted Sell Offers for Planned Generation Capacity Resources in such LDA. Notwithstanding the foregoing, any Capacity Market Seller, together with Affiliates, whose Sell Offers based on Planned Generation Capacity Resources in that LDA are pivotal, shall be subject to mitigation.

(C) Where the two conditions stated in subsection (B) are not met, or the Sell Offer is pivotal, the Sell Offer shall be rejected if it exceeds 140 percent of: 1) the average of location-adjusted Sell Offers for Planned Generation Capacity Resources from the same asset class as such Sell Offer, submitted (and not rejected) (Asset-Class New Plant Offers) for such Delivery Year; or 2) if there are no Asset-Class New Plant Offers for such Delivery Year, the average of Asset-Class New Plant Offers for all prior Delivery Years; or 3) if there are no Asset-Class New Plant Offers for any prior Delivery Year, the Net CONE applicable for such Delivery Year in the LDA for which such offer was submitted. For purposes of this section, asset classes shall be as stated in section 6.7(c) as effective for such Delivery Year, and Asset-Class New Plant Offers shall be location-adjusted by the ratio between the Net CONE effective for such Delivery Year for the LDA in which the Sell Offer subject to this section was submitted and the average, weighted by installed capacity, of the Net CONEs for all LDAs in which the units underlying such Asset Class New Plant Offers are located. Following the conduct of the applicable auction and before the final determination of clearing prices, in accordance with Section 6.2(b) above, each Capacity Market Seller whose Sell Offer is so rejected shall be notified in writing by the Office of the Interconnection by no later than one (1) business day after the close of the offer period for the applicable RPM Auction and allowed an opportunity to submit a revised Sell Offer that does not exceed such threshold within one business (1) day

of the Office of the Interconnection's rejection of such Sell Offer. If such revised Sell Offer is accepted by the Office of the Interconnection, the Office of the Interconnection then shall clear the auction with such revised Sell Offer in place.

(b) Mitigation for Demand Resources

The Market Seller Offer Cap shall not be applied to Sell Offers of Demand Resources or Energy Efficiency Resources.

## **6.6 Offer Requirement for Capacity Resources**

(a) To avoid application of subsection (h), all of the installed capacity of all Existing Generation Capacity Resources located in the PJM Region shall be offered by the Capacity Market Seller that owns or controls all or part of such resource (which may include submission as Self-Supply) in all RPM Auctions for each Delivery Year, less any amount determined by the Office of the Interconnection to be eligible for an exception to the must-offer requirement, where installed capacity is determined as of the date on which bidding commences for each RPM Auction pursuant to Section 5.6.6 of Attachment DD of the Tariff. The Unforced Capacity of such resources is determined using the EFORD value that is submitted by the Capacity Market Seller in its Sell Offer, which shall not exceed the maximum EFORD for that resource as defined in Section 6.6(b). If a resource should be included on the list of Existing Generation Capacity Resources subject to the must-offer requirement that is maintained by the Market Monitoring Unit pursuant to Section II.C.1 of Attachment M – Appendix of the Tariff, but is omitted therefrom whether by mistake of the Market Monitoring Unit or failure of the Capacity Market Seller that owns or controls all or part of such resource to provide information about the resource to the Market Monitoring Unit, this shall not excuse such resource from the must-offer requirement.

(b) For each Existing Generation Capacity Resource, a potential Capacity Market Seller must timely provide to the Market Monitoring Unit and the Office of the Interconnection all data and documentation required under section 6.6 to establish the maximum EFORD applicable to each resource in accordance with standards and procedures specified in the PJM Manuals. The maximum EFORD that may be used in a Sell Offer for RPM Auctions held prior to the date on which the final EFORDs used for a Delivery Year are posted, is the greater of (i) the average EFORD for the five consecutive years ending on the September 30 that last precedes the Base Residual Auction, or (ii) the EFORD for the 12 months ending on the September 30 that last precedes the Base Residual Auction.

Notwithstanding the foregoing, a Capacity Market Seller may request an alternate maximum EFORD for Sell Offers submitted in such auctions if it has a documented, known reason that would result in an increase in its EFORD, by submitting a written request to the Market Monitoring Unit and Office of the Interconnection, along with data and documentation required to support the request for an alternate maximum EFORD, by no later one hundred twenty (120) days prior to the commencement of the offer period for the Base Residual Auction for the applicable Delivery Year. The Capacity Market Seller must address any concerns identified by the Market Monitoring Unit and/or the Office of the Interconnection regarding the data and



documentation provided and attempt to reach agreement with the Market Monitoring Unit on the level of the alternate maximum EFORD by no later than ninety (90) days prior to the commencement of the offer period for the Base Residual Auction for the applicable Delivery Year. As further described in Section II.C of Attachment M-Appendix, the Market Monitoring Unit shall notify the Capacity Market Seller and the Office of the Interconnection in writing of its determination of the requested alternate maximum EFORD by no later than ninety (90) days prior to the commencement of the offer period for the Base Residual Auction for the applicable Delivery Year. By no later than eighty (80) days prior to the commencement of the offer period for the Base Residual Auction for the applicable Delivery Year, the Capacity Market Seller shall notify the Office of the Interconnection and the Market Monitoring Unit in writing whether it agrees with the Market Monitoring Unit on the alternate maximum EFORD or, if no agreement has been reached, specifying the level of alternate maximum EFORD to which it commits. If a Capacity Market Seller fails to request an alternate maximum EFORD prior to the specified deadlines, the maximum EFORD for the applicable RPM Auction shall be deemed to be the default EFORD calculated pursuant to this section.

The maximum EFORD that may be used in a Sell Offer for Third Incremental Auctions, and for Conditional Incremental Auctions held after the date on which the final EFORD used for a Delivery Year is posted, is the EFORD for the 12 months ending on the September 30 that last precedes the submission of such offers.

(c) [Reserved for Future Use]

(d) In the event that a Capacity Market Seller and the Market Monitoring Unit cannot agree on the maximum level of the alternate EFORD that may be used in a Sell Offer for RPM Auctions held prior to the date on which the final EFORDs used for a Delivery Year are posted, the Office of the Interconnection shall make its own determination of the maximum level of the alternate EFORD based on the requirements of the Tariff and the PJM Manuals, per Section 5.8 of Attachment DD, by no later than sixty-five (65) days prior to the commencement of the offer period for the Base Residual for the applicable Delivery Year, and shall notify the Capacity Market Seller and the Market Monitoring Unit in writing of such determination.

(e) Nothing in this section precludes the Capacity Market Seller from filing a petition with FERC seeking a determination of whether the EFORD complies with the requirements of the Tariff.

(f) Notwithstanding the foregoing, a Capacity Market Seller may submit an EFORD that it chooses for an RPM Auction held prior to the date on which the final EFORD used for a Delivery Year is posted, provided that (i) it has participated in good faith with the process described in this section 6.6 and in section II.C of Attachment M - Appendix, (ii) the offer is no higher than the level defined in any agreement reached by the Capacity Market Seller and the Market Monitoring Unit that resulted from the foregoing process, and (iii) the offer is accepted by the Office of the Interconnection subject to the criteria set forth in the Tariff and the PJM Manuals.

(g) A Capacity Market Seller that owns or controls an existing generation resource in the PJM Region that is capable of qualifying as an Existing Generation Capacity Resource as of

the date on which bidding commences for an RPM Auction may not avoid the rule in subsection (a) or be removed from Capacity Resource status by failing to qualify as a Generation Capacity Resource, or by attempting to remove a unit previously qualified as a Generation Capacity Resource from classification as a Capacity Resource for that RPM Auction. However, generation resource may qualify for an exception to the must-offer requirement, as shown by appropriate documentation, if the Capacity Market Seller that owns or controls such resource demonstrates that it: (i) is reasonably expected to be physically unable to participate in the relevant Delivery Year; (ii) has a financially and physically firm commitment to an external sale of its capacity, or (iii) was interconnected to the Transmission System as an Energy Resource and not subsequently converted to a Capacity Resource.

In order to establish that a resource is reasonably expected to be physically unable to participate in the relevant auction as set forth in (i) above, the Capacity Market Seller must demonstrate that:

- A. It has a documented plan in place to retire the resource prior to or during the Delivery Year, and has submitted a notice of Deactivation to the Office of the Interconnection consistent with Section 113.1 of the PJM Tariff, without regard to whether the Office of the Interconnection has requested the Capacity Market Seller to continue to operate the resource beyond its desired deactivation date in accordance with Section 113.2 of the PJM Tariff for the purpose of maintaining the reliability of the PJM Transmission System and the Capacity Market Seller has agreed to do so;
- B. Significant physical operational restrictions cause long term or permanent changes to the installed capacity value of the resource, or the resource is under major repair that will extend into the applicable Delivery Year, that will result in the imposition of RPM performance penalties pursuant to Attachment DD of the PJM Tariff;
- C. The Capacity Market Seller is involved in an ongoing regulatory proceeding (e.g. – regarding potential environmental restrictions) specific to the resource and has received an order, decision, final rule, opinion or other final directive from the regulatory authority that will result in the retirement of the resource; or
- D. A resource considered an Existing Generating Capacity Resource because it cleared an RPM Auction for a Delivery Year prior to the Delivery Year of the relevant auction, but which is not yet in service, is unable to achieve full commercial operation prior to the Delivery Year of the relevant auction. The Capacity Market Seller must submit to the Office of the Interconnection and the Market Monitoring Unit a written sworn, notarized statement of a corporate officer certifying that the resource will not be in full commercial operation prior to the referenced Delivery Year.

In order to establish that a resource has a financially and physically firm commitment to an external sale of its capacity as set forth in (ii) above, the Capacity Market Seller must demonstrate that it has entered into a unit-specific bilateral transaction for service to load located outside the PJM Region, by a demonstration that such resource is identified on a unit-specific basis as a network resource under the transmission tariff for the control area applicable to such external load, or by an equivalent demonstration of a financially and physically firm commitment

to an external sale. The Capacity Market Seller additionally shall identify the megawatt amount, export zone, and time period (in days) of the export.

A Capacity Market Seller that seeks to remove a Generation Capacity Resource from PJM Capacity Resource status and/or seeks approval for an exception to the must-offer requirement shall first submit such request in writing, along with all supporting data and documentation, to the Market Monitoring Unit for evaluation, notifying the Office of the Interconnection by copy of the same, by no later than one hundred twenty (120) days prior to the commencement of the offer period for the applicable RPM Auction. A Capacity Market Seller may only remove the Generation Capacity Resource from PJM Capacity Resource status if (i) the Market Monitoring Unit has determined that the Generation Capacity Resource meets the applicable criteria set forth in Sections 5.6.6 and 6.6 of Attachment DD and the Office of the Interconnection agrees with this determination, or (ii) the Commission has issued an order terminating the Capacity Resource status of the resource. Nothing herein shall require a Market Seller to offer its resource into an RPM Auction prior to seeking to remove a resource from Capacity Resource status, subject to satisfaction of Section 6.6.

If the Capacity Market Seller disagrees with the Market Monitoring Unit's determination of its request to remove a resource from Capacity Resource status, it must notify the Market Monitoring Unit in writing, with a copy to the Office of the Interconnection, of the same by no later than eighty (80) days prior to the commencement of the offer period for the applicable RPM Auction. After the Market Monitoring Unit has made its determination of whether a resource has satisfied the must-offer requirement or meets one of the exceptions thereto and has notified the Capacity Market Seller and the Office of the Interconnection of the same pursuant to Section II.C.4 of Attachment M – Appendix, the Office of the Interconnection shall approve or deny the exception request. The exception request shall be deemed to be approved by the Office of the Interconnection, consistent with the determination of the Market Monitoring Unit, unless the Office of the Interconnection notifies the Capacity Market Seller and Market Monitoring Unit, by no later than sixty-five (65) days prior to the date on which the offer period for the applicable RPM Auction commences, that the exception request is denied.

If the Market Monitoring Unit does not timely notify the Capacity Market Seller and the Office of the Interconnection of its determination of the request to remove a Generation Capacity Resource from Capacity Resource status or for an exception to the must-offer requirement, the Office of the Interconnection shall make the determination whether the request shall be approved or denied, and will notify the Capacity Market Seller of its determination in writing, with a copy to the Market Monitoring Unit, by no later than sixty-five (65) days prior to the date on which the offer period for the applicable RPM Auction commences.

After the Market Monitoring Unit and the Office of the Interconnection have made their determinations of whether a resource meets the criteria to qualify for an exception to the must-offer requirement, the Capacity Market Seller must notify the Market Monitoring Unit and the Office of the Interconnection whether it intends to exclude from its Sell Offer some or all of the subject capacity on the basis of an identified exception by no later than sixty-five (65) days prior to the date on which the offer period for the applicable RPM Auction commences. PJM does not make determinations of whether withholding of capacity constitutes market power. A Generation Capacity Resource that does not qualify for submission into an RPM Auction because it is not owned or controlled by the Capacity Market Seller for a full Delivery Year is

not subject to the offer requirement hereunder; provided, however, that a Capacity Market Seller planning to transfer ownership or control of a Generation Capacity Resource during a Delivery Year pursuant to a sale or transfer agreement entered into after March 26, 2009 shall be required to satisfy the offer requirement hereunder for the entirety of such Delivery Year and may satisfy such requirement by providing for the assumption of this requirement by the transferee of ownership or control under such agreement.

If a Capacity Market Seller doesn't timely seek to remove a Generation Capacity Resource from Capacity Resource status or timely submit a request for an exception to the must-offer requirement, the Generation Capacity Resource shall only be removed from Capacity Resource status, and may only be approved for an exception to the must-offer requirement, upon the Capacity Market Seller requesting and receiving an order from FERC, prior to the close of the offer period for the applicable RPM Auction, directing the Office of the Interconnection to remove the resource from Capacity Resource status and/or granting an exception to the must-offer requirement or a waiver of the must-offer requirement as to such resource.

(h) Any existing generation resource located in the PJM Region that satisfies the criteria in the definition of Existing Generation Capacity Resource as of the date on which bidding commences for the Base Residual Auction for a Delivery Year, that is not offered into such Base Residual Auction, and that does not meet any of the exceptions stated in the prior subsection (g): (i) may not participate in any subsequent Incremental Auctions conducted for such Delivery Year; (ii) shall not receive any payments under section 5.14 for such Delivery Year for the capacity of such Generation Capacity Resources; and (iii) shall not be permitted to satisfy any LSE's Unforced Capacity Obligation, or any entity's obligation to obtain the commitment of Capacity Resources, for such Delivery Year.

All generation resources located in the PJM Region that satisfy the criteria in the definition of Existing Generation Capacity Resource as of the date on which bidding commences for an Incremental Auction for a particular Delivery Year, but that did not satisfy such criteria as of the date that on which bidding commenced in the Base Residual Auction for that Delivery Year, that is not offered into that Incremental Auction, and that does not meet any of the exceptions stated in the prior subsection (g): (i) may not participate in any subsequent Incremental Auctions conducted for such Delivery Year; (ii) shall not receive any payments under section 5.14 for such Delivery Year for the capacity of such Generation Capacity Resources; and (iii) shall not be permitted to satisfy any LSE's Unforced Capacity Obligation, or any entity's obligation to obtain the commitment of Capacity Resources, for such Delivery Year.

All Existing Generation Capacity Resources that are offered into a Base Residual Auction or Incremental Auction for a particular Delivery Year but do not clear in such auction, that are not offered into each subsequent Incremental Auction, and that do not meet any of the exceptions stated in the prior subsection (g): (i) may not participate in any Incremental Auctions conducted for such Delivery Year subsequent to such failure to offer; (ii) shall not receive any payments under section 5.14 for such Delivery Year for the capacity of such Generation Capacity Resources; and (iii) shall not be permitted to satisfy any LSE's Unforced Capacity Obligation, or any entity's obligation to obtain the commitment of Capacity Resources, for such Delivery Year.

Any such Existing Generation Capacity Resources may also be subject to further action by the Market Monitoring Unit under the terms of Attachment M and Attachment M – Appendix.

(i) In addition to the remedies set forth in subsections (g) and (h) above, if the Market Monitoring Unit determines that one or more Capacity Market Sellers' failure to offer part or all of one or more existing generation resources, for which the Office of the Interconnection has not approved an exception to the must-offer requirement, into an RPM Auction as required by this Section 6.6 would result in an increase of greater than five percent in any Zonal Capacity Price determined through such auction, and the Office of the Interconnection agrees with that determination, the Office of the Interconnection shall apply to FERC for an order, on an expedited basis, directing such Capacity Market Seller to participate in the relevant RPM Auction, or for other appropriate relief, and PJM will postpone clearing the auction pending FERC's decision on the matter. If the Office of the Interconnection disagrees with the Market Monitoring Unit's determination and does not apply to FERC for an order directing the Capacity Market Seller to participate in the auction or for other appropriate relief, the Market Monitoring Unit may exercise its powers to inform Commission staff of its concerns and to seek appropriate relief.

## **6.7 Data Submission**

(a) Potential participants in any PJM Reliability Pricing Model Auction shall submit, together with supporting documentation for each item, to the Market Monitoring Unit and the Office of the Interconnection no later than one hundred twenty (120) days prior to the posted date for the conduct of such auction, a list of owned or controlled generation resources by PJM transmission zone for the specified Delivery Year, including the amount of gross capacity, the EFORD and the net (unforced) capacity.

(b) Except as provided in subsection (c) below, potential participants in any PJM Reliability Pricing Model Auction in any LDA or Unconstrained LDA Group that request a unit specific Avoidable Cost Rate shall, in addition, submit the following data, together with supporting documentation for each item, to the Market Monitoring Unit no later than one hundred twenty (120) days prior to the commencement of the offer period for such auction:

i. If the Capacity Market Seller intends to submit a non-zero price in its Sell Offer in any such auction, the Capacity Market Seller shall submit a calculation of the Avoidable Cost Rate and Projected PJM Market Revenues, as defined in subsection (d) below, together with detailed supporting documentation.

ii. If the Capacity Market Seller intends to submit a Sell Offer based on opportunity cost, the Capacity Market Seller shall also submit a calculation of Opportunity Cost, as defined in subsection (d), with detailed supporting documentation.

(c) Potential auction participants identified in subsection (b) above need not submit the data specified in that subsection for any Generation Capacity Resource:

i. that is in an Unconstrained LDA Group or, if this is the relevant market, the entire PJM Region, and is in a resource class identified in the table below as not likely to include the marginal price-setting resources in such auction; or

ii. for which the potential participant commits that any Sell Offer it submits as to such resource shall not include any price above: (1) the applicable default level identified below for the relevant resource class, less (2) the Projected PJM Market Revenues for such resource, as determined in accordance with this Tariff.

Nothing herein precludes the Market Monitoring Unit from requesting additional information from any potential auction participant as deemed necessary by the Market Monitoring Unit, including, without limitation, additional cost data on resources in a class that is not otherwise expected to include the marginal price setting resource as outlined in section II.G of Attachment M-Appendix. Any Sell Offer submitted in any auction that is inconsistent with any agreement or commitment made pursuant to this subsection shall be rejected, and the Capacity Market Seller shall be required to resubmit a Sell Offer that complies with such agreement or commitment within one (1) business day of the Office of the Interconnection's rejection of such Sell Offer. If the Capacity Market Seller does not timely resubmit its Sell Offer, fails to request a unit-specific Avoidable Cost Rate by the specified deadline, or if the Office of the Interconnection determines that the information provided by the Capacity Market Seller in support of the requested unit-specific Avoidable Cost Rate or Sell Offer is incomplete, the Capacity Market Seller shall be deemed to have submitted a Sell Offer that complies with the commitments made under this subsection, with a default offer for the applicable class of resource or nearest comparable class of resource determined under this subsection (c)(ii). The obligation imposed under section 6.6(a) shall not be satisfied unless and until the Capacity Market Seller submits (or is deemed to have submitted) a Sell Offer that conforms to its commitments made pursuant to this subsection or subject to the procedures set forth in section 6.4 and section II.H of Attachment M - Appendix.

The default Avoidable Cost Rates referenced in this subsection (c)(ii) are as set forth in the tables below for any auction conducted after September 1, 2009 for any Delivery Year through the 2012-2013 Delivery Year. To determine the default ACR values for the 2013-2014 and subsequent Delivery Years, the Office of the Interconnection shall multiply the ACR values for the immediately preceding Delivery Year by a factor equal to the most recent ten-calendar-year annual average rate of change in the applicable Handy-Whitman Index of Public Utility Construction Costs or a comparable index approved by the Commission, as calculated by the Office of the Interconnection and posted to its Web site; provided, however, that after the Handy-Whitman indexing methodology has been employed to determine the default ACR values for the RPM Auctions for three consecutive Delivery Years, the Office of the Interconnection shall: i) review the default ACR values to determine whether any changes other than those produced by such methodology are warranted for subsequent Delivery Years (including seeking the analysis and advice of the Market Monitoring Unit on such matter) and report its conclusions to the Members in writing no later than four months after the Base Residual Auction for the third such Delivery Year; and ii) file with FERC resulting changes, if any, to this section no later than seven months after such Base Residual Auction, to be effective for the Base Residual Auction for the following Delivery Year; provided further, that nothing herein precludes the Office of the Interconnection from filing with FERC changes to the default ACR values or any other provision of this section prior to the deadline stated in the previous clause, or at any other time. Capacity

Market Sellers shall use the one-year mothball Avoidable Cost Rate shown below, unless such Capacity Market Seller satisfies the criteria set forth in section 6.7(e), in which case the Capacity Market Seller may use the retirement Avoidable Cost Rate. PJM shall also publish on its Web site the number of Generation Capacity Resources and megawatts per LDA that use the retirement Avoidable Cost Rates.

<b>Technology</b>	<b>Technology Classes Not Likely to be the Marginal Price Setting Resource</b>					
	<b>2010-2011 Mothball Avoidable Cost Rate (\$/MW- Day)</b>	<b>2010-2011 Retirement Avoidable Cost Rate (\$/MW- Day)</b>	<b>2011-2012 Mothball Avoidable Cost Rate (\$/MW- Day)</b>	<b>2011-2012 Retirement Avoidable Cost Rate (\$/MW-Day)</b>	<b>2012-2013 Mothball Avoidable Cost Rate (\$/MW- Day)</b>	<b>2012 -2013 Retirement Avoidable Cost Rate (\$/MW- Day)</b>
Nuclear	N/a	N/a	N/a	N/a	N/a	N/a
Pumped Storage	\$20.77	\$29.17	\$21.72	\$30.50	\$22.71	\$31.89
Hydro	\$71.01	\$92.87	\$74.24	\$97.10	\$77.62	\$101.52
Sub-Critical Coal	\$170.48	\$188.98	\$178.24	\$197.58	\$186.35	\$206.57
Super Critical Coal	\$176.13	\$192.65	\$184.15	\$201.42	\$192.53	\$210.59
Waste Coal - Small	\$224.83	\$272.31	\$235.06	\$284.70	\$245.75	\$297.65
Waste Coal – Large	\$83.15	\$100.45	\$86.94	\$105.02	\$90.89	\$109.80
Wind	N/a	N/a	N/a	N/a	N/a	N/a

<b>Maximum Avoidable Cost Rates by Technology Class</b>						
<b>Technology</b>	<b>2010-2011 Mothball Avoidable Cost Rate (\$/MW- Day)</b>	<b>2010-2011 Retirement Avoidable Cost Rate (\$/MW- Day)</b>	<b>2011-2012 Mothball Avoidable Cost Rate (\$/MW- Day)</b>	<b>2011-2012 Retirement Avoidable Cost Rate (\$/MW-Day)</b>	<b>2012-2013 Mothball Avoidable Cost Rate (\$/MW- Day)</b>	<b>2012-2013 Retirement Avoidable Cost Rate (\$/MW- Day)</b>
CC- 2 on 1 Frame F	\$30.92	\$43.86	\$32.33	\$45.85	\$33.80	\$47.94
CC- 3 on 1 Frame E/Siemens	\$34.33	\$46.48	\$35.89	\$48.60	\$37.52	\$50.81
CC – 3 or More on 1 or More Frame F	\$26.76	\$37.16	\$27.98	\$38.85	\$29.26	\$40.62
CC-NUG Cogen. Frame B or E Technology	\$114.93	\$154.43	\$120.16	\$161.45	\$125.62	\$168.80
CT - 1st & 2nd Gen. Aero (P&W FT 4)	\$24.57	\$32.68	\$25.69	\$34.17	\$26.86	\$35.73
CT - 1st & Gen. Frame B	\$24.28	\$32.41	\$25.38	\$33.87	\$26.54	\$35.42
CT - 2nd Gen. Frame E	\$23.08	\$30.89	\$24.13	\$32.29	\$25.23	\$33.76
CT - 3rd Gen. Aero (GE LM 6000)	\$55.87	\$82.36	\$58.42	\$86.10	\$61.07	\$90.02
CT - 3rd Gen. Aero (P&W FT - 8 TwinPak)	\$29.30	\$43.20	\$30.64	\$45.17	\$32.03	\$47.23
CT - 3rd Gen. Frame F	\$23.69	\$34.12	\$24.77	\$35.68	\$25.90	\$37.30
Diesel	\$26.29	\$33.39	\$27.49	\$34.91	\$28.74	\$36.49
Oil and Gas Steam	\$65.21	\$79.39	\$68.18	\$83.01	\$71.28	\$86.78

After the Market Monitoring Unit conducts its annual review of the table of default Avoidable Cost Rates included in section 6.7(c) above in accordance with the procedure specified in section II.H of Attachment M – Appendix, it will provide updated values or notice of its determination that updated values are not needed to Office of the Interconnection. In the event that the Office of the Interconnection determines that the values should be updated, the Office of the Interconnection shall file its proposed values with the Commission by no later than October 30th prior to the commencement of the offer period for the first RPM Auction for which it proposes to apply the updated values.

(d) In order for costs to qualify for inclusion in the Market Seller Offer Cap, the Capacity Market Seller must provide to the Market Monitoring Unit and the Office of the Interconnection relevant unit-specific cost data concerning each data item specified as set forth in section 6 by no later than one hundred twenty (120) days prior to the commencement of the offer period for the applicable RPM Auction. If cost data is not available at the time of submission for the time periods specified in section 6.8, costs may be estimated for such period based on the most recent data available, with an explanation of and basis for the estimate used, as



may be further specified in the PJM Manuals. Based on the data and calculations submitted by the Capacity Market Sellers for each existing generation resource and the formulas specified below, the Market Monitoring Unit shall calculate the Market Seller Offer Cap for each such resource, and notify the Capacity Market Seller and the Office of the Interconnection in writing of its determination pursuant to section II.E of Attachment M-Appendix.

i. **Avoidable Cost Rate:** The Avoidable Cost Rate for an existing generation resource shall be determined using the formula below and applied to the unit's Base Offer Segment.

ii. **Opportunity Cost:** Opportunity Cost shall be the documented price available to an existing generation resource in a market external to PJM. In the event that the total MW of existing generation resources submitting opportunity cost offers in any auction for a Delivery Year exceeds the firm export capability of the PJM system for such Delivery Year, or the capability of external markets to import capacity in such year, the Office of the Interconnection will accept such offers on a competitive basis. PJM will construct a supply curve of opportunity cost offers, ordered by opportunity cost, and accept such offers to export starting with the highest opportunity cost, until the maximum level of such exports is reached. The maximum level of such exports is the lesser of the Office of the Interconnection's ability to permit firm exports or the ability of the importing area(s) to accept firm imports or imports of capacity, taking account of relevant export limitations by location. If, as a result, an opportunity cost offer is not accepted from an existing generation resource, the Market Seller Offer Cap applicable to Sell Offers relying on such generation resource shall be the Avoidable Cost Rate less the Projected Market Revenues for such resource (as defined in Section 6.4). The default Avoidable Cost Rate shall be the one year mothball Avoidable Cost Rate set forth in the tables in section 6.7(c) above unless Capacity Market Seller satisfies the criteria delineated in section 6.7(e) below.

iii. **Projected PJM Market Revenues:** Projected PJM Market Revenues are defined by section 6.8(d), for any Generation Capacity Resource to which the Avoidable Cost Rate is applied.

(e) In order for the retirement Avoidable Cost Rate set forth in the table in section 6.7(c) to apply, by no later than one hundred twenty (120) days prior to the commencement of the offer period for the applicable RPM Auction, a Capacity Market Seller must submit to the Office of the Interconnection and the Market Monitoring Unit a written sworn, notarized statement of a corporate officer representing that the Capacity Market Seller will retire the Generation Capacity Resource if it does not receive during the relevant Delivery Year at least the applicable retirement Avoidable Cost Rate because it would be uneconomic to continue to operate the Generation Capacity Resource in the Delivery Year without the retirement Avoidable Cost Rate, and specifying the date the Generation Capacity Resource would otherwise be retired.

## **6.8 Avoidable Cost Definition**

(a) **Avoidable Cost Rate:**

The Avoidable Cost Rate for a Generation Capacity Resource that is the subject of a Sell Offer shall be determined using the following formula, expressed in dollars per MW-year:

$$\text{Avoidable Cost Rate} = [\text{Adjustment Factor} * (\text{AOML} + \text{AAE} + \text{AME} + \text{AVE} + \text{ATFI} + \text{ACC} + \text{ACLE}) + \text{ARPIR} + \text{APIR}]$$

Where:

- **Adjustment Factor** equals 1.10 (to provide a margin of error for understatement of costs) plus an additional adjustment referencing the 10-year average Handy-Whitman Index in order to account for expected inflation from the time interval between the submission of the Sell Offer and the commencement of the Delivery Year.
- **AOML (Avoidable Operations and Maintenance Labor)** consists of the avoidable labor expenses related directly to operations and maintenance of the generating unit for the twelve months preceding the month in which the data must be provided. The categories of expenses included in AOML are those incurred for: (a) on-site based labor engaged in operations and maintenance activities; (b) off-site based labor engaged in on-site operations and maintenance activities directly related to the generating unit; and (c) off-site based labor engaged in off-site operations and maintenance activities directly related to generating unit equipment removed from the generating unit site.
- **AAE (Avoidable Administrative Expenses)** consists of the avoidable administrative expenses related directly to employees at the generating unit for twelve months preceding the month in which the data must be provided. The categories of expenses included in AAE are those incurred for: (a) employee expenses (except employee expenses included in AOML); (b) environmental fees; (c) safety and operator training; (d) office supplies; (e) communications; and (f) annual plant test, inspection and analysis.
- **AME (Avoidable Maintenance Expenses)** consists of avoidable maintenance expenses (other than expenses included in AOML) related directly to the generating unit for the twelve months preceding the month in which the data must be provided. The categories of expenses included in AME are those incurred for: (a) chemical and materials consumed during maintenance of the generating unit; and (b) rented maintenance equipment used to maintain the generating unit.
- **AVE (Avoidable Variable Expenses)** consists of avoidable variable expenses related directly to the generating unit incurred in the twelve months preceding the month in which the data must be provided. The categories of expenses included in AVE are those incurred for: (a) water

treatment chemicals and lubricants; (b) water, gas, and electric service (not for power generation); and (c) waste water treatment.

- **ATFI (Avoidable Taxes, Fees and Insurance)** consists of avoidable expenses related directly to the generating unit incurred in the twelve months preceding the month in which the data must be provided. The categories of expenses included in AFTI are those incurred for: (a) insurance, (b) permits and licensing fees, (c) site security and utilities for maintaining security at the site; and (d) property taxes.
- **ACC (Avoidable Carrying Charges)** consists of avoidable short-term carrying charges related directly to the generating unit in the twelve months preceding the month in which the data must be provided. Avoidable short-term carrying charges shall include short term carrying charges for maintaining reasonable levels of inventories of fuel and spare parts that result from short-term operational unit decisions as measured by industry best practice standards. For the purpose of determining ACC, short term is the time period in which a reasonable replacement of inventory for normal, expected operations can occur.
- **ACLE (Avoidable Corporate Level Expenses)** consists of avoidable corporate level expenses directly related to the generating unit incurred in the twelve months preceding the month in which the data must be provided. Avoidable corporate level expenses shall include only such expenses that are directly linked to providing tangible services required for the operation of the generating unit proposed for Deactivation. The categories of avoidable expenses included in ACLE are those incurred for: (a) legal services, (b) environmental reporting; and (c) procurement expenses.
- **APIR (Avoidable Project Investment Recovery Rate) =  $PI * CRF$**

Where:

- **PI** is the amount of project investment completed prior to June 1 of the Delivery Year, except for Mandatory Capital Expenditures (“CapEx”) for which the project investment must be completed during the Delivery Year, that is reasonably required to enable a Generation Capacity Resource that is the subject of a Sell Offer to continue operating or improve availability during Peak-Hour Periods during the Delivery Year.
- **CRF** is the annual capital recovery factor from the following table, applied in accordance with the terms specified below.

Age of Existing Units (Years)	Remaining Life of Plant (Years)	Levelized CRF
1 to 5	30	0.107
6 to 10	25	0.114
11 to 15	20	0.125
16 to 20	15	0.146
21 to 25	10	0.198
25 Plus	5	0.363
Mandatory CapEx	4	0.450
40 Plus Alternative	1	1.100

Unless otherwise stated, Age of Existing Unit shall be equal to the number of years since the Unit commenced commercial operation, up to and through the relevant Delivery Year.

Remaining Life of Plant defines the amortization schedule (i.e., the maximum number of years over which the Project Investment may be included in the Avoidable Cost Rate.)

### **Capital Expenditures and Project Investment**

For any given Project Investment, a Capacity Market Seller may make a one-time election to recover such investment using: (i) the highest CRF and associated recovery schedule to which it is entitled; or (ii) the next highest CRF and associated recovery schedule. For these purposes, the CRF and recovery schedule for the 25 Plus category is the next highest CRF and recovery schedule for both the Mandatory CapEx and the 40 Plus Alternative categories. The Capacity Market Seller using the above table must provide the Market Monitoring Unit with information, identifying and supporting such election, including but not limited to the age of the unit, the amount of the Project Investment, the purpose of the investment, evidence of corporate commitment (e.g., an SEC filing, a press release, or a letter from a duly authorized corporate officer indicating intent to make such investment), and detailed information concerning the governmental requirement (if applicable). Absent other written notification, such election shall be deemed based on the CRF such Seller employs for the first Sell Offer reflecting recovery of any portion of such Project Investment.

For any resource using the CRF and associated recovery schedule from the CRF table that set the Capacity Resource Clearing Price in any Delivery Year, such Capacity Market Seller must also provide to the Market Monitoring Unit, for informational purposes only, evidence of the actual expenditure of the Project Investment, when such information becomes available.

If the project associated with a Project Investment that was included in a Sell Offer using a CRF and associated recovery schedule from the above table has not entered into commercial operation prior to the end of the relevant Delivery Year, and the resource's Sell Offer sets the clearing price for the relevant LDA, the Capacity Market Seller shall be required to elect to either (i) pay a charge that is equal to the difference between the Capacity Resource Clearing Price for such LDA for the relevant Delivery Year and what the clearing price would have been absent the APIR component of the Avoidable Cost Rate, this difference to be multiplied by the cleared MW volume from such Resource ("rebate payment"); (ii) hold such rebate payment in escrow, to be

released to the Capacity Market Seller in the event that the project enters into commercial operation during the subsequent Delivery Year or rebated to LSEs in the relevant LDA if the project has not entered into commercial operation during the subsequent Delivery Year; or (iii) make a reasonable investment in the amount of the PI in other Existing Generation Capacity Resources owned or controlled by the Capacity Market Seller or its Affiliates in the relevant LDA. The revenue from such rebate payments shall be allocated pro rata to LSEs in the relevant LDA(s) that were charged a Locational Reliability Charge for such Delivery Year, based on their Daily Unforced Capacity Obligation in the relevant LDA(s). If the Sell Offer from the Generation Capacity Resource did not set the Capacity Resource Clearing Price in the relevant LDA, no alternative investment or rebate payment is required. If the difference between the Capacity Resource Clearing Price for such LDA for the relevant Delivery Year and what the clearing price would have been absent the APIR amount does not exceed the greater of \$10 per MW-day or a 10% increase in the clearing price, no alternative investment or rebate payment is required.

### **Mandatory CapEx Option**

The Mandatory CapEx CRF and recovery schedule is an option available, beginning in the third BRA (Delivery Year 2009-10), to a resource that must make a Project Investment to comply with a governmental requirement that would otherwise materially impact operating levels during the Delivery Year, where: (i) such resource is a coal, oil or gas-fired resource that began commercial operation no fewer than fifteen years prior to the start of the first Delivery Year for which such recovery is sought, and such Project Investment is equal to or exceeds \$200/kW of capitalized project cost; or (ii) such resource is a coal-fired resource located in an LDA for which a separate VRR Curve has been established for the relevant Delivery Years, and began commercial operation at least 50 years prior to the conduct of the relevant BRA.

A Capacity Market Seller that wishes to elect the Mandatory CapEx option for a Project Investment must do so beginning with the Base Residual Auction for the Delivery Year in which such project is expected to enter commercial operation. A Sell Offer submitted in any Base Residual Auction for which the Mandatory CapEx option is selected may not exceed an offer price equivalent to 0.90 times the then-current Net CONE (on an unforced-equivalent basis).

### **40 Plus Alternative Option**

The 40 Plus Alternative CRF and recovery schedule is an option available, beginning in the third BRA (Delivery Year 2009-10), for a resource that is a gas- or oil-fired resource that began commercial operation no less than 40 years prior to the conduct of the relevant BRA (excluding, however, any resource in any Delivery Year for which the resource is receiving a payment under Part V of the PJM Tariff. Generation Capacity Resources electing this 40 Plus Alternative CRF shall be treated as At Risk Generation for purposes of the sensitivity runs in the RTEP process). Resources electing the 40 Plus Alternative option will be modeled in the RTEP process as “at-risk” at the end of the one-year amortization period.

A Capacity Market Seller that wishes to elect the 40 Plus Alternative option for a Project Investment must provide written notice of such election to the Office of the Interconnection no

later than six months prior to the Base Residual Auction for which such election is sought; provided however that shorter notice may be provided if unforeseen circumstances give rise to the need to make such election and such seller gives notice as soon as practicable.

The Office of the Interconnection shall give market participants reasonable notice of such election, subject to satisfaction of requirements under the PJM Operating Agreement for protection of confidential and commercially sensitive information. A Sell Offer submitted in any Base Residual Auction for which the 40 Plus Alternative option is selected may not exceed an offer price equivalent to the then-current Net CONE (on an unforced-equivalent basis).

### **Multi-Year Pricing Option**

A Seller submitting a Sell Offer with an APIR component that is based on a Project Investment of at least \$450/kW may elect this Multi-Year Pricing Option by providing written notice to such effect the first time it submits a Sell Offer that includes an APIR component for such Project Investment. Such option shall be available on the same terms, and under the same conditions, as are available to Planned Generation Capacity Resources under section 5.14(c) of this Attachment.

- ARPIR (Avoidable Refunds of Project Investment Reimbursements) consists of avoidable refund amounts of Project Investment Reimbursements payable by a Generation Owner to PJM under Part V, Section 118 of this Tariff or avoidable refund amounts of project investment reimbursements payable by a Generation Owner to PJM under a Cost of Service Recovery Rate filed under Part V, Section 119 of the Tariff and approved by the Commission.

(b) For the purpose of determining an Avoidable Cost Rate, avoidable expenses are incremental expenses directly required to operate a Generation Capacity Resource that a Generation Owner would not incur if such generating unit did not operate in the Delivery Year or meet Availability criteria during Peak-Hour Periods during the Delivery Year.

(c) For the purpose of determining an Avoidable Cost Rate, avoidable expenses shall exclude variable costs recoverable under cost-based offers to sell energy from operating capacity on the PJM Interchange Energy Market under the Operating Agreement.

(d) Projected PJM Market Revenues for any Generation Capacity Resource to which the Avoidable Cost Rate is applied shall include all actual unit-specific revenues from PJM energy markets, ancillary services, and unit-specific bilateral contracts from such Generation Capacity Resource, net of marginal costs for providing such energy (i.e., costs allowed under cost-based offers pursuant to Section 6.4 of Schedule 1 of the Operating Agreement) and ancillary services from such resource.

(i) For the first three BRAs (for Delivery Years 2007-08, 2008-09, 2009-10), the calculation of Projected PJM Market Revenues shall be equal to the simple average of such net revenues as described above for calendar years 2001-2006; and

(ii) For the fourth BRA (delivery year 2010-11) and thereafter, the calculation of Projected PJM Market Revenues shall be equal to the rolling simple average of such net revenues as described above from the three most recent whole calendar years prior to the year in which the BRA is conducted.

If a Generation Capacity Resource did not receive PJM market revenues during the entire relevant time period because the Generation Capacity Resource was not integrated into PJM during the full period, then the Projected PJM Market Revenues shall be calculated using only those whole calendar years within the full period in which such Resource received PJM market revenues.

If a Generation Capacity Resource did not receive PJM market revenues during the entire relevant time period because it was not in commercial operation during the entire period, or if data is not available to the Capacity Market Seller for the entire period, despite the good faith efforts of such seller to obtain such data, then the Projected PJM Market Revenues shall be calculated based upon net revenues received over the entire period by comparable units, to be developed by the MMU and the Capacity Market Seller.

Section(s) of the  
PJM Operating Agreement  
(Clean Format)



## **6.4 Offer Price Caps.**

### **6.4.1 Applicability.**

- (a) If, at any time, it is determined by the Office of the Interconnection in accordance with Sections 1.10.8 or 6.1 of this Schedule that any generation resource may be dispatched out of economic merit order to maintain system reliability as a result of limits on transmission capability, the offer prices for energy from such resource shall be capped at the levels specified below. If the Office of the Interconnection is able to do so, such offer prices shall be capped only during each hour when the transmission limit affects the schedule of the affected resource, and otherwise shall be capped for the entire Operating Day. The energy offer prices as capped shall be used to determine any Locational Marginal Price affected by the offer price of such resource.
- (b) The energy offer price by any generation resource requested to be dispatched in accordance with Section 6.3 of this Schedule shall be capped at the levels specified below. If the Office of the Interconnection is able to do so, such offer prices shall be capped only during each hour when the affected resource is so scheduled, and otherwise shall be capped for the entire Operating Day. The energy offer prices as capped shall be used to determine any Locational Marginal Price affected by the price of such resource.
- (c) Generation resources subject to an offer price cap shall be paid for energy at the applicable Locational Marginal Price.
- (d) [Reserved for Future Use]
- (e) Except for the overall \$1,000 energy offer cap, offer price caps under section 6.4 of this Schedule shall be suspended for a generation resource with respect to transmission limit(s) for any hour in which (1) there are not three or fewer generation suppliers available for redispatch under subsection (a) that are jointly pivotal with respect to such transmission limit(s), and (2) the generation resource's owner, when combined with the two largest other generation suppliers, is not pivotal ("three pivotal supplier test").
- (f) For the purposes of conducting the three pivotal supplier test in subsection (e), the following applies:
  - (i) All megawatts of available incremental supply for which the power distribution factor ("dfax") has an absolute value equal to or greater than the dfax used by the Office of the Interconnection's system operators when evaluating the impact of generation with respect to the constraint ("effective megawatts") will be included in the available supply analysis at costs equal to the cost-based offers of the available incremental supply adjusted for dfax ("effective costs"). The Office of the Interconnection will post on the PJM website the dfax value used by operators with respect to a constraint when it varies from three percent.

- (ii) The three pivotal supplier test will include in the definition of the relevant market incremental supply up to and including all such supply available at an effective cost equal to 150% of the cost-based clearing price calculated using effective costs and effective megawatts and the need for megawatts to solve the constraint.
- (iii) Offer price caps will apply on a generation supplier basis (i.e. not a generating unit by generating unit basis) and only the generation suppliers that fail the three pivotal supplier test will have their units that are dispatched with respect to the constraint offer capped. A generation supplier for the purposes of this section includes corporate affiliates. Supply controlled by a generation supplier or its affiliates by contract with unaffiliated third parties or otherwise will be included as supply of that generation supplier; supply owned by a generation supplier but controlled by an unaffiliated third party by contract or otherwise will be included as supply of that third party.  
  
A generation supplier's units are offer capped if, when combined with the two largest other generation suppliers, the generation supplier is pivotal.
- (iv) In the Day-ahead Energy Market, the Office of the Interconnection shall include price sensitive demand and virtual bids and offers as demand or supply, as applicable, in the relevant market.

#### **6.4.2 Level.**

- (a) The offer price cap shall be one of the amounts specified below, as specified in advance by the Market Seller for the affected unit:
  - (i) The weighted average Locational Marginal Price at the generation bus at which energy from the capped resource was delivered during a specified number of hours during which the resource was dispatched for energy in economic merit order, the specified number of hours to be determined by the Office of the Interconnection and to be a number of hours sufficient to result in an offer price cap that reflects reasonably contemporaneous competitive market conditions for that unit;
  - (ii) The incremental operating cost of the generation resource as determined in accordance with Schedule 2 of the Operating Agreement and the PJM Manuals ("incremental cost"), plus 10% of such costs;
  - (iii) For units that are frequently offer capped ("Frequently Mitigated Unit" or "FMU"), the following shall apply:
    - (a) For units that are offer capped for 60% or more of their run hours, but less than 70% of their run hours, the offer price cap will be either (i)

incremental cost plus 10% or (ii) incremental cost plus \$20 per megawatt-hour;

(b) For units that are offer capped for 70% or more of their run hours, but less than 80% of their run hours, the offer price cap will be either (i) incremental cost plus 15%, not to exceed incremental cost plus \$40 per megawatt-hour, or (ii) incremental cost plus \$30 per megawatt-hour;

(c) For units that are offer capped for 80% or more of their run hours, the offer price cap will be (i) incremental costs plus 10%; (ii) incremental cost plus \$40 per megawatt-hour; or (iii) the agreed unit-specific going forward costs of the affected unit as reflected in an agreement entered pursuant to subsection (iv), below; or

(iv) An amount determined by agreement between the Office of the Interconnection and the Market Seller, provided that, if the Office of the Interconnection and the Market Seller cannot reach agreement after sixty (60) days from the commencement of negotiations, then the Market Seller may submit the rates, terms, and conditions of its proposed offer cap to the Commission for resolution.

(b) For purposes of section 6.4.2(a)(iii), a generating unit shall qualify for the specified offer cap upon issuance of written notice from the Market Monitoring Unit that it is a “Frequently Mitigated Unit” or “FMU” because it was offer capped for the applicable percentage of its run hours, determined on a rolling 12-month average basis, effective with a one month lag, by no later than the 21st day of each month pursuant to Section II.A of Attachment M-Appendix.

(c) Any generating unit, without regard to ownership, located at the same site as a Frequently Mitigated Unit qualifying under Sections 6.4.2(a)(iii) shall become an “Associated Unit” upon issuance of written notice from the Market Monitoring Unit by no later than the 21st day of each month pursuant to Section II.A of Attachment M-Appendix, that it meets all of the following criteria:

1. The unit has the identical electric impact on the transmission system as the FMU;
2. The unit (i) belongs to the same design class (where a design class includes generation that is the same size and utilizes the same technology, without regard to manufacturer) and uses the identical primary fuel as the FMU or (ii) is regularly dispatched by PJM as a substitute for the FMU based on differences in cost that result from the currently applicable FMU adder;
3. The unit (i) has an average daily cost-based offer, as measured over the preceding 12-month period, that is less than or equal to the FMU’s average daily cost-based offer adjusted to include the currently applicable

FMU adder or (ii) is regularly dispatched by PJM as a substitute for the FMU based on differences in cost that result from the currently applicable FMU adder.

The offer cap for an associated unit shall be equal to the incremental operating cost of such unit, as determined in accordance with Schedule 2 of the Operating Agreement and the PJM Manuals, plus the applicable percentage adder or dollar per megawatt-hour adder as specified in Section 6.4.2(a)(iii)(a), (b), or (c) for the unit with which it is associated.

(d) For purposes of section 6.4.2(a)(iii)(c), the unit-specific going forward costs determined by agreement between the Office of the Interconnection and the Market Seller shall include only the costs included in the Deactivation Avoidable Cost Rate, excluding costs associated with the Avoidable Project Investment Recovery Rate (APIR), set forth in section 115 of the PJM Tariff. Any costs that would be capitalized according to generally accepted accounting principles, associated carrying costs, or other fixed costs shall not be included. The agreement shall further provide that (i) in order for such costs to qualify for inclusion in the amounts determined by the agreement, the Market Seller must agree to provide to PJM relevant cost data concerning fuel, operating and maintenance, and other avoidable costs, (ii) the maintenance practices and incurrence of expense at the unit shall be subject to audit by the Office of the Interconnection, and (iii) the unit owner agrees to operate the unit in accordance with Good Utility Practice.

(e) Any agreement entered pursuant to section 6.4.2(a)(iv) shall be filed with the Commission and shall be effective only upon acceptance of the agreement for filing by the Commission; provided however, that agreements to reflect unit-specific going forward costs in accordance with section 6.4.2(a)(iii) shall be filed with the Commission for informational purposes only and shall be effective the day following the date of the informational filing.

(f) Market Participants shall have exclusive responsibility for preparing and submitting their offers on the basis of accurate information and in compliance with FERC Market Rules, inclusive of the level of any applicable offer cap, and in no event shall PJM be held liable for the consequences of or make any retroactive adjustment to any clearing price on the basis of any offer submitted on the basis of inaccurate or non-compliant information.

## 6.6 Minimum Generator Operating Parameters – Parameter Limited Schedules.

- (a) Generation resources shall submit and be subject to pre-determined limits on non-price offer parameters (“parameter limited schedules”) under the following circumstances:
- (i) The Operating Reserve markets fail the three pivotal supplier test. When this subsection applies, the parameter limited schedule shall be the less limiting of the defined parameter limited schedules or the submitted offer parameters.
  - (ii) The Office of the Interconnection: (i) declares a Maximum Generation Emergency; (ii) issues an alert that a Maximum Generation Emergency may be declared (“Maximum Generation Emergency Alert”); or (iii) schedules units based on the anticipation of a Maximum Generation Emergency or a Maximum Generation Emergency Alert for all, or any part, of an Operating Day.
- (b) Parameter limited schedules shall be defined for the following parameters:
- (i) Turn Down Ratio;
  - (ii) Minimum Down Time;
  - (iii) Minimum Run Time;
  - (iv) Maximum Daily Starts;
  - (v) Maximum Weekly Starts.
- (c) The following table specifies default parameter limited schedule values, by technology type, for generation resources:

**Parameter Limited Schedule Matrix**

<b>Parameter</b>	<b>Minimum Down Time (Hrs)</b>	<b>Minimum Run Time (Hrs)</b>	<b>Maximum Daily Starts</b>	<b>Maximum Weekly Starts</b>	<b>Turn Down Ratio = Economic Maximum MW / Economic Minimum MW</b>
Small Frame CT and Aero CT Units - Up to 29 MW ICAP	2.0 or Less	2.0 or Less	2 or More	14 or More	1.0 or More
Medium Frame CT and Aero CT Units - 30 MW to 65	2.0 or Less	3.0 or Less	2 or More	14 or More	1.0 or More

## MW ICAP

Medium-Large Frame CT Units - 65 MW to 125 MW ICAP	3.0 or Less	5.0 or Less	2 or More	14 or More	1.0 or More
Large Frame CT Units - 135 MW to 180 MW ICAP	4.0 or Less	5.0 or Less	2 or More	14 or More	1.0 or More
Combined Cycle Units	4.0 or Less	6.0 or Less	2 or More	11 or More	1.5 or More
Petroleum and Natural Gas Steam Units - Pre-1985	7.0 or Less	8.0 or Less	1 or More	7 or More	3.0 or More
Petroleum and Natural Gas Steam Units - Post-1985	3.5 or Less	5.5 or Less	2 or More	11 or More	2.0 or More
Sub-Critical Coal Units	9.0 or Less	15.0 or Less	1 or More	5 or More	2.0 or More
Super-Critical Coal Units	84.0	24.0 or Less	1 or More	2 or ore	1.5 or More

(d) Upon receipt of proposed revised parameter limited schedule values from the Market Monitoring Unit, prepared in accordance with the procedures for periodic review included in section II.B.1 of Attachment M - Appendix, the Office of the Interconnection shall file to revise the parameter limited schedule matrix in section 6.6(c) above accordingly. In the event that the Office of the Interconnection disagrees with the values proposed for revising the matrix, the Office of the Interconnection shall file the values that it determines are appropriate.

(e) The Market Monitoring Unit shall calculate and provide generation resources unit-specific default values in accordance with section II.B of Attachment M - Appendix. Generation resources having the ability to operate on multiple fuels may submit a parameter limited schedule associated with each fuel type.

In addition, a generation resource may obtain an exception from the unit-specific values due to physical operational limitations that prevent the resource from meeting the minimum parameters by submitting a request for a period exception or persistent exception to the Office of the Interconnection and to the Market Monitoring Unit by no later than February 28. Each generation resource must supply the required historical unit operating data in support of the exception request, and if the exception requested is based on new physical operational limits for the resource for which some or all historical operating data is unavailable, the generation resource may also submit technical information about the physical operational limits for period exceptions of the resource to support the requested parameters. The Market Monitoring Unit shall evaluate such request in accordance with the process set forth in Section II.B of Attachment

M - Appendix. A generation resource (i) must submit a parameter limited schedule value consistent with its agreement under such process, or (ii) if it has not agreed with the Market Monitoring Unit on an appropriate parameter limited schedule value, may submit its own determination of an appropriate value to the Office of the Interconnection and to the Market Monitoring Unit, by no later than April 8. Each exception request must indicate the expected duration of the requested exception including the termination date thereof. The proposed parameter limited schedule value submitted by the generation resource owner is subject to approval of the Office of the Interconnection pursuant to the requirements of the Tariff and the PJM Manuals. The Office of the Interconnection may engage the services of a consultant with technical expertise to evaluate the exception request. After it has completed its evaluation of the exception request, the Office of the Interconnection shall notify the generation resource owner in writing, with a copy to the Market Monitoring Unit, whether the exception request is approved or denied, by no later than April 15. The effective date of the exception, if approved by the Office of the Interconnection, shall be no earlier than May 1. The Office of the Interconnection's determination for an exception shall continue for the period requested and, if requested, for such longer period as the Office of the Interconnection may determine is supported by the data. A generation resource owner shall notify the Market Monitoring Unit and the Office of the Interconnection of a material change to the facts relied upon by the Market Monitoring Unit and/or the Office of the Interconnection to support a parameter limited schedule exception pursuant to Section 6.7 of Schedule 1 of the Operating Agreement (or the Commission in support of its approval). The Market Monitoring Unit shall make a determination, and simultaneously notify the Office of the Interconnection and the generation resource owner, of its determination whether the existing exception should continue, the exception should be revised or that no exception is supported by the data. The Office of the Interconnection shall notify the generation resource owner in writing, with a copy to the Market Monitoring Unit, of its determination whether the exception can continue, must be revised or is no longer supported by the data given the material change in the facts relied upon to support the exception. If the Office of the Interconnection determines that the exception is no longer supported by the data, the values specified in the parameter limited schedule matrix shall apply. If the generation resource owner does not submit a complete temporary exception request to the Office of the Interconnection and the Market Monitoring Unit and the resource does not clear in the Day-ahead Energy Market, the resource schedule shall be returned to its previous parameter limits.

The Office of the Interconnection and Market Monitoring Unit will review the operations of the generation resource after each of the first three full years of operation to verify the requested parameters. PJM will not accept the exception thereafter if it is not supported by the operating data.

(f) On a daily basis each generation resource may submit notification to the Office of the Interconnection of changed physical operational limitations at such generation resources that require a temporary exception to the otherwise applicable parameter limited schedule value. Each generation resource must supply the required operating data necessary to support the exception consistent with the requirements set forth in the PJM Manuals. Such exceptions may not continue past the next period (as described in section II.B of Attachment M - Appendix). Temporary exception requests shall be subject to acceptance by the Office of the Interconnection upon submission by a generation resource, and shall be subject to further subsequent review of

the continuation of the exception by the Office of the Interconnection and the Market Monitoring Unit. Based on the further review and determination by the Office of the Interconnection and the Market Monitoring Unit, the generation resource may (i) continue to submit a parameter limited schedule value consistent with the Market Monitoring Unit's determination or, (ii) if dissatisfied with the Market Monitoring Unit's determination, continue to submit a parameter limited schedule value to the Office of Interconnection inconsistent with the Market Monitoring Unit's determination subject to acceptance by the Office of the Interconnection, with or without prior approval of the Commission. If the Office of the Interconnection denies an exception request, in whole or in part, the generation resource may contest the denial through the PJM Dispute Resolution Process set forth in this Agreement, in which case the generation resource shall continue to submit a parameter limited schedule value as determined during the exception process until the issue has been resolved. If physical conditions at the generation resource change, such that the exception is no longer required, the generation resource is required to so inform the Office of the Interconnection and the exception shall be terminated.

If during the period that an exception agreed to by the Market Monitoring Unit applies (or is approved by the Commission), there is a material change to the facts relied upon by the Market Monitoring Unit to support such exception (or the Commission in support of its approval), the generation resource shall bring the change to the attention of the Market Monitoring Unit (or the Commission) for a determination as to whether the exception continues to be appropriate.