

UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION

PJM Interconnection, L.L.C.	) ) )	Docket No. ER10-2280-000
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**MOTION TO INTERVENE AND COMMENTS OF THE  
INDEPENDENT MARKET MONITOR FOR PJM**

Pursuant to Rules 211, 212 and 214 of the Commission’s Rules and Regulations, 18 CFR §§ 385.211, 385.212 & 385.214 (2010), Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor for PJM (“Market Monitor”),<sup>1</sup> moves to leave to intervene and submits these comments on the filing submitted by PJM Interconnection, L.L.C. (“PJM”) in the above captioned proceeding on August 18, 2010 (“August 18<sup>th</sup> Filing”). The issue in this case derives entirely from the allocation of the surplus of revenues that PJM collects from load in connection with the implementation of marginal loss pricing (the marginal loss surplus). The Commission has approved a method of allocation on the grounds that it returns the surplus to those responsible for contributing to the fixed costs of the grid, but actual mechanics of the process PJM

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<sup>1</sup> PJM Interconnection, L.L.C. is a FERC approved Regional Transmission Organization. Capitalized terms used herein and not otherwise defined have the meaning used in the PJM Open Access Transmission Tariff (“OATT”) or the PJM Operating Agreement (“OA”).

administrators result in an allocation not consistent with the Commission's orders.<sup>2</sup> The actual allocation excludes several categories of transmission customers that contribute to the fixed costs of the grid. The allocation of the surplus to non-firm transmission customers exceeds their contribution to the fixed costs of the grid. It is not logically possible that an allocation of the surplus based on contributions to the cost of the grid could exceed the actual rate paid for transmission, as long as the total surplus is less than the total cost of the grid, which it is.

The solution to the identified gaming issue is to remove the incentive to engage in non-economic transactions. The way to remove the incentive is to implement an allocation method for the marginal loss surplus that is consistent with the Commission's order on this topic. The Commission has already determined a proper theory of allocation, the challenge is to ensure that this theory is consistently and accurately applied. That allocation method would allocate marginal loss surplus to all transmission customers based on their contribution to the fixed costs of the transmission system. These contributions are measured as the total transmission costs paid. Allocation of the surplus should occur in proportion to the contribution.

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<sup>2</sup> See *infra* Section I.A.

PJM's proposed short-term recommendation to resolving the issues of gaming the marginal loss surplus allocation is too broad in its scope, and introduces additional and unnecessary market design changes unrelated to the issue at hand. The Market Monitor's short-term solution also addresses the gaming issue, but is a more conservative and less intrusive solution. The Market Monitor's short-term solution caps the hourly marginal loss surplus allocation at the cost of non-firm transmission (\$0.67), thus eliminating the incentive for non-economic transactions, while minimizing changes to the market. The Market Monitor's short-term solution addresses the issue at hand in a targeted fashion.

While both short-term solutions address the market manipulation issue, neither proposal fully addresses the fact that the issue originated from a marginal loss surplus allocation methodology that continues to be non-compliant with the Commission's Order on February 24, 2009.<sup>3</sup> The Market Monitor believes that modifying the marginal loss surplus allocation methodology to provide allocations to participants based on their share of the contributions to the fixed costs of the transmission system would

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<sup>3</sup> See *Black Oak Energy, L.L.C., et al. v. PJM Interconnection, L.L.C.*, 126 FERC ¶61,164 at P 10 (2009) ("February 24<sup>th</sup> Order").

alleviate the market manipulation issue, and would also fully serve as a long-term resolution to the marginal loss surplus allocations.

The Market Monitor concludes that the gaming activity has ceased and that it is unlikely to resume in the short term with the current level of Commission and monitoring scrutiny. As a result, there is no reason to implement an incomplete short-term solution designed simply to stop the gaming behavior. More importantly, there is no reason why a complete solution to the issue could not be implemented as quickly as the short-term solutions.

Accordingly, the Market Monitor recommends that the Commission require PJM to modify the allocation of the marginal loss surplus fully consistent with its February 24<sup>th</sup> Order, as described more fully below. This approach would not only address the issue of manipulation, it would serve as the long-term solution to the identified persistent and underlying issue that gave rise to the manipulation of concern in this proceeding and, which if unaddressed, could create future problems.

## I. BACKGROUND

### A. The Commission First Approved and Then Required Allocation on the Marginal Loss Surplus on the Basis of Contribution to the Fixed Costs of the Grid.

On May 1, 2006, the Commission issued an order on complaint requiring PJM to implement marginal loss pricing consistent with a longstanding directive included in the OATT.<sup>4</sup> The Commission had not ordered any particular method of allocation of the surplus revenues which were expected to result, but it did require that no proposal provide for the allocation of the surplus in proportion to payments of losses because that would mute the locational signal loss charges provided to the market.<sup>5</sup>

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<sup>4</sup> See *Atlantic City Electric Co., et al. v PJM Interconnection, L.L.C.*, 115 FERC ¶61, 132.

<sup>5</sup> *Id.* at 24 (“the Commission has made clear that the method for disbursing the amounts of any over collections should not directly reimburse customers for their marginal loss payments, as such a collection would interfere with the goal of basing prices on marginal losses”), citing *Northeast Utilities Service Company*, 109 FERC ¶61,204 at P 21 (2004) (“We further stated that ‘[r]efunding excess loss revenues to the participants who incurred the losses would undermine the usefulness of including marginal losses in the LMP calculations.’ Refunding the excess LMP revenues to those who paid would result in those purchasers no longer paying the marginal cost for energy—the basic foundation of LMP.”), *order on reh’g and compliance*, 117 FERC ¶61,169 at P 27 (2006) (“All three of the proposals meet the principle established by the Commission that the methodology for reimbursement not undermine the purpose of implementing marginal loss pricing, since none of these proposals would allocate the surplus to customers in proportion to the amount of each customer’s payment of marginal losses. Therefore, the customer will face the correct price signal when determining whether to purchase power from a remote generator.”).

PJM filed its proposal for allocating the marginal loss surplus in compliance with the Commission order accepting its marginal loss proposal.<sup>6</sup> The method it proposed on the grounds that it was “simple and fair” and was supported by a majority of stakeholders was to allocate the surplus on a load-ratio share basis.<sup>7</sup> This was the method approved by the Commission. PJM also put forth another proposal and requested that the Commission, if it saw merit in the proposal, convene a technical conference to consider it further. This proposal was to “use the surplus funds first to fully fund FTRs for the current month and then allocate any remaining balance to Network and Firm Point-to-Point transmission customers by ratio share of their transmission access charges in the applicable month.” PJM explained (at 4), “This mechanism recognizes that the surplus funds relate to a cost of taking transmission service, and both elements of this approach redound to the benefit of the transmission customers who, through the payment of access charges, have paid and pay for the construction and maintenance of the transmission system.”

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<sup>6</sup> PJM compliance filing in Docket No. EL06-55-002 (August 3, 2006).

<sup>7</sup> *Id.* at 3. PJM also included a minority proposal that included a formula splitting the allocation among load and suppliers.

In approving the majority approach proposed by PJM, the Commission made the following findings:

... The Commission will accept the majority proposal ..., which the Commission finds is just and reasonable and also has the greatest support. The Commission recently accepted a similar proposal by the California ISO for disbursing the revenue surplus pro-rata on the basis of load.[n.18: See, California Independent System Operator Corporation, 116 FERC ¶ 61,274, at PP 90-97]

This proposal allocates any revenue surplus using a megawatt ratio of each monthly load to total load. This allocates the surplus based on monthly demand (and hence monthly charges for use), but does not allocate the surplus based on the amount of transmission line loss charges PJM bills to a specific load customer. Thus, contrary to the protesters, this method does not dampen the price signals that result for the marginal loss method, because a customer buying power closer to its load would receive the same distributed amount as it would if it purchased from a remote generator. Further, *it is fair to distribute surpluses back to load customers since they pay for the fixed costs of the grid.*

Some protesters argue that generators should be able to share in the surplus since remote generators may be negatively impacted by use of the marginal loss method. However, *the Commission finds it reasonable to allocate the overcollections to the parties paying network and point to point transmission charges since marginal losses are part of the payment for transmission service.* All generators, including the less expensive but more remote generators, will be facing a competitive market for their generation, which is the opportunity the PJM market is designed to provide. Two protesters argue for first applying the surplus to FTRs. This proposal however, can best be addressed in a proceeding specifically dealing with FTR undercollections where all the ramifications can be analyzed [emphasis added].<sup>8</sup>

The Commission has explicitly found that it is just and reasonable to allocate the surplus to transmission customers because “they pay for the fixed costs of the grid.”

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<sup>8</sup> 117 FERC ¶61,169 at PP 27–29.

The Commission approved the following method of allocation:

The total Transmission Loss Charges accumulated by the Office of Interconnection in any month shall be distributed pro-rata to each Network Service User in proportion to its ratio shares of the total MWhs of energy delivered to load (net of operating Behind The Meter Generation, but not to be less than zero) in the PJM Region, and the total exports of MWhs of energy from such region during such month by all Transmission Customers.<sup>9</sup>

On December 3, 2007, Black Oak, EPIC, and SESCO (collectively, Complainants) filed a complaint challenging the marginal line loss method and the related allocation methodology in PJM's tariff.<sup>10</sup> Specifically, Complainants argued that the financial transactions of "virtual traders" or arbitrageurs do not create the flow of physical energy and concomitant transmission line losses and, therefore, they should not be assigned marginal line losses. Alternatively, Complainants argued that if their financial transactions are assigned marginal line losses they should receive a share of the surplus. In its order denying the complaint, the Commission *inter alia* concluded that no party is entitled to receive any allocation of the marginal losses surplus based solely on the

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<sup>9</sup> OA Schedule 1 § 5.5.

<sup>10</sup> Complaint of Financial Marketers Against the PJM Tariff Provisions on the Collection and Allocation of Marginal Transmission Line Loss Revenues, and Request for Fast-Track Processing filed in Docket No. EL08-12-000.



payment of marginal losses in LMP, since the price each party is paying is the correct marginal cost for the energy that each party is purchasing.<sup>11</sup>

Complainants subsequently filed a request for rehearing of the Complaint Order, arguing, among other things, that they, and others similarly situated, are entitled to receive a share of the marginal line loss surplus because they contribute to the fixed costs of the transmission system.<sup>12</sup> In addressing Complainants' arguments, the Commission addressed whether arbitrageurs in the PJM market should be required to pay marginal line losses and, if so, whether they should be entitled to a share of the over-collected amounts (or "surplus") on an equal basis with other similarly situated customers.<sup>13</sup> The Commission denied rehearing on the first issue and granted rehearing on the issue of the allocation of the over-collected amounts. The Commission directed PJM either to revise its tariff to include a credit to others who pay for the fixed costs of the transmission system in proportion to the load represented by their transmission usage or to show cause why its existing tariff provision is just and reasonable.

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<sup>11</sup> *Black Oak Energy, L.L.C., et al. v. PJM Interconnection, L.L.C.*, 122 FERC ¶61,208 at P 46 (2008).

<sup>12</sup> Request for Rehearing at 21-24 (April 7, 2008).

<sup>13</sup> *Black Oak Energy, L.L.C., et al. v. PJM Interconnection, L.L.C.*, 125 FERC ¶61,042 at P 24 (2008) (Rehearing Order).

PJM subsequently requested that the Commission clarify its directive in paragraph 49 of the Rehearing Order that PJM make a tariff revision to include a credit to those who pay the fixed costs of the transmission system “in proportion to load represented by their transmission usage.” Specifically, PJM asked whether this use of the term “load” evidenced an intent by the Commission to exclude those market participants that engage in virtual transactions, i.e., those who do not serve “load.”<sup>14</sup> The Commission clarified that it did not intend to exclude virtual traders from eligibility for the credit related to the surplus to the extent that those traders make transmission payments that contribute to the fixed costs of the transmission grid, without regard to whether such parties serve load.<sup>15</sup>

On March 26, 2009, PJM submitted revisions to section 5.5 of the Appendix to Attachment K of its tariff and to the corresponding section of Schedule 1 of its Operating Agreement in compliance with the Commission’s directive and clarification.<sup>16</sup> PJM stated that section 5.5 had been revised to allocate the total

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<sup>14</sup> February 24<sup>th</sup> Order at P 10, 13 (2009).

<sup>15</sup> *Id.* at P 14–15.

<sup>16</sup> Compliance Filing at 3 (March 26, 2009). Showing the proposed additions and deletions, PJM’s revised OA Schedule 1 § 5.5 as follows:

transmission loss charges accumulated by PJM to each Network Service User and Transmission Customer in proportion to its ratio share of the total megawatt-hours (MWh) of energy delivered to load in the PJM region.<sup>17</sup> PJM further stated that the revised section 5.5 “allocates total transmission loss charges to the total exports of MWh of energy from the PJM Region, or the total MWh of cleared Up-To Congestion transactions (that paid for transmission service during such hour).”<sup>18</sup>

In the Compliance Order, the Commission found that PJM’s proposed revisions comply with the directive to credit those who pay for the fixed or embedded costs of the transmission system.<sup>19</sup> The Commission acknowledged, as did PJM, that some

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The total Transmission Loss Charges accumulated by the Office of Interconnection in any ~~hour~~month shall be distributed pro-rata to each Network Service User and Transmission Customer in proportion to its ratio shares of the total MWhs of energy delivered to load (net of operating Behind The Meter Generation, but not to be less than zero) in the PJM Region, or the total exports of MWh of energy from the PJM Region, or the total MWh of cleared Up-To Congestion transactions (that paid for transmission service during such hour) ~~and the total exports of MWhs of energy from such region during such month by all Transmission Customers.~~

*Id.* at Attachment B.

<sup>17</sup> *Id.* at 3.

<sup>18</sup> *Id.*

<sup>19</sup> 122 FERC ¶61,208 at P 26.

arbitrageurs or virtual traders pay transmission access charges related to Up-To Congestion transactions, which contribute to the fixed costs of the transmission system, and which should be included in the allocation process for disbursement of any surplus resulting from the over-collection of transmission line loss charges. However, the Commission found that the arbitrageurs or virtual traders that only pay for ancillary services, such as black start or reactive control, do not support the fixed costs of the transmission system and should not be eligible to receive a share of the marginal line loss surplus.<sup>20</sup>

The Commission also found that the revised tariff provision is not clear whether, to qualify for a credit, a Network User or Transmission Customer that exports energy from the PJM region must have paid for transmission service during the hour as is required for Up-To Congestion transactions. Therefore, the Commission directed PJM to file further revisions to the tariff and operating agreement to make clear that the credits to exporters are dependent on their having paid for transmission service for a time period that includes the hour, as is required for Up-To Congestion charges.<sup>21</sup>

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<sup>20</sup> *Id.*

<sup>21</sup> *Id.* at P 27.

The revisions to the loss surplus allocation allowed market participants to submit virtual transactions for the sole purpose of benefitting from the difference in transmission costs and the per MWh loss surplus allocation. Market participants would submit wheeling up to congestion bids at the same interface or submit equal and opposite import and export bids in the PJM Day-Ahead Energy Market that ensure a net position of zero. By entering these transactions, the market participants were only exposed to the cost of transmission, as the PJM day-ahead and balancing market settlements will always result in zero credits and charges. Also, by submitting these transactions, which require a transmission reservation, they became eligible to receive a share of the loss surplus allocation. The loss surplus allocation has, on average during the period from July 1 through July 31, 2010, been \$1.28 per MWh (\$0.66 for the off-peak hours and \$1.59 for the on-peak hours); so, market participants were able to profit from the loss surplus allocation changes by entering into transactions that have no economic merit. Additionally, market participants had been acquiring a large amount of transmission. During the on-peak hours, the hourly up-to congestion transactions, on average, were approximately 19,500 MWh compared to the hourly off-peak average of approximately 9,300 MWh.

On August 18, 2010, PJM submitted revisions to Sections 1.10.1(b) and 5.5 of Schedule 1 of the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. (“Operating Agreement”), as well as the parallel provisions of Attachment K –

Appendix to the PJM Open Access Transmission Tariff (“Tariff”).<sup>22,23</sup> The proposed revisions represent a short-term solution to eliminate the possibility for market participants to “game” the allocation of marginal loss surplus revenues by modifying a provision of the Operating Agreement concerning the allocation of the marginal loss revenue surplus and eliminating the requirement to obtain transmission service for Up-To Congestion bids. PJM proposes the temporary solution while PJM and its stakeholders continue to discuss whether there are better solutions to address the issue.

The proposed Tariff and Operating Agreement revisions recommended by PJM<sup>24</sup> (as well as the alternative proposed by the IMM)<sup>25</sup> were reviewed and discussed extensively at the August 12, 2010 meeting of the PJM Members Committee. Stakeholders voted in favor of the PJM proposal.

The Commission’s approach to the issue of the appropriate allocation of the marginal loss surplus has evolved subtly from its initial order. The Commission initially

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<sup>22</sup> Docket No. ER10-2280-000.

<sup>23</sup> All further references in this transmittal letter to Sections 1.10.1 and 5.5 shall only be made to the Operating Agreement provisions, without reference to the parallel Tariff provisions.

<sup>24</sup> See <http://www.pjm.com/~media/committees-groups/committees/mc/20100812/20100812-item-04-marginal-losses-allocation-draft-oa-and-tariff-revisions.ashx>.

<sup>25</sup> See <http://www.pjm.com/~media/committees-groups/committees/mc/20100812/20100812-item-04-mmu-proposal-to-address-allo-losses-surplus-excess-trans-costs.ashx>.

used load and contributions to the fixed costs of the transmission grid through payments for transmission service interchangeably. In the Black Oak order, the Commission recognized the primacy of the contributions to the fixed cost of the grid over the simple existence of load. The Commission noted both that customers like up-to congestion customers can contribute to the fixed costs of the grid without being load and that load, like certain kinds of exports, can be load without contributing to the fixed costs of the grid.

The issues addressed in this pleading are based on the fact that the PJM allocation method to date remains based on an amalgam of the prior logic and is not yet based entirely on the contributions to the fixed costs of the grid.

**B. Up-To Congestion and Proposed Spread Bidding Products Expose PJM Markets to Potential Manipulation.**

The manipulative trading involving the Up-To Congestion product of concern in this proceeding is just the latest manifestation of problems that inclusion of this product

in the PJM market design has created. The Market Monitor has regularly reported on these issues and has longstanding recommendations to address this problem.<sup>26</sup>

A segment of PJM stakeholders sought to implement another product similar to Up-To Congestion, called “spread bidding.” As originally proposed, Spread Bidding is a Day Ahead virtual product that is made up of an injection (source) of MW at a designated point on the PJM system and a withdrawal (sink) of MW at another designated point on the PJM system. Like the up-to congestion product, the spread bid would clear MW at both the source and the sink when the predefined price spread between the source and sink was met. PJM chartered the Spread Bidding Task Force (SBTF) to consider the issues associated with the introduction of spread bidding on January 9, 2009. The Market Monitor participated in the SBTF and explained the significant issues associated with the product. This participation included numerous presentations outlining these concerns in detail. Ultimately through the SBTF process, the PJM MMU identified a number of concerns with the proposed product which led to the MMU’s conclusion that the Spread Bidding product should be limited to a derivative product, outside of PJM markets, and that Up to Congestion, as a related product, should be limited to use on

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<sup>26</sup> See, e.g., 2009 State of the Market Report for PJM at 288–293; 2008 State of the Market Report for PJM at 239–40; 2007 State of the Market Report for PJM at 225.



the Interfaces. The MMU made these recommendations at the September 10, 2009 MIC where the MMU's recommendation with regard to the Spread Bidding was supported by the membership and the Spread Bidding Product was rejected by a majority vote.

Among the issues that the SBTF was unable to resolve was the contribution to operating reserve charges appropriately associated with a spread bidding product. One point of contention was whether the spread bidding product should incur operating reserves charges, just as other virtual transactions do in the PJM market. It was the MMU position that up to congestion bids, or Spread Bids, to extent that they represent injections and withdrawals to the system as modeled in the Day Ahead market, should be subject to the same operating reserve allocations that all other injections and withdrawals incur, be they related to physical or virtual activity.

## **II. DISCUSSION**

### **A. The Market Monitor's Recommended Solution Complies with the February 24<sup>th</sup> Order**

The February 24<sup>th</sup> Order is clear in directing that PJM's Marginal Loss Surplus Allocations should be allocated "equitably among all parties that support the fixed cost of the transmission system, without regard to whether such parties serve load, or show

cause why such a credit should not be provided to all those who pay transmission charges.”<sup>27</sup> The Order also makes clear that proposed tariff revisions to the allocation should also include any customer with point to point transmission service or grandfathered transmission service.<sup>28</sup> The allocation method in the existing tariff does not accurately implement the Commission’s directive. The tariff allocation method does not allocate the surplus based on contributions to the fixed costs of the transmission system, but uses MWh of transmission used instead. The tariff allocation does not include all types of transmission service.

The marginal loss surplus is not allocated based on the contributions to the fixed costs of the transmission system. Instead, the surplus is allocated based on scheduled energy. For example, if a market participant acquires 100 MWh of transmission, but only schedules 25 MWh, the marginal loss allocation would be based on the 25 MWh of scheduled transmission, ignoring the contribution of the remaining 75 MWh to the fixed costs of the transmission system that were paid for, but not utilized.

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<sup>27</sup> February 24<sup>th</sup> Order at P 5.

<sup>28</sup> *Id.*

The use of scheduled energy rather than the contribution to the costs of the grid results in an under allocation of surplus to firm transmission customers. Firm transmission is purchased on an annual, monthly, weekly or daily basis. During the first seven months of 2010, 63.8 percent of firm transmission purchased was for yearly service, 28.3 percent was for monthly service, 0.4 percent was for weekly service and 7.5 percent was for daily service. As a result of the purchase of firm transmission service on a non-hourly basis, the load factor, or utilization rate, for firm transmission service is much lower than for non-firm transmission service. The result, in turn, is that an allocation method based on usage rather than the contribution to the fixed costs of the grid under allocates surplus to firm transmission customers and over allocates surplus to non-firm transmission customers.

For example, if a market participant wants to schedule energy on daily firm transmission during the on-peak hours, they would be required to acquire, at a minimum, a 24 hour daily firm block. Only the sixteen on-peak hours during which the transmission was used would be eligible for marginal loss surplus allocations. The result is that one third of the total cost of the firm transmission, which the market participant contributes to the fixed costs of the transmission system, is not eligible for any allocation of the marginal loss surplus. This effect is exacerbated for weekly, monthly and annual purchases of firm transmission service. Non-firm transmission can

be purchased on an hourly basis. Therefore, market participants can purchase transmission service only for the hours they wish to schedule against and the result is that 100 percent of their contributions to the fixed costs of the transmission system is eligible to receive an allocation of the marginal loss surplus.

The current marginal loss surplus allocation inappropriately excludes some transmission service types that contribute to the fixed costs of the transmission system. The current tariff allocation method does not allocate any surplus to the purchasers of non-firm or firm point-to-point transmission service required to import power to PJM in the PJM Real-Time Market, or to the purchasers of non-firm or firm transmission service required to import or export fixed or dispatchable transactions in the PJM Day-Ahead Market.

For example, in the Real-Time Energy Market, market participants are required to acquire non-firm or firm transmission service when selling into the market, yet they do not receive a portion of the marginal loss surplus allocation.<sup>29</sup> As another example, in addition to the Day-Ahead EnergyMarket Up-To Congestion product, market

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<sup>29</sup> Export and Wheeling transactions to the Midwest ISO and Import transactions utilizing Spot Import transmission service are not eligible for marginal loss surplus allocations. To be eligible for marginal loss surplus allocations, market participants must pay for transmission, and the transmission services under those transactions are available at no cost to market participants.

participants can also submit day-ahead import and export transactions as price takers (“fixed” transactions), or submit day-ahead import and export transactions while specifying a minimum interface price for which they require to sell into the market (for imports) and a maximum interface price for which they are willing to buy from the market (for exports) (“dispatchable” transactions). These schedule types also require transmission service to be acquired prior to submittal. The costs of transmission for these transactions are no different than the costs of transmission for Real-Time Energy Market exports or for Day-Ahead Energy Market Up-To Congestion transactions, yet they do not receive an appropriate allocation of the marginal loss surplus.

Table 3 presents a complete list of transmission service types, and indicates whether they are required to purchase transmission, and indicates whether they are included in the marginal loss surplus allocation.

**Table 1: Real-Time and Day-Ahead Market Transactions with transmission requirements and whether or not they are eligible to receive a portion of the marginal loss surplus allocation under the current tariff<sup>30</sup>**

DA/RT	Schedule Type	Transmission	Direction	Pays for transmission	Receives Allocation
DA	Fixed	Non-firm	Import	Y	N
DA	Fixed	Non-firm	Export	Y	N
DA	Fixed	Non-firm	Wheel	Y	N
DA	Dispatchable	Non-firm	Import	Y	N
DA	Dispatchable	Non-firm	Export	Y	N
DA	Dispatchable	Non-firm	Wheel	Y	N
DA	Up-To	Non-firm	Import	Y	Y
DA	Up-To	Non-firm	Export	Y	Y
DA	Up-To	Non-firm	Wheel	Y	Y
DA	Fixed	Firm	Import	Y	N
DA	Fixed	Firm	Export	Y	N
DA	Fixed	Firm	Wheel	Y	N
DA	Dispatchable	Firm	Import	Y	N
DA	Dispatchable	Firm	Export	Y	N
DA	Dispatchable	Firm	Wheel	Y	N
DA	Up-To	Firm	Import	Y	Y
DA	Up-To	Firm	Export	Y	Y
DA	Up-To	Firm	Wheel	Y	Y
RT	Normal	Non-firm	Import	Y	N
RT	Normal	Non-firm	Export	Y	Y
RT	Normal	Non-firm	Wheel	Y	Y
RT	Dispatchable	Non-firm	Import	Y	N
RT	Dispatchable	Non-firm	Export	Y	Y
RT	Dispatchable	Non-firm	Wheel	Y	Y
RT	Normal	Firm	Import	Y	N
RT	Normal	Firm	Export	Y	Y
RT	Normal	Firm	Wheel	Y	Y
RT	Dispatchable	Firm	Import	Y	N
RT	Dispatchable	Firm	Export	Y	Y
RT	Dispatchable	Firm	Wheel	Y	Y

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<sup>30</sup> Export and Wheeling transactions to the Midwest ISO and Import transactions utilizing Spot Import transmission service are not eligible for marginal loss surplus allocations. To be eligible for marginal loss surplus allocations, market participants must pay for transmission, and the transmission services under those transactions are available at no cost to market participants.

Table 4 shows how the July 2010 marginal loss surplus was allocated to each service type, compared to the marginal loss surplus allocation if all service types were included in the disbursement.

There are three transmission service categories: Network Integrated Transmission Service (NITS)<sup>31</sup>; Firm Point-to-Point Transmission Service<sup>32</sup> and Non-Firm Point-to-Point Transmission Service.<sup>33</sup>

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<sup>31</sup> Transmission service that allows a Transmission Customer to integrate, plan, economically dispatch and regulate its network resources to serve its network load in a manner comparable to that in which the transmission provider utilizes its Transmission System to serve its Native Load Customers. Network Integration Transmission Service also may be used by the Transmission Customer to deliver non-firm energy purchases to its network load without additional charge.

<sup>32</sup> Transmission service that is intended to be available at all times to the maximum extent practicable, subject to an emergency, and unanticipated failure of a facility, or other event beyond the control of the owner or operator of the facility, or other event beyond the control of the owner or operator of the facility or the Office of the Interconnection.

<sup>33</sup> Transmission service under the Tariff that is reserved and scheduled on an as-available basis and is subject to curtailment or interruption. Non-Firm Point-to-Point Transmission Service is available on a stand-alone basis for periods ranging from one hour to one month.

**Table 2: Comparison between current marginal loss allocation methodology and the current marginal loss allocation methodology with all service types included**

Allocations				
Service Type	Current Allocation	Percent of Total Allocation	Allocation with All Service Types	Percent of Total Allocation
NITS	\$98,947,247	83.2%	\$98,295,353	82.7%
Firm RT Imports	\$0	0.0%	\$508,753	0.4%
Non-Firm RT Imports	\$0	0.0%	\$169,689	0.1%
Firm RT Exports	\$1,024,730	0.9%	\$1,018,446	0.9%
Non-Firm RT Exports	\$541,148	0.5%	\$537,700	0.5%
Total RT Allocation	\$1,565,879	1.3%	\$2,234,588	1.9%
DA Fixed and Dispatchable	\$0	0.0%	\$107,072	0.1%
Non-Firm Up-to Congestion Transactions	\$18,384,421	15.5%	\$18,260,534	15.4%
Total DA Allocation	\$18,384,421	15.5%	\$18,367,606	15.4%
TOTAL Allocation	\$118,897,547	100.0%	\$118,897,547	100.0%

Allocation Summary by Service Type				
Total Allocation to Firm Transmission	\$99,971,978	84.1%	\$99,822,552	84.0%
Total Allocation to Non-Firm Transmission	\$18,925,570	15.9%	\$19,074,995	16.0%
Total Allocation	\$118,897,547	100.0%	\$118,897,547	100.0%

The most simple and direct resolution to the current issue is to require PJM to fully comply with the February 24<sup>th</sup> Order, and to distribute the marginal loss surplus to each network service user and transmission customer in proportion to its ratio share of the total dollars contributed to the fixed costs of the transmission system, regardless of whether such service is utilized in the PJM Day-Ahead or Real-Time Energy Markets.

Table 5 shows how the marginal loss surplus was allocated under the existing methodology, under the PJM proposed short-term solution, under the Market Monitor's



proposed short-term solution and under the fully compliant solution, using July 2010 data. Under the current methodology, the loss surplus allocation to non-firm transmission customers exceeded the cost of transmission by approximately \$10 million. Non-firm transmission customers received 220.7 percent of their transmission costs back in marginal loss surplus allocations. Although non-firm transmission customers accounted for only 3.5 percent of the total cost of transmission, they received 15.9 percent of the total allocation.

**Table 3: Comparison of marginal loss surplus allocations to transmission costs**

Current Methodology						
Service Type	Transmission Payments Recognized - Current Method	Percent of Transmission Payments	Surplus Allocation	Percent of Total Allocation	Difference	Ratio of Allocation to Transmission Payments
Firm	\$237,054,033	96.5%	\$99,971,978	84.1%	\$137,082,055	42.2%
Non-firm	\$8,575,751	3.5%	\$18,925,570	15.9%	-\$10,349,819	220.7%
TOTAL	\$245,629,784	100.0%	\$118,897,547	100.0%	\$126,732,237	48.4%

Proposed PJM Short-Term Methodology						
Service Type	Transmission Payments Recognized - PJM Method	Percent of Transmission Payments	Surplus Allocation	Percent of Total Allocation	Difference	Ratio of Allocation to Transmission Payments
Firm	\$237,054,033	99.8%	\$118,708,827	99.8%	\$118,345,206	50.1%
Non-firm	\$405,779	0.2%	\$188,720	0.2%	\$217,058	46.5%
TOTAL	\$237,459,812	100.0%	\$118,897,547	100.0%	\$118,562,265	50.1%

Proposed MMU Short-Term Methodology						
Service Type	Transmission Payments Recognized - MMU Method	Percent of Transmission Payments	Surplus Allocation	Percent of Total Allocation	Difference	Ratio of Allocation to Transmission Payments
Firm	\$237,054,033	96.5%	\$110,531,731	93.0%	\$126,522,302	46.6%
Non-firm	\$8,575,751	3.5%	\$8,365,816	7.0%	\$209,935	97.6%
TOTAL	\$245,629,784	100.0%	\$118,897,547	100.0%	\$126,732,237	48.4%

Proposed Compliant Methodology						
Service Type	Transmission Payments Recognized - Compliant Method	Percent of Transmission Payments	Surplus Allocation	Percent of Total Allocation	Difference	Ratio of Allocation to Transmission Payments
Firm	\$241,040,144	96.5%	\$114,756,727	96.5%	\$126,283,417	47.6%
Non-firm	\$8,697,563	3.5%	\$4,140,820	3.5%	\$4,556,743	47.6%
TOTAL	\$249,737,707	100.0%	\$118,897,547	100.0%	\$130,840,160	47.6%

Table 5 shows that if the marginal loss surplus were allocated based on the total contribution to the fixed costs of the transmission system, it would be impossible for any service type to receive an allocation greater than the contribution to the cost of the transmission grid. The Market Monitor recommends that the Commission require PJM

to submit a compliance filing, which allocates the marginal loss surplus based on the costs paid for transmission service over a full year.

**B. The PJM Recommended Short-Term Solutions Are Too Broad and Introduces Extraneous Market Issues**

The PJM recommended short-term solutions set the marginal loss surplus allocation for non-firm transmission customers, based on 31 percent of the MWh scheduled and eliminate the requirement that Up-To Congestion transactions purchase transmission. Neither solution resolves the identified problem and the second recommendation would implement a significant market change that is not necessary in order to solve the problem.

The reduced marginal loss surplus allocation does not resolve the incentive issue. The proposed allocation would exceed the cost of non-firm transmission service in 12 percent of all hours in July 2010. Again, logically the proposed allocation cannot reflect the contributions to the cost of the transmission grid because the resultant allocation exceeds the cost paid for transmission in a significant number of hours.

The reduction in marginal loss surplus allocation to non-firm customers is based on a comparison of the hourly non-firm transmission cost (\$0.67 per MWh) to the cost of firm transmission cost computed on an hourly basis. The cost of firm transmission to

the border of PJM is \$18,888/MW-Year, which, when divided by 8,760 (the number of hours in a year), results in an equivalent hourly rate for firm transmission of approximately \$2.16/MW-Hour. This calculation ignores the cost of network integration transmission service (NITS). PJM argues (at 10) that the allocations would be consistent with each transmission customer's contribution to the fixed costs of the transmission system. However, this argument is not correct. Comparing hourly rates for firm and non-firm transmission is not an appropriate basis for an allocator designed to allocate based on the contributions to cost. Firm transmission customers buy long term transmission service and use it with a relatively low load factor while non-firm transmission customers buy short term transmission service and use it with a higher load factor. There is no hourly charge for firm service. An allocation based on the contributions to the fixed costs of the grid produces a different result than the PJM proposal. See Table 5.

PJM also asserts that the elimination of the requirement to purchase transmission for Up-To Congestion bids would resolve the marginal loss surplus gaming. If no transmission is purchased, there is no contribution to transmission costs and therefore there is no allocation of marginal loss surplus. It is true that if the requirement to purchase transmission is eliminated: the mismatch between the cost of transmission and the allocation of surplus disappears. It is also true that if the requirement to purchase

transmission were removed for any other class of non-firm transmission service, the mismatch would disappear.

However, PJM ignores one of the unintended consequences of its second proposed solution, which is that Up-To Congestion transactions will become identical to spread bids, over a reduced set of pricing points, but not be obligated to pay operating reserve charges.

More importantly, PJM's second proposed solution does not directly address the underlying problem, which is that the allocation method does not reflect contributions to the cost of the transmission system. PJM's second proposed solution also does not resolve the issue. The elimination of the requirement to obtain a transmission reservation for Up-To Congestion transactions does not address the other non-firm transmission customers that would still have the incentive.

The elimination of the requirement to purchase transmission in order to submit Up-To Congestion transactions would introduce significant and unnecessary market design changes unrelated to the issue and would result in substantial unintended consequences. The elimination of the transmission requirement creates the ability to submit the equivalent of a spread bid. The spread bidding product that was previously proposed and then rejected by PJM participants would have allowed market participants to take a position at two buses internal to PJM. The proposed spread

bidding product did not require the market participant to acquire transmission. The elimination of the requirement to acquire transmission for Up-To Congestion transactions does not create an identical spread bidding product because the source must be an interface for imports, and the sink must be an interface for exports. However, the product is identical for such transactions and the potential impacts on the market are the same.

Eliminating the requirement for transmission for Up-To Congestion transactions would allow market participants to submit a large amount of Up-To Congestion bids without incurring the cost of transmission or paying operating reserve charges. PJM Stakeholders rejected the creation of a spread-bidding product during the September 10, 2009 Market Implementation Committee (MIC).<sup>34</sup>

It is unnecessary and overly broad to apply a short-term solution to the marginal loss surplus allocation that results in a significant change to the market design which has not been carefully considered by market participants and that was rejected by market participants the last time it was considered.

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<sup>34</sup> See <<http://www.pjm.com/~media/committees-groups/committees/mic/20090910/20090910-minutes.ashx>>.

Table 1 shows the July 2010 marginal loss surplus allocations based on current business rules and the allocation that would occur under the PJM short-term proposal.

**Table 4: July 2010 current marginal loss surplus allocation vs. PJM short-term proposed allocation**

Allocations				
Service Type	Current Allocation	Percent of Total Allocation	PJM Proposed Allocation	Percent of Total Allocation
NITS	\$98,947,247	83.2%	\$117,494,124	98.8%
Firm RT Exports	\$1,024,730	0.9%	\$1,214,703	1.0%
Non-Firm RT Exports	\$541,148	0.5%	\$188,720	0.2%
Total RT Exports	\$1,565,879	1.3%	\$1,403,423	1.2%
Non-Firm Up-To Congestion	\$18,384,421	15.5%	\$0	0.0%
Total Up-To	\$18,384,421	15.5%	\$0	0.0%
TOTAL Allocation	\$118,897,547	100.0%	\$118,897,547	100.0%

  

Allocation Summary by Service Type				
Total Allocation to Firm Transmission	\$99,971,978	84.1%	\$118,708,827	99.8%
Total Allocation to Non-Firm Transmission	\$18,925,570	15.9%	\$188,720	0.2%
Total Allocation	\$118,897,547	100.0%	\$118,897,547	100.0%

**C. The Market Monitor’s Recommended Short-Term Solution Is More Conservative and Requires the Minimum Market Changes Necessary to Remove the Gaming Incentive.**

The Market Monitor’s recommended short term solution was to cap the hourly marginal loss surplus allocation to the cost of non-firm transmission (\$0.67 per MWh). This short-term solution does not require any additional business rule changes, does not introduce changes to unrelated markets and does not introduce the potential for

unintended adverse market activity. Compared to a correct allocation of marginal loss surplus, this method would still over allocate to non-firm customers compared to their proportion contribution to the fixed costs of the grid. Thus, the proposal does not discriminate against non-firm transmission customers.

The Market Monitor's short-term proposal addresses the gaming issue by simply removing the incentive to engage in the behavior. The results of the Market Monitor's proposed short-term allocation are compared to the PJM proposal and to the current allocation in Table 2. The allocation to market participants using Up-To Congestion transactions, using non-firm transmission, is reduced under both options. However, under the Market Monitor's proposal, the non-firm Up-To Congestion customers would still be required to acquire transmission, thus contributing to the fixed costs of the transmission system, and would continue to receive a portion of the marginal loss surplus allocation. Additionally, under the Market Monitor's proposal, market participants who engage in PJM Real-Time Market exports would receive a larger



portion of the allocation than under the PJM proposal, as those transactions would not have their allocation reduced by 31 percent of the scheduled MWh.

While the Market Monitor’s short-term solution does not fully align the marginal loss surplus allocations to the contributions by the various service types to the fixed costs of the transmission system, it does represent an improvement over the current methodology.

**Table 5: July 2010 current marginal loss surplus allocation vs. PJM short-term proposed allocation and Market Monitor’s short-term proposed allocation**

Allocations						
Service Type	Current Allocation	Percent of Total Allocation	PJM Proposed Allocation	Percent of Total Allocation	MMU Proposed Allocation	Percent of Total Allocation
NITS	\$98,947,247	83.2%	\$117,494,124	98.8%	\$109,404,663	92.0%
Firm RT Exports	\$1,024,730	0.9%	\$1,214,703	1.0%	\$1,127,069	0.9%
Non-Firm RT Exports	\$541,148	0.5%	\$188,720	0.2%	\$359,972	0.3%
Total RT Exports	\$1,565,879	1.3%	\$1,403,423	1.2%	\$1,487,041	1.3%
Non-Firm Up-To Congestion	\$18,384,421	15.5%	\$0	0.0%	\$8,005,843	6.7%
Total Up-To	\$18,384,421	15.5%	\$0	0.0%	\$8,005,843	6.7%
TOTAL Allocation	\$118,897,547	100.0%	\$118,897,547	100.0%	\$118,897,547	100.0%
Allocation Summary by Service Type						
Total Allocation to Firm Transmission	\$99,971,978	84.1%	\$118,708,827	99.8%	\$110,531,731	93.0%
Total Allocation to Non-Firm Transmission	\$18,925,570	15.9%	\$188,720	0.2%	\$8,365,816	7.0%
Total Allocation	\$118,897,547	100.0%	\$118,897,547	100.0%	\$118,897,547	100.0%

#### **D. Comments on PJM’s August 18<sup>th</sup> 205 Filing**

PJM makes in their 205 filing on this matter submitted on August 18, 2010. These comments on PJM’s filing are intended to provide additional insight on the short-term solutions in order to assist the Commission in their decision making.

**1. Elimination of the requirement for transmission can create further divergence between the PJM Day-Ahead and Real-Time Markets.**

PJM notes that “Up-to Congestion transactions have become a purely financial transaction for which there is no corresponding physical transaction in the Real-Time Energy Market. That being the case, there is no longer a need to require market participants who submit purely financial Up-to Congestion transactions to submit an OASIS reservation in the Day-Ahead Energy Market.”<sup>35</sup> The Market Monitor believes that eliminating the need for transmission could exacerbate the differences between the Day-Ahead and Real-Time Energy Market dispatch, and is not a step necessary for resolving the marginal loss surplus allocation issue.

The initial intent for requiring transmission for Day-Ahead Energy Market transactions was to ensure that market participants would be able to physically flow the energy in the Real-Time Energy Market. By eliminating the requirement for transmission for day-ahead Up-To Congestion transactions, market participants would be able to submit more bids than could physically flow in real-time, thus creating a potential divergence between the Day-Ahead and Real-Time Energy Markets. PJM notes that “the product will remain exactly as it is today, save for the transmission

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<sup>35</sup> PJM at 9

service requirement that lead to the instant gaming concerns.”<sup>36</sup> The transmission service requirement itself is a significant change in the product that will allow market participants to submit a large quantity of Up-to Congestion transactions, in excess of what the Available Transfer Capability could support, with no costs of transmission service, which will impact the Day-Ahead Energy Market dispatch. The Market Monitor has recommended for some time that this implies that the entire category of Up-To Congestion transactions should be eliminated, with the exception of wheeling transactions that source and sink at PJM interfaces.<sup>37</sup> In either case, it is inappropriate to introduce a resolution of a significant, unrelated issue in the instant matter.

## **2. Elimination of Transmission for Up-To Congestion Transactions Creates a “Spread Bidding” Product**

As PJM correctly notes, “Up-to congestion transactions were originally created as a mechanism to hedge in the Day-Ahead Energy Market the exposure to price differentials from the source to the sink of their physical energy deliveries into, out of or through PJM in the Real-Time Energy Market, and to allow market participants who want to wheel power through PJM to set the maximum dollar value of congestion they

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<sup>36</sup> PJM at 9.

<sup>37</sup> See 2008 State of the Market Report for PJM at 240 (March 11, 2009).

would be willing to pay to wheel that power.”<sup>38</sup> Given that PJM also recognizes that the original intent of the product is not the basis for the current use of the product, the logical conclusion would be to eliminate the product rather than to create a spread bidding product with all its negative potential consequences.

In the *2009 State of the Market Report for PJM*, the Market Monitor recommended eliminating all internal PJM buses for use in Up-To Congestion bidding and for all import and export transactions in the Day-Ahead and the Real-Time Markets.<sup>39</sup> This recommendation was based on the fact that specifying an internal bus for these transactions implies that market participants can direct the physical power flow to that bus. Since the power flow will follow a path dictated by the topology of the grid, allowing market participants to specify a particular energy delivery point, allows participants to create loop flow, or a difference between scheduled and actual flows. The Market Monitor raised a series of concerns during the discussions of spread bidding, which was rejected by the PJM membership. PJM argues that the elimination of transmission for Up-To Congestion transactions does not create spread bidding

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<sup>38</sup> PJM at 2

<sup>39</sup> 2009 State of the Market Report for PJM at 3 (March 11, 2010). PJM supported this recommendation in their response to the 2009 State of the Market Report, which can be accessed at: <http://www.pjm.com/documents/reports/state-of-market-reports/-/media/documents/reports/state-of-market/2009/pjm-comments-regarding-the-2009-state-of-the-market-report.ashx>.

because PJM will not be changing any other parameters associated with the submission of such transactions. While the initial spread bidding proposal was to allow market participants to specify any PJM bus, interface or aggregate for the source and sink, and the up-to congestion product only allows for specifying an internal bus for the source for exports, or the sink for imports, the impact on the Day-Ahead Market is the same. While the set of allowed buses would be reduced relative to some of the more extreme spread bid proposals made in the past, the set of proposed buses to be used with this product is sufficient to raise the same concerns that were raised the last time the spread bid product was rejected by the PJM membership. Neither the Market Monitor nor the concerned stakeholders argued that the changes would parallel the initial spread bidding proposals by allowing for any combination of sources and sinks at internal buses. The Market Monitor made it clear at the PJM Members Committee that a detailed discussion of the concerns of Up-To Congestion transactions would be better saved for debate at a future time, and that the short term solutions to the marginal loss surplus allocation should be the primary focus of the discussion, but wanted to ensure that the issue of spread bidding was clear with the elimination of transmission service for Up-To Congestion bids. The elimination of the requirement to acquire transmission for Up-To Congestion bids is a significant market design change that is not necessary to resolve the marginal loss surplus allocation issues.

### III. MOTION TO INTERVENE

The PJM Tariff requires that the Market Monitor, among other things, monitor “actual or potential design flaws in the PJM Market Rules,” “structural problems in the PJM Markets that may inhibit a robust and competitive market” and “the potential for a Market Participant to ... violate ... FERC Market Rules,” including specifically “market behavior rules and the prohibition against energy market manipulation codified by the Commission in its Rules and Regulations at 18 CFR §§ 1c.2 and 35.37, respectively.”<sup>40</sup> Issues raised in this proceeding implicate these responsibilities.

The Market Monitor has been actively involved in addressing the market behavioral problems that lead to this filing, and it participated actively in the stakeholder process convened to explore ways to correct the market design flaws that are ultimately responsible. Consequently, this proceeding implicates matters within the Market Monitor’s purview, and it is in the public interest that the Commission grants this motion.

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<sup>40</sup> OATT Attachment M §§ II & IV.B.2–4.

Rule 214 provides that the Commission may grant interventions where “[t]he movant’s participation is in the public interest.”<sup>41</sup> The Market Monitor has the exclusive duty to perform the market monitoring function for PJM, and no other party can adequately represent it in this proceeding. Accordingly, the Market Monitor moves that the Commission grant it leave to intervene out-of-time and afford to it full rights as a party to this proceeding.

#### IV. COMMUNICATIONS

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

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<sup>41</sup> 18 CFR § 214(b)(2)(iii).

## V. CONCLUSION

The Market Monitor respectfully requests that the Commission grant this motion to intervene and consider these comments as it resolves the issues raised in this proceeding.

Respectfully submitted,



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Dated: September 2, 2010



**CERTIFICATE OF SERVICE**

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

Dated at Eagleville, Pennsylvania,  
This 2<sup>nd</sup> day of September, 2010.



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