UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

FirstEnergy Solutions Corp.	**)**	
Allegheny Energy Supply Company, LLC,	**)**	**Docket No. EL12-19-000**
Complainants	**)**	
v.	**)**	
	)	
PJM Interconnection, L.L.C.,	**)**	
Respondent	**)**	

ANSWER OF PJM INTERCONNECTION, L.L.C. TO FIRSTENERGY COMPANIES' COMPLAINT AND REQUEST FOR FAST TRACK PROCESSING

Pursuant to Rule 213 of the Federal Energy Regulatory Commission's ("Commission") Rules of Practice and Procedure, 18 C.F.R. § 385.213, PJM Interconnection, L.L.C. ("PJM") submits this answer to the complaint and request for fast track processing of FirstEnergy Solutions Corp. and Allegheny Energy Supply Company, LLC ("FirstEnergy Solutions" and "AE Supply," respectively, and collectively "FirstEnergy Companies"), filed on December 28, 2011 ("Complaint").[1] FirstEnergy Companies seek to modify certain provisions found in Schedule 1 ("Schedule 1") of the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. ("Operating Agreement"), as well as the parallel provisions of the Attachment K – Appendix of the PJM Open Access Transmission Tariff ("Tariff"),[2] that govern the funding of Financial Transmission Rights ("FTRs") because they believe the provisions have become unjust, unreasonable, unduly discriminatory and preferential due to recent events leading

[1] The Commission's Rules 213(c)(1) and (2), 18 C.F.R. §§ 385.213(c)(1), (c)(2)(i), require a respondent to admit or deny the material allegations of the complaint. FirstEnergy Companies did not include numbered factual allegations. Thus, to the extent practicable, PJM in this Answer attempts to address apparent factual allegations in Section III of the Complaint.

[2] Schedule 1 of the Operating Agreement and Attachment K-Appendix of the Tariff are identical. For convenience, where PJM refers only to Schedule 1 of the Operating Agreement, such references are intended to encompass the corresponding provisions of Attachment K-Appendix of the Tariff, and vice versa.

to inadequate funding of FTRs.[3] In PJM's view, full funding of FTRs was the goal; it was never guaranteed, as is evident by the Operating Agreement provisions addressing underfunding of FTRs. Nonetheless, PJM is concerned about the degree of recent FTR underfunding, which it believes is attributable to (i) factors that reduce transmission system transfer capability and cannot be foreseen by PJM at the time it conducts its simultaneous feasibility determinations coupled with (ii) the current state of the PJM transmission system which is more sensitive to the economic consequence of these unforeseeable reductions. This state of affairs, more fully described below, has resulted in a trend demonstrating a growing incidence of FTR underfunding. While PJM will continue to diligently address the root causes of the underfunding, most importantly by promoting and expediting continued physical reinforcement of the system, the process by its nature takes time and involves taking outages, that in the short term, reduce further the system's ability to move lower cost energy to load. The instant complaint argues that the costs associated with these circumstances can be allocated more equitably. PJM agrees and believes FirstEnergy Companies' argument seeking to exclude real time congestion costs from the FTR revenue calculus is a basis to grant the Complaint.

I. INTRODUCTION

As the Commission is aware, FTRs were created in organized wholesale electricity markets to allow firm Transmission Customers[4] a reasonable opportunity to protect themselves from the costs of transmission congestion. FTRs are financially-settled instruments that entitle (or obligate) the holder to a stream of revenues (or charges) based on the hourly congestion price differences in the Day-ahead Energy Market across a specific transmission path. Each FTR is

[3] Complaint at 28-29.

[4] Capitalized terms used and not otherwise defined herein have the meaning set forth in the Operating Agreement, Tariff or the Reliability Assurance Agreement Among Load Serving Entities in the PJM Region.

defined from a source point (sending end/generator) to a sink point (receiving end/customer site) on the transmission grid. The quantity of FTRs that PJM can auction to Market Participants is limited by the physical transfer capability of the transmission system.

The value of an FTR is based upon the difference between the Day-Ahead Congestion Prices at the specific source and sink points on the transmission system. For each hour in which congestion exists on the transmission system between the source and sink points specified in the FTR, the holder of the FTR receives a credit calculated as the Day-Ahead Congestion Price at the sink location minus the Day-Ahead Congestion Price at the source times the megawatt ("MW") quantity of the FTR held. However, FTR holders are paid (or charged) based on congestion in both the day-ahead and the real-time markets.[5] FTR revenue inadequacy occurs if total collected congestion charges plus excess auction revenues collected are less than the total FTR Target Allocations. The settlement aspect of the FTR rules lies at the heart of the Complaint.

FirstEnergy Companies seek immediate revisions to sections 5.2.5(a) and (b)[6] of the Operating Agreement to eliminate references to the real-time (balancing) market in the calculation of the Transmission Congestion Charges.[7] Additionally, recognizing that the proposed revisions to sections 5.2.5 (a) and (b) may create an underfunding of real-time

[5] See Operating Agreement, Schedule 1, Sections 5.2.3 and 5.2.5.

[6] FirstEnergy Companies also seek changes to "any other corresponding provisions" of the Tariff and Operating Agreement that require that FTRs be funded based on both day-ahead and real-time Transmission Congestion Charges. Complaint at 30.

[7] The FirstEnergy Companies request the Commission to direct PJM to revise the Operating Agreement to eliminate the reference to the Real-time Energy Market in the calculation of transmission congestion charges by early March, and to implement the requested revisions for allocating incremental real-time transmission congestion charges prior to June 1, 2012. Complaint at 34-35. PJM, as a financially disinterested, independent, Regional Transmission Organization ("RTO"), is focused on the implementation requirements of the modifications contemplated in this proceeding. To that end, in order for the changes proposed herein to take effect for the 2012/2013 Planning Period, such revisions would have to be accepted by the Commission prior to June 1, 2012.

congestion, FirstEnergy Companies seek revisions to the Operating Agreement "to allocate incremental real-time transmission congestion charges (whether negative or positive) to all customers of the transmission system on a pro rata basis or initiate settlement procedures to resolve this cost allocation issue, with instructions that any final cost allocation proposal should not result in FTR holders being responsible for incremental real-time congestion charges through the calculation of the value of their FTRs."[8]

As illustrated in the table below, while PJM has generally been at or near 100% revenue adequacy for FTRs since the incorporation of FTRs into the PJM markets, PJM did experience FTR revenue inadequacy in the 2010/2011 Planning Period, and is currently experiencing FTR revenue inadequacy in the 2011/2012 Planning Period.[9]

Planning Period	Percent
2003-04	97.7%
2004-05	100%
2005-06	90.7%
2006-07	100%
2007-08	100%
2008-09	100%
2009-10	96.9%
2010-11	84.9%
2011-12 (through November 2011)	86.2%

As FirstEnergy Companies themselves recognize, there is a stakeholder process currently underway regarding this issue. In response to the 2010/2011 Planning Period revenue inadequacy, PJM stakeholders approved the creation of the FTR Task Force ("FTRTF") to investigate the causes of the FTR revenue inadequacy that occurred during the 2010/2011

[8] Complaint at 34-35.

[9] *See also* PJM Presentation to the FTRTF at 2 (May 23, 2011), available at http://www.pjm.com/~/media/committees-groups/task-forces/ftrtf/20110523/20110523-item-02%20-pjm-presentation-on-ftr-revenue.ashx ("PJM May 23 Presentation")

Planning Period and identify potential improvements, including modeling, that could be made to minimize FTR revenue inadequacy going forward. Through its work in the FTRTF, PJM determined that several factors lead to the 2010/2011 Planning Period FTR revenue inadequacy, including, but not limited to, Zero Cost FTRs, external flow gates/constraints, loop flows, forced outages, and unforeseen de-ratings and construction and maintenance outages. PJM has already submitted, and the Commission has accepted, Operating Agreement revisions to address Zero Cost FTRs.[10] Other proposals are currently still under consideration by the stakeholders.

Unfortunately, the FTR revenue inadequacy has continued into the 2011/2012 Planning Period. The current funding level for the current Planning Year through November 2011, is at about 86.2%, and is not expected to increase for the remainder of the Planning Period. Consequently, despite the fact that PJM has fully complied with the requirements of its Operating Agreement to allocate the maximum number of ARRs while striving to ensure that FTRs are fully funded, FTR underfunding continues. PJM agrees that, until solutions are in place that resolve the root cause of the underfunding, most notably physical enhancement to the transmission system, the costs associated with these circumstances can be more equitably reassigned by removing the cost of real-time congestion from FTR holders, whose FTR values are determined solely based on congestion price differences in the Day-ahead Energy Market, and assigning such costs to market participants in the Real-time Energy Market. Accordingly, PJM agrees with FirstEnergy Companies that the current Operating Agreement provisions addressing the funding mechanism associated with FTRs should be modified.

[10] PJM Interconnection, L.L.C., 137 FERC ¶61,003 (2011).

II. ANSWER

While PJM recognizes that ideally FTRs should be fully funded, and it is PJM's goal to achieve full funding, full funding of FTRs is not a mandatory requirement. Nevertheless, PJM believes that real-time balancing congestion has increased to the point where it is injecting an undeniable uncertainty into the FTR product based on how the current Operating Agreement provisions address FTR revenue shortfalls. Accordingly, PJM agrees with FirstEnergy Companies that the current FTR funding provisions should be modified to permit a more equitable sharing of the cost of real-time congestion. PJM further agrees that if the Commission accepts FirstEnergy Companies' proposed revisions to sections 5.2.5 (a) and (b) of the Operating Agreement (eliminating references to the real-time or balancing market in the calculation of the Transmission Congestion Charges), corollary funding provisions must be implemented to reallocate real-time congestion costs. To this end, PJM supports FirstEnergy Companies' proposal to allocate real-time congestion costs, positive or negative, to all transmission customers on a pro-rata basis.

A. FULL FUNDING OF FTRS IS NOT A REQUIREMENT

FirstEnergy Companies state that the Commission has determined that (a) FTRs be fully funded, absent extraordinary circumstances, (b) PJM has committed to fully funding all ARRs and FTRs, and (c) the Operating Agreement provision that includes an uplift charge to address a shortfall in FTR revenues was implemented to assure full funding of FTRs.[11] In PJM's view, it is not under a legal obligation to guarantee an absolute, 100% funding of FTRs. Rather, what PJM is required to do is balance the competing interests of maximizing the use of the

[11] Complaint at 25-26.

transmission system and fully funding FTRs. The Commission kept this balance in mind when it recently determined, in *PPL EnergyPlus, LLC v. PJM Interconnection, L.L.C.* ("*PPL EnergyPlus"*),[12] that "[t]he purpose of conducting the simultaneous feasibility determination is thus to allocate the maximum number of ARRs that can be allocated while ensuring that FTRs are fully funded, *not to ensure that FTRs can never be underfunded*."[13]

a. PJM is Tasked with Balancing the Competing Interests of Maximizing the Use of the Transmission System and Fully Funding FTRs

1. The Allocation Of ARRs Is The Means By Which PJM Provides Firm Service To Network And Point-To-Point Customers

PJM, as a transmission provider, is obligated to "ensure the development and operation of market mechanisms to manage congestion"[14] and to maximize the use of the transmission system to allow the firm transmission service customers who paid for the transmission system to recover the fixed, embedded costs of the transmission system.[15] In PJM, as is true in other locationally priced wholesale electric markets, the open-access directive to offer customer's firm transmission service is met by providing these customers FTRs which serve to hedge the transmission customer against congestion costs that might arise in scheduling power over a given pathway. Organized electricity markets are said to offer "financially firm" transmission service

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[12] *PPL EnergyPlus, LLC v. PJM Interconnection, L.L.C.*, 134 FERC ¶ 61,263 (2011) ("PPL March 31st Order"), *reh'g denied*, 136 FERC ¶ 61,060 (2011) ("PPL July 27th Order"), *appeal docketed*, No. 11-1341 (D.C. Cir Sept. 23, 2011).

[13] *See* PPL March 31st Order at P 46 (emphasis added); PPL July 27th Order at P 29.

[14] *Regional Transmission Organizations*, Order No. 2000, FERC Stats. & Regs. ¶ 31,089, at 31,126 (1999), *order on reh'g*, Order No. 2000-A, FERC Stats. & Regs. ¶ 31,092 (2000), *aff'd sub nom. Pub. Util. Dist. No. 1 of Snohomish County, Washington v. FERC*, 272 F.3d 607 (D.C. Cir. 2001).

[15] *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmission Utilities*, Order No. 888, FERC Stats. & Regs. ¶ 31,036, at 31,692-31,693 (1996), *order on reh'g,* Order No. 888-A, FERC Stats. & Regs. ¶ 31,048, *order on reh'g*, Order No. 888-C, 82 FERC ¶ 61,046 (1998), *aff'd in relevant part sub nom. Transmission Access Policy Study Group v. FERC*, 225 F.3d 667 (D.C. Cir. 2000), *aff'd sub nom. New York v. FERC*, 535 U.S. 1 (2002).

(as a more efficient option to "physically firm" service as is offered by transmission providers in non-market environments).[16]

Clearly, FTR funding is an important interest in the same sense that avoiding the physical curtailment of firm customers is an important objective for a transmission provider. Section 7.5(a) of Schedule 1 of the Operating Agreement specifically provides that: "The goal of the simultaneous feasibility determination shall be to ensure that there are sufficient revenues from Transmission Congestion Charges to satisfy all Financial Transmission Rights Obligations for the auction period under expected conditions and to ensure that there are sufficient revenues from the annual Financial Transmission Right Auction to satisfy all Auction Revenue Rights obligations." Equally important, however, is the Commission's policy goal promoting wide, open access; or put another way, its "desire to maximize the use of the transmission provider's system."[17] In PJM, maximizing use of the transmission system is achieved by providing customers as much firm transmission as can reasonably be expected, which is accomplished by allocating to firm customers a sufficient number of ARRs to hedge their expected congestion charges.

Section 7.5(a) of Schedule 1of the Operating Agreement requires that, in making determinations of simultaneous feasibility, PJM "shall take into account outages of both individual generation units and transmission facilities" and that PJM's determinations "shall be

[16] The Final Rule issued by the Commission issued in *Long-Term Firm Transmission Rights in Organized Electric Markets*, Order No. 681, 116 FERC ¶ 61,077 (2006), *reh'g denied*, Order No. 681-A, 117 FERC ¶ 61,201 (2006) is informative here. The Commission concluded that: "While transmission organizations may provide firm 'physical' transmission rights on a long-term basis, the cost of transmission service in transmission organizations that use LMP to manage congestion is dependent on the cost of that congestion. We agree with APPA that for a transmission right to be 'firm,' it must be firm as to both quantity and price. In the LMP context, this means 'firm transmission rights' must be firm as to both the 'physical' component of the right and the 'financial' component of the right. FTRs can hedge congestion costs (when matched to the physical path of the transmission right) and make transmission rights in an LMP system 'firm,' . . ." Order No. 681 at P 82.

[17] *PJM Interconnection, L.L.C.*, 84 FERC ¶ 61,212 at 5.

based on *reasonable assumptions* about the configuration and availability of transmission capability." (emphasis added) With respect to PJM's obligations under section 7.5(a), to the extent FirstEnergy Companies' Complaint seeks full funding of FTRs, FirstEnergy Companies would have PJM focus solely on the language indicating that fully funding FTRs is the goal of the simultaneous feasibility determination, while ignoring the requirement that PJM's determinations also "be based on reasonable assumptions about the configuration and availability of transmission capability." To the extent that FirstEnergy Companies focus solely on the underfunding of FTRs, the FirstEnergy Companies' argument ignores the Commission's longstanding policy to ensure open access to the transmission system by maximizing the full use of the system.

2. Optimizing The Use Of The Transmission System By Trying To Meet As Many Customer Requests for ARRs As Can Reasonably Be Met Reflects Well Established Commission Policy

The Commission's purpose in issuing landmark Order No. 888 was to foster greater competition in wholesale power markets by reducing barriers to entry in the provision of transmission service, and it proposed to do so by remedying undue discrimination in the electric industry by providing open access to the transmission system.[18] Carrying forward this mission of maximizing open access, the Commission issued Order No. 890 to increase non-discriminatory access to the grid by, among other things, increasing "the efficient utilization of transmission by eliminating artificial barriers to use of the grid . . . while also ensuring that reliability to native load customers is maintained."[19] Based on the principles underlying both Orders No. 888 and 890, it is clear that granting transmission service and giving broad access to

[18] Order No. 888, FERC Stats. & Regs. ¶ 31,036, at 31,635.

[19] *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, 72 Fed. Reg. 12,266 at P 4 (Mar. 15, 2007), FERC Stats. & Regs. ¶ 31,241 (2007).

the transmission system is the cornerstone of open access. And, in striking the appropriate balance between this interest and the interest in fully funding FTRs, the Commission has indicated that PJM must have the ability to exercise its expert and independent judgment to make determinations of simultaneous feasibility for the ARR allocations and annual FTR auctions.[20]

Based on the confines of the Operating Agreement, PJM's goal is to allocate the maximum number of ARRs that can be allocated while at the same time also ensuring that FTRs are fully funded. Nowhere in section 7.5(a) or elsewhere does the Operating Agreement state that PJM's priority is to ensure full funding of FTRs even if that results in severely curtailing the number of transmission service requests granted. To the contrary, section 5.2.5(c) of the Operating Agreement clearly contemplates the possibility that FTR underfunding may occur by providing that: "At the end of a Planning Period, if all FTR holders did not receive Transmission Congestion Credits equal to their Target Allocations, the Office of the Interconnection shall assess a charge equal to the difference between the Transmission Congestion Credit Target Allocations for all revenue deficient FTRs and the actual Transmission Congestion Credits allocated to those FTR holders." In *PPL EnergyPlus*, the Commission acknowledged this possibility and specifically found that the Operating Agreement does not ensure full funding of FTRs.[21]

PJM's objective is, and always has been, to both ensure full funding of FTRs while also maximizing the use of the transmission system. Achieving both goals requires striking a difficult balance and PJM has historically done an excellent job of achieving both goals year in and year

[20] The Commission has found that the Tariff provides PJM discretion in conducting its simultaneous feasibility determinations and determining how to model transmission outages. *See* PPL March 31st Order at PP 41-44; PPL July 27th Order at P 29.

[21] *See* PPL July 27th Order at P 29.

out. However, it is impossible for PJM to take into account unknown and unforeseen system conditions that become apparent throughout the relevant Planning Period only *after* the simultaneous feasibility determinations are made. These post-simultaneous feasibility determination system conditions have increased in number and increasingly have had a more material adverse affect on the simultaneous feasibility of ARRs that have already been allocated.

B. THE ROOT CAUSE OF THE UNDERFUNDING IS NOT ATTRIBUTABLE TO THE SFT

PJM agrees with FirstEnergy Companies that FTR revenue inadequacy is not caused by FTR holders in their capacity as such. PJM does not agree with any assertion, however, that the current level of FTR revenue inadequacy is caused by either flawed design or implementation of the Simultaneous Feasibility Test ("SFT") itself.[22] The SFT does not model real-time system conditions, and, as explained in more detail below, it is real-time system conditions that are largely the cause of the present FTR underfunding that PJM is experiencing. Rather, the SFT models expected, planned system conditions based on past experience, historical and current data and other confidential information that is available to PJM *at the time the SFT model is executed*. Additionally, as PJM previously explained in *PPL EnergyPlus*, PJM "takes into account"[23] and "includes in the determination of the simultaneous feasibility"[24] all transmission outages scheduled for more than 40 days.

The goal of the simultaneous feasibility determination is to ensure that there are sufficient revenues from Transmission Congestion Charges to satisfy all FTR obligations for the auction period under expected conditions, and to ensure that there are sufficient revenues from the

[22] *See* Complaint, Exhibit B: Stoddard Affidavit at 18-19.
[23] Operating Agreement, Schedule 1, Section 7.5(a).
[24] PJM Manual 6: Financial Transmission Rights, Section 9: Simultaneous Feasibility Test, Simultaneous Feasibility Test Overview.

annual FTR Auction to satisfy all ARR obligations.[25] The purpose of the SFT is to preserve the economic value of FTRs or ARRs to the holders by ensuring that all FTRs or ARRs awarded can be honored.

The SFT determination process, i.e., SFT model, for the Annual ARR allocation and Annual FTR Auction is a process that spans approximately five months and essentially consists of three phases (the pre-Auction stage, execution of the optimization engine, and rendering of results). PJM starts the SFT model for any given annual ARR allocation and Annual FTR Auction in mid-January of the preceding Planning Period and ends the process on May 31 of the preceding Planning Period. The SFT model ultimately culminates in executing the FTR optimization engine used to clear FTRs and allocate ARRs.

It is important to understand that the combination of real-time, perhaps unexpected, transmission outages and operating procedures will contribute to FTR revenue inadequacies in any given Planning Period. The PJM FTR annual model is a single model for one twelve month period, and PJM will model the expected conditions for this entire period. However, it is typical and realistically expected that FTR revenue inadequacies will occur for different months of a Planning Period as the network topology and congestion levels fluctuate because of real-time changes in the transmission outages and operating procedures. There also will typically be months during the Planning Period where there is a surplus of revenue. The historical effect in netting these inadequacies against surpluses, at the end of the relevant Planning Period – as demonstrated by past years preceding the 2010/2011 through present 2011/2012 trend – was typically close to or at 100% funding of FTRs.

[25] Operating Agreement, Schedule 1, Section 7.5(a).

The SFT has been consistently calculated in exactly the same manner and in a manner reflecting the underlying objectives of Order No. 888 and Order No. 890. PJM has been making simultaneous feasibility determinations on planned transmission outages using appropriate power flow models of contingency-constrained dispatch since the incorporation of ARRs and FTRs into the PJM markets. Pursuant to its Operating Agreement, PJM must use "reasonable assumptions about the configuration and availability of transmission capability during the period covered by the auction."[26] The Commission has agreed that the Operating Agreement and Manual 6 afford PJM the ability to exercise its expert and independent engineering judgment, within the reasonable bounds of the Operating Agreement, to best represent the physics of the electric grid.[27]

C. PJM'S CURRENT MARKETS AND OPERATIONS ENVIRONMENTS SUPPORT MODIFICATION OF THE EXISTING FTR CONGESTION ACCOUNTING PROVISIONS

Revenue adequacy exists when all FTR holders are paid their full Target Allocations for their FTRs. Congestion charges are the primary source used to fund FTR Target Allocations. Revenue inadequacy exists when FTR holders are not paid their full Target Allocations for their FTRs, i.e., total collected congestion charges plus excess auction revenue is less than the total FTR Target Allocations.[28]

If sufficient congestion charges are collected from the Day-ahead and Real-time Energy Markets to satisfy FTR Target Allocations, then FTRs will be fully funded. Excess congestion

[26] Operating Agreement, Schedule 1, Section 7.5(a).
[27] *See* PPL March 31st Order at PP 41-44; PPL July 27th Order at P 29.
[28] PJM Presentation, FTR Revenue and Modeling, to the FTRTF at 8 (April 26, 2011), available at http://www.pjm.com/~/media/committees-groups/task-forces/ftrtf/20110426/20110426-item-04-ftr-revenue-and-modeling.ashx ("PJM April 26 Presentation").

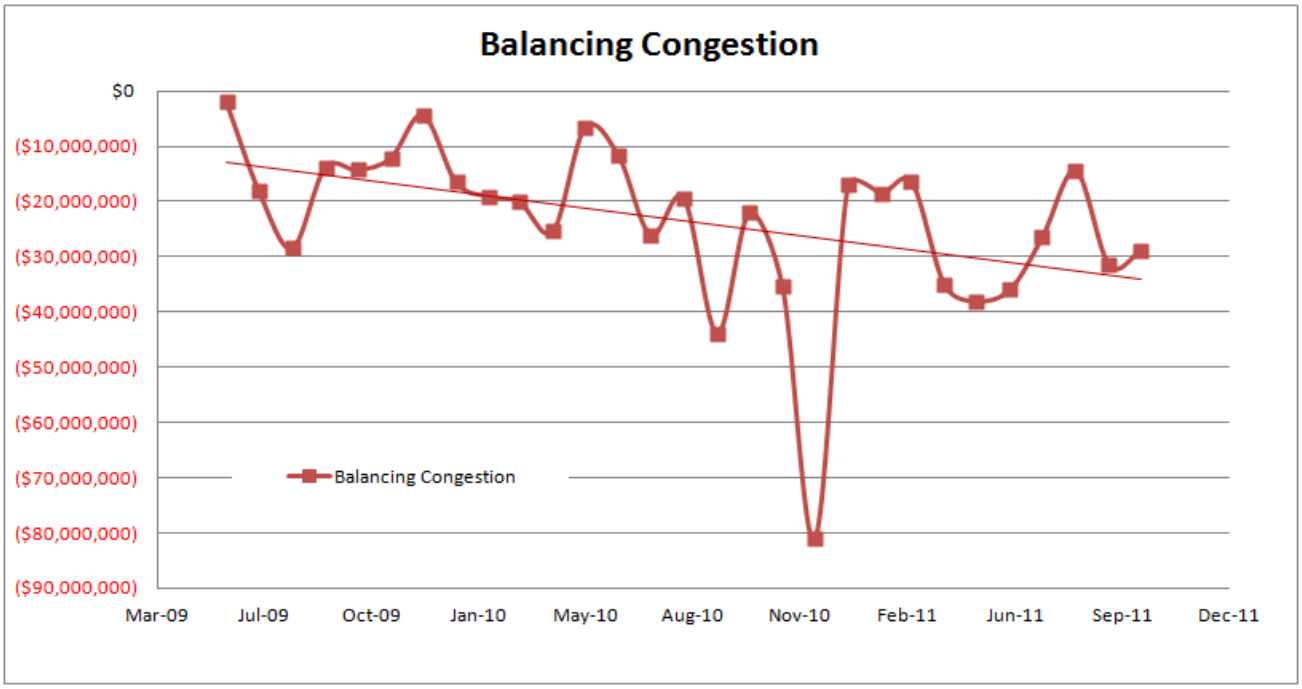
charges are used first, respectively, to cover any deficiencies in FTR Target Allocations within the relevant month, and to cover any deficiencies in FTR Target Allocations within the relevant Planning Period. To the extent there are any remaining year-end excess congestion charges, these will be applied to cover any deficiencies in ARR Target Allocations from previous months within the relevant Planning Period. Any remaining year-end excess congestion charges will be distributed to FTR participants on a pro-rata basis to total FTR Target Allocations.[29]

If insufficient congestion charges are collected from the Day-ahead and Real-time Energy Markets to satisfy FTR Target Allocations, then FTR credits are prorated proportionately on a pro-rata basis to FTR Target Allocations. FTR Target Allocation deficiencies are first funded from excess congestion charges from current month and subsequent months. To the extent that there are any remaining uncovered year-end FTR Target Allocation deficiencies after application of the monthly excess congestion charges, then an "uplift charge" is assessed to all FTR holders on a pro-rata basis according to total Target Allocations for all FTRs held at any time during the planning period.[30]

As noted above, occurrences of FTR revenue inadequacy has increased over the last several years. PJM has spent considerable time analyzing the FTR funding inadequacy since the 2010/2011 Planning Period. Based upon its review of the available data, PJM has identified a number of contributing factors to FTR revenue inadequacy. The primary driver of this recent revenue inadequacy is directly connected to the downward trend in "balancing congestion," which is the difference (deviation) in the amount of congestion between the Day-ahead and Real-

[29] PJM April 26 Presentation at 3.
[30] *Id.*

time Energy Markets.[31] If less transmission system capability is available in the Real-time Energy Market than in the Day-ahead Energy Market, then negative balancing (real-time) congestion can result.[32] Since most of the transmission system capability is subscribed in the Day-ahead Energy Market, the amount of balancing congestion is generally near zero or below. Negative balancing congestion is common because transmission system capability in the Real-time Energy Market is generally the same or lower than transmission system capability in the Day-ahead Energy Market. However, the recent trend of increasing negative balancing congestion has not been previously observed. The graph below illustrates the trend.



There are two primary reasons for the continued downward trend of balancing congestion in the PJM markets, although there are others factors. First, there has been a gradual increase in congestion on transmission facilities along the PJM market borders over the past

[31] *See* PJM April 26 Presentation at 9.

[32] While PJM recognizes the intention of the examples explained in the affidavits by FirstEnergy Companies, PJM does not agree with the method of demonstrating negative balancing congestion as contained therein.

several years and in particular an increase in negative balancing congestion associated with the congested facilities on the border. This congestion is more difficult to capture and accurately model in the Day-ahead Energy Market on facilities that are affected by external control areas because PJM has less information on a forward basis regarding outages and flow pattern changes that impact real-time operations in these external areas. The trend of an increasing percentage of transmission congestion occurring on facilities at PJM's market borders is driven by 1) reduced west to east flows due to a relative increase in coal resource offer prices in the western part of the market and a relative reduction in gas-fired resource offer prices in the eastern part of the market, 2) increased wind resources impacting the western part of the market, and 3) the completion of the 500kV TrAIL Line.

The below table shows the increasing trend of congestion along the PJM borders, the percentage of congestion hours associated with facilities located at the PJM borders since 2005, and the percentage of negative balancing congestion attributable to these facilities. Again, the congestion on these facilities is more likely to result in negative balancing congestion because this congestion is more difficult to capture and model in the Day-ahead Energy Market for many reasons, including but not limited to unpredictable external flow patterns, real-time wind resource output not being offered in the Day-ahead Energy Market, external control area transmission system topology changes for which PJM does not have forward information, and unforeseen external transmission outages. The deviation between the Day-ahead Energy Market model and Real-time Energy Market increases for those transmission constraints near market borders because those constraints are more susceptible to changes in real-time operational conditions outside the PJM market that cannot be modeled accurately in the PJM Day-ahead

Energy Market. Therefore, the result of the increasing percentage of congestion occurring on facilities near the market border is an increase in negative balancing congestion.

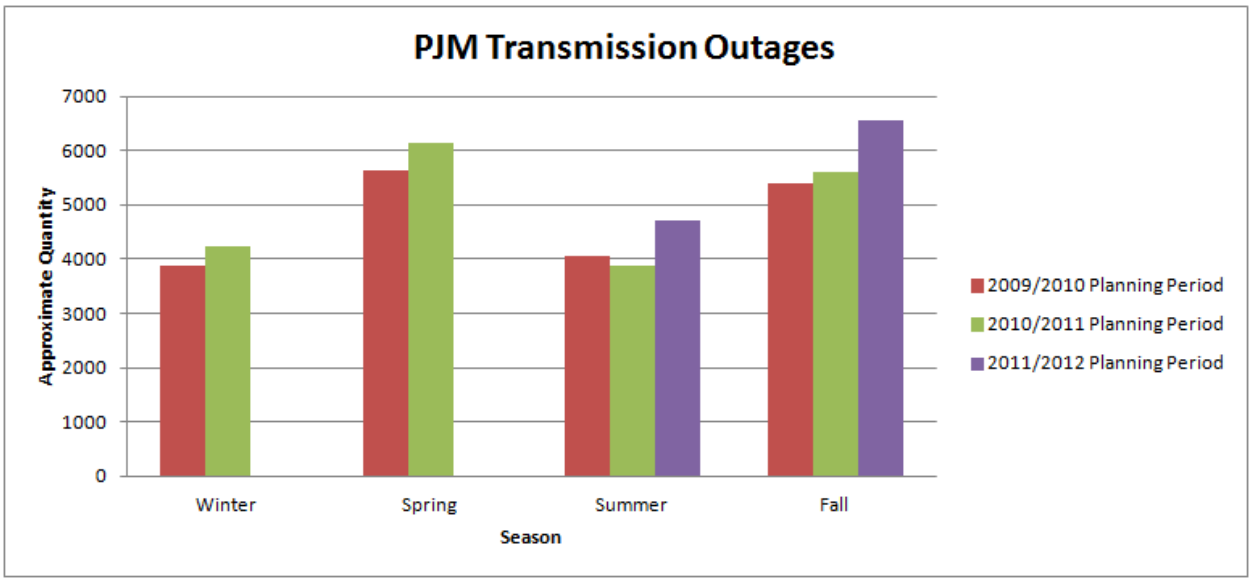
Year	% of Congested Hours from Facilities Located Near PJM Borders	% of Negative Balancing Congestion from Facilities located near PJM Borders
2005	1.49%	0.00%
2006	4.40%	10.79%
2007	5.47%	6.55%
2008	9.38%	10.19%
2009	22.13%	44.30%
2010	13.82%	20.75%
2011	36.26%	32.35%

The second key reason for the continued downward trend of balancing congestion in the PJM markets is an increase in the number of transmission outages over the past few years, and in particular the number of emergency, summer and winter outages. Because PJM often receives notice of emergency outages after it has completed the modeling for the Day-ahead Energy Market, when the outage is taken in real-time it will create a direct deviation from the day-ahead model, thus increasing the likelihood for negative balancing congestion. Additionally, over the last several years there has been an increase in unscheduled transmission outages occurring during the summer and winter months due to weather related damage to facilities and NERC Alert Facility Rating requirements,[33] the result of which is an increase in congestion during times when the system is already limited and during which PJM does not, in the ordinary course, allow outages to be taken in an effort to reduce congestion. The below graph shows the approximate number of PJM transmission outages for each season and the trend of increasing outages for each season.

[33] *See* North American Electric Reliability Corporation Recommendation to Industry: Consideration of Actual Field Conditions in Determination of Facility Ratings (October 7, 2010), located at http://www.nerc.com/fileUploads/File/Events%20Analysis/Ratings_Recommendation_to_Industry_20100929Final.pdf.

Additionally, the significantly increasing volume of scheduled transmission outages associated with new facilities or upgrades to existing facilities designed to resolve reliability violations identified in the PJM RTEPP have, for the period of the outage, reduced the available transmission margins that have historically existed. This reduction in transmission margin tends to exacerbate the financial impact of any unforeseen emergency or weather-related outage which has significantly increased the magnitude of negative balancing congestion. While this reduced transmission margin impact is temporary for any given transmission outage, the sheer volume of construction and maintenance outages, stacked one after the other, has eroded the transmission capability and reduced the system's tolerance to unforeseen outages for persistent periods of time. As a result, unforeseen outages have caused larger negative balancing impacts than they have had historically. In fact, the scheduling of transmission outages to perform necessary and critical upgrades to avoid the potential for near-term reliability violations has required PJM to approve transmission outages that would normally have been delayed because of their potential impact on transmission congestion.[34]

[34] See PJM Letter to PJM Membership, Potential FTR Inadequacy (August 31, 2011), available at: http://www.pjm.com/documents/~/media/documents/reports/20110901-pjm-letter-to-members-regarding-upcoming-transmission-outage.ashx.



With these findings in mind, PJM continues to make improvements in FTR and Day-ahead Energy Market modeling to attempt to account for potential external system impacts, transmission outage volume and uncertainty, and, where interregional coordination agreements are in place with neighboring RTOs/ISOs, market-to-market flow gates,[35] among other things. However, given the volume of transmission outages scheduled over the next three to five years necessary to install new facilities or upgrades to existing facilities so as to resolve reliability violations identified in the PJM RTEPP, PJM is concerned the trend of higher negative balancing congestion will persist for some time. While some FTR and day-ahead model improvements may provide some relief to FTR revenue adequacy, PJM agrees with FirstEnergy Companies that the FTR underfunding that PJM is now experiencing may have serious near-term (and

[35] *See* Joint Operating Agreement between the Midwest Independent System Operator, Inc. and PJM Interconnection, L.L.C., Attachment 3; and the Joint Operating Agreement Between the New York Independent System Operator, Inc. and PJM Interconnection, L.L.C., Schedule D pending in Docket No. ER08-1281-000.

continual, for some period) ramifications to the otherwise expected benefits of FTR markets, such as providing a hedge for congestion, providing a proper price signal for long term contracts, and enhancing competition and proper investment in transmission-constrained areas.[36]

With the foregoing in mind, PJM agrees with and supports the relief sought by FirstEnergy Companies to immediately revise sections 5.2.5(a) and (b)[37] of the Operating Agreement to eliminate references to the real-time (balancing) market in the calculation of the Transmission Congestion Charges. Removing the balancing or Real-Time congestion impacts from the calculus used to fund FTRs will conform the FTR funding methodology to the pricing of FTRs which is a function of energy prices in the Day-ahead Energy Market. As such, PJM believes FirstEnergy Companies' proposal represents a positive market design refinement.

Further, because the negative balancing congestion has been caused predominately by an increase in the amount of unexpected transmission outages and congestion along the PJM borders, PJM agrees that the FTR holders themselves are not the root cause of the current FTR underfunding. Accordingly, PJM believes that the relief sought in this Complaint achieves a more fair and balanced approach to allocating the costs to all Market Participants in the Real-time Energy Market, and, consequently preserves the integrity of the FTR product. PJM is concerned that by continuing to allow the negative balancing congestion to erode the FTR product, PJM will be unable to fulfill in a holistic manner its obligation to "ensure the development and operation of market mechanisms to manage congestion."[38]

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[36] *See* Complaint at 22-25.

[37] As noted above, FirstEnergy Companies also seek changes to "any other corresponding provisions" of the Tariff and Operating Agreement that would require that FTRs be funded based on both day-ahead and real-time Transmission Congestion Charges. *See* supra note 6.

[38] *See* Order No. 2000, FERC Stats. & Regs. ¶ 31,089, at 31,126.

Moreover, as FirstEnergy Companies recognize, PJM's current rules allocating the balancing market congestion surplus/shortfall to FTR holders is not the general practice among other RTOs/ISOs.[39] Only ISO New England ("ISO-NE") and PJM include balancing congestion in their FTR funding calculations; and, as Mr. Stoddard states, this is largely because ISO-NE based its FTR funding mechanisms on PJM's pre-existing FTR funding mechanism language.[40] Moreover, ISO-NE operates a much smaller transmission system that has fewer and more highly controlled borders with external systems. ISO-NE therefore is not impacted by the real-time uncertainties associated with modeling external systems to the same extent as PJM. Further to this point, in the past and when PJM's FTR funding rules were first formulated, PJM operated a much smaller system with less complex borders. Thus, PJM's evolution over the last decade warrants adjustment to these rules that would bring PJM in line with the rules established in other, similar systems, and to meet its current system constraints and the current regulatory environment.

D. PJM SUPPORTS THE FIRSTENERGY COMPANIES' PROPOSAL TO ALLOCATE REAL-TIME CONGESTION COSTS TO ALL TRANSMISSION CUSTOMERS ON A PRO-RATA BASIS

PJM agrees with FirstEnergy Companies that implementation of FirstEnergy Companies' proposed revisions to Operating Agreement sections 5.2.5 (a) and (b) would, by necessity, require adopting a different mechanism to allocate real-time congestion. Recognizing this

[39] *See* Complaint, Exhibit B: Stoddard Affidavit at 12-14.

[40] Indeed, on its website, the New England ISO states, "During the development process, it was determined that adopting the PJM Interconnection's successful market design as a base market, which contained [Congestion Management and Multi-Settlement Systems] features, while maintaining New England's own best practices, would allow ISO New England to derive the same benefits that implementing its own version of [Congestion Management and Multi-Settlement Systems] promised." *See* "Wholesale Electricity Markets, The New England Story, History of Standard Market Design" available at http://www.iso-ne.com/nwsiss/grid_mkts/how_mkts_wrk/smd_overview/index-p2.html .

requirement, FirstEnergy Companies further seek, prior to the start of the 2012/2013 Delivery Year, revisions to the Operating Agreement "to allocate incremental real-time transmission congestion charges (whether negative or positive) to all customers of the transmission system on a pro rata basis or initiate settlement procedures to resolve this cost allocation issue, with instructions that any final cost allocation proposal should not result in FTR holders being responsible for incremental real-time congestion charges through the calculation of the value of their FTRs."[41]

While PJM generally supports FirstEnergy Companies' proposed reallocation of real-time congestion charges (whether negative or positive) to all transmission customers, PJM believes this reallocation proposal is improved by additionally including in the calculation any positive *day-ahead* congestion collected (over and above full funding of the FTR). Under FirstEnergy Companies' reallocation proposal, because transmission customers would now bear a greater share of the risk of FTR underfunding, they should equitably enjoy the potential opportunity that would arise in the event such FTRs are overfunded in the Day-ahead Energy Market.

PJM would offer also an additional and altogether different approach to reallocating real-time congestion charges that (under FirstEnergy Companies' proposal) would drop out of the FTR revenue calculus. These charges, whether negative or positive, could alternatively be rolled into the marginal loss surplus. As the Commission has previously opined, no market participant has an entitlement or right to receive any particular amount of the marginal loss revenue surplus.[42] The Commission has also specifically indicated that the amount of the surplus

[41] Complaint at 34-35.

[42] *Black Oak Energy, L.L.C. et al. v. PJM Interconnection, L.L.C.*, 122 FERC ¶ 61,028, at P 46 (2008), *citing Atlantic City Elec. Co. v. PJM Interconnection, L.L.C.*, 115 FERC ¶ 61,132, at P 24 (2006) (PJM market participants

received should not be tied to the amount of marginal line losses paid.[43] Thus, the Commission has accepted any number of different methodologies for disbursing surplus marginal loss revenue so long as the methodology meets the Commission's established principle that the reimbursement methodology "not undermine the purpose of implementing marginal loss pricing," in other words, so long as it does not "allocate the surplus to customers in proportion to the amount of each customer's payment of marginal losses."[44] For these reasons, PJM's current allocation of the marginal loss revenue surplus is intentionally arbitrary and therefore a windfall to those who receive it. Accordingly, PJM believes that combining the marginal loss surplus with real-time congestion costs would apply funds resulting from the over collection of marginal losses more logically and efficiently than the relatively arbitrary present dispersion of marginal loss surpluses.

With the foregoing in mind, PJM requests that the Commission accept the proposal advanced by FirstEnergy Companies' Complaint, subject to either one of the two modifications

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are not "entitled to receive any particular amounts through disbursement of the over-collections, since the price they are paying (based on marginal line losses) is the correct marginal cost for the energy they are purchasing. . . . the method for disbursing the amounts of any over-collections should not directly reimburse customers for their marginal line loss payments, as such a disbursement would interfere with the goal of basing prices on marginal losses . . . '[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.").

[43] *Black Oak Energy, L.L.C. et al. v. PJM Interconnection, L.L.C.,* 125 FERC ¶ 61,042, at PP 37, 44 (2008) ("the only fundamental principle to be applied is that the distribution should in no circumstance be based on the amount paid for transmission line losses, because that would distort the appropriate price signals which the use of marginal line loss pricing is designed to facilitate" and "in order to create appropriate price signals, the credit must not be based on the amount of marginal line losses paid.").

[44] *Atlantic City Elec. Co. v. PJM Interconnection, L.L.C.*, 117 FERC ¶ 61,169, at P 27 (2006); *see also EPIC Merchant Energy NJ/PA, L.P., et al. v. PJM Interconnection, L.L.C.*, 136 FERC ¶ 61,041, at P 5 (2011) ("any crediting mechanism that does not distort the pricing signals may be acceptable").

to the reallocation methodology suggested by PJM in the immediately preceding two paragraphs. Should the Commission not accept the proposal to modify PJM's FTR funding mechanism as proposed in the Complaint, PJM respectfully requests that the Commission issue an order providing guiding principles for PJM and its stakeholders to follow in formulating a more equitable and logical FTR funding mechanism and set a defined timeframe within which PJM must return to the Commission with a proposal respecting such guiding principles. Alternatively, PJM would request this matter be set for hearing and/or settlement.[45]

III. COMMUNICATIONS

PJM requests that the following individuals be placed on the Secretary's service list in this proceeding:

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[45] Such hearing/settlement procedures should be subject to a strict timeline imposed by the Commission so as to prompt movement toward resolution of this matter.

IV. CONCLUSION

For the reasons stated in this answer, the Commission should grant the FirstEnergy Companies' Complaint and hold further proceedings in this matter.

Respectfully submitted,

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On behalf of
PJM Interconnection, L.L.C.

January 13, 2012

CERTIFICATE OF SERVICE

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

Dated at Norristown, PA, this 13th day of January, 2012.

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