

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

PJM Interconnection, L.L.C.

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Docket No. EL14-37-000

**ANSWER AND MOTION FOR LEAVE TO ANSWER  
OF THE INDEPENDENT MARKET MONITOR FOR PJM**

Pursuant to Rules 212 and 213 of the Commission’s Rules and Regulations,<sup>1</sup> Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor (“Market Monitor”) for PJM Interconnection, L.L.C. (“PJM”), submits this answer to the comments submitted in this proceeding on December 27, 2019, by XO Energy LLC (“XO Energy”).<sup>2</sup> XO Energy’s incorrect and misleading arguments do not negate the strong evidence provided by PJM and the Market Monitor supporting the proposed allocation of uplift to up to congestion transactions (“UTCs”).

**I. ANSWER**

The PJM Day-Ahead and Real-Time Energy Markets are locational markets designed to simultaneously procure total energy for the system and respect transmission constraints. Every MW of energy withdrawn from the system requires at least one MW of energy injected to balance supply and demand while also covering transmission losses. The market achieves least cost commitment and dispatch by considering the joint effect of every

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<sup>1</sup> 18 CFR §§ 385.212 & 385.213 (2018).

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

transaction on both the power balance and transmission constraints. Locational Marginal Prices are formed and uplift payments are calculated accordingly.

The fact that UTCs match an injection with a withdrawal, an “energy-neutral position,” does not mean that the market clearing of energy is neutral to or unaffected by the transactions. The market clearing always balances every withdrawal with an injection. UTCs alter the commitment and dispatch of the day-ahead market by creating energy flows on the system like any other transaction. A UTC’s matched injection and withdrawal of energy would only create a truly neutral energy market position if the injection and withdrawal were at the same location. They are not at the same location. A UTC creates flows on transmission constraints as well as transmission losses. If the energy flows created by the UTCs do not occur in real time, they create differences between the day-ahead and real-time dispatch, just like any other day-ahead market position. UTCs change the way PJM clears the day-ahead market with all the associated changes to prices and uplift. For this reason, UTCs are no different than other day-ahead market transactions, which are required to pay a share of uplift.

That the Midcontinent ISO (“MISO”) charges uplift using a different method than PJM does not mean that PJM’s method is flawed. Unlike PJM, MISO’s market design does not include UTCs. It is not clear why virtual injections and withdrawals in the same portfolio should be netted for the allocation of uplift when physical injections and withdrawals are not. Both create energy flows on the system in the day-ahead market, but only the physical energy flows can be provided by the same portfolio in real time. PJM and its stakeholders have not accepted a rationale for netting virtual positions in a portfolio for the purpose of allocating uplift. PJM’s uplift allocation rationale seeks to treat all transactions equally by using the same allocation for all injections and withdrawals. The Commission did not choose to impose MISO’s method on all RTO/ISOs in Order No. 844.

As PJM acknowledges in its November 18 Filing, the simulations do not provide an adequate assessment of the effect of virtual transactions on the energy market. The simulations provide no evidence regarding the effect of UTCs on the real-time market

clearing. Furthermore, the results of the simulations, particularly the uplift results, do not match actual day-ahead market results. For example, the average daily day-ahead uplift is \$157,179 in the simulations, while the actual 2018 average daily day-ahead uplift was only \$93,150.<sup>3</sup> The actual market results presented in the 2018 State of the Market Report show that a 50 percent drop in cleared UTCs from 2017 to 2018 corresponded with an 88.6 percent drop in the difference between day-ahead and real-time cleared physical generation.<sup>4</sup>

Whether the amount of load bid in the day-ahead market and the concentration of day-ahead uplift among the coal plants in the BGE and PEPCO zones are the primary drivers of day-ahead uplift is irrelevant to the question of whether UTCs should pay their share of uplift. Nonetheless, XO Energy's data regarding load bids in the day-ahead market are incorrect. The actual market results show that fixed plus cleared price sensitive load bids in the day-ahead market, averaging 87,506 plus 2,055 MWh, equaled 99.2 percent of real-time load, at an average of 90,307 MWh.

#### **A. Balanced Schedules Affect Uplift.**

UTCs create energy flows in the day-ahead market despite the fact that they pair an injection with a withdrawal. XO incorrectly asserts (at 1) that "[a] UTC is a transmission product that reflects the difference in transmission costs between two points or 'nodes' on PJM's grid and does not include an energy component." XO asserts (at 2) that "UTCs, unlike INCs and DEC, do not have an energy component." XO invents a distinction between transmission and energy costs and then draws incorrect conclusions from that distinction.

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<sup>3</sup> Monitoring Analytics, LLC, *2018 State of the Market Report for PJM*, Vol. II, Section 4: Energy Uplift, at Table 4-1. Total day-ahead uplift for the year was \$34.0 million, which is \$93,150 per day.

<sup>4</sup> Monitoring Analytics, LLC, *2018 State of the Market Report for PJM*, Vol. II, Section 3: Energy Market, at Table 3-15.

XO confuses a balanced schedule (energy neutral) with an absence of energy flow and an absence of effect or a reduced effect on a system solution. There is no basis for the assertion that UTC injections and withdrawals have less impact than any other injection and/or withdrawal in the day-ahead market.

UTCs are directly responsible for a significant portion of market energy flow in the day-ahead market that does not materialize in real time. These UTC MW are not being injected and withdrawn from the same bus, they are being injected and withdrawn from multiple points on the system. UTCs create significant differences between day-ahead and real-time congestion events.<sup>5</sup> The greater the volume of UTCs, the greater the number of congestion events in the day-ahead market and the greater the differences between the day-ahead and real-time congestion events and the day-ahead and real-time markets. As a result of differences in the day-ahead and real-time markets, UTCs contribute to physically infeasible market flows in the PJM day-ahead market which result in UTCs being the net cause of negative balancing congestion in the PJM market.<sup>6</sup>

There is no magic that prevents a balanced schedule from having more or less impact than an unbalanced schedule on the day-ahead market, or in the resulting need to redispatch and recommit units in real time. Market supply and demand is always in balance in any security constrained least cost solution. In a security constrained solution, a 500 MW DEC from one participant will be met with 500 MW of supply, regardless of who supplies it. Having the same participant clear a 500 MW INC somewhere on the system does not eliminate the effect of either the INC or the DEC on system flows or the system solution. The DEC is a 500 MW demand that must be met by 500 MW of supply from some source, and there will be related flows of energy.

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<sup>5</sup> Reply Brief of the Independent Market Monitor for PJM, EL14-37-001, et al. (Dec. 18, 2019) at 5–7 (“IMM Brief”).

<sup>6</sup> *Id.* at 5–12.

As a direct result of their role in and effect on the day-ahead market, UTCs have a significant effect on the resources that are committed for operation in real time, resources that have to be committed in the Reliability Assurance Commitment (RAC), the resources that PJM has to manually commit in real time, and whether the resources are compensated directly through LMP and/or through uplift. This means, like any other injection and/or withdrawal on the system in the day-ahead market, UTCs affect day-ahead and real-time commitment, day-ahead and real-time prices, day-ahead and real-time settlement and day-ahead and real-time uplift.

Netting MW within an account, through a contract or through a transaction does not mitigate the effect of the related flows, any associated deviations between day-ahead and real-time market positions or on any related uplift. The argument that UTCs have special properties that should be rewarded through nonpayment or reduced payment of uplift contradicts the fundamental physics of PJM market operations and is entirely unsupported by any analysis.

**B. A Distinction Between Transmission and Energy Related Uplift Is Contrived and Meaningless.**

Continuing with their theme, XO invents a distinction between transmission and energy uplift and then proceeds to draw incorrect conclusions from that distinction. XO asserts (at 3) that there is a “distinction between energy and transmission-related uplift.” XO points to other ISOs (at 3) as evidence that it is possible to make a distinction in uplift allocations by transaction.

There is no basis for a distinction between energy and transmission based uplift. As PJM noted in its response to the Commission’s questions, “[b]ecause resources are committed and dispatched for energy and transmission constraints simultaneously to

minimize overall production cost, it is not possible to determine what amount of uplift is created by each independently.”<sup>7</sup>

Uplift is the sum of resource cost that is unrecovered from market clearing prices due to inflexibilities in resources. Uplift is exacerbated by over commitments and mismatches in commitment between day-ahead and real-time, and modeling discrepancies between the day-ahead and real-time market. In the day-ahead market the locational prices in the system are the product of the least cost, security constrained dispatch of committed resources and load, including generating units, load, INCs, DEC and UTCs. When market prices are not sufficient to cover the commitment costs of generators, uplift payments must be made. Day-ahead prices are the result of the interaction among all available supply and demand, both virtual and physical, and system transmission constraints. Locational prices are set by the marginal resources that allow supply to equal demand at the least cost, with resources committed and dispatched for energy and transmission constraints simultaneously.

### **C. UTCs Affect the Market and Affect Uplift.**

XO Energy asserts (at 23) that that there is sufficient evidence in the record to demonstrate“ that Up-To Congestion transactions in PJM do not cause uplift, and as such, should not be allocated a share of uplift cost allocation.”

If XO’s assertions were correct, UTCs could not have any effect on the day-ahead market solution. For UTCs to not have any effect on the day-ahead market, UTCs could not be modeled as an injection and a withdrawal in the day-ahead market. PJM’s simple counterfactual analysis presented in its response provides evidence that UTCs do affect the day-ahead market solution, including commitment and dispatch of physical resources. Since UTCs affect day-ahead market solutions, UTCs affect uplift. Both PJM and the Market

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<sup>7</sup> PJM Response, Docket No. EL14-37-000 (Nov. 18, 2019) at 13 (“PJM Response”).

Monitor have conducted and presented analysis showing that “UTCs contribute uplift in essentially the same way as INCs and DECs, and accordingly should be treated comparably.”<sup>8</sup>

UTCs affect uplift as both an injection and withdrawal. UTCs should be treated comparably to INCs and DECs and any other injection and withdrawal.

## II. MOTION FOR LEAVE TO ANSWER

The Commission’s Rules of Practice and Procedure, 18 CFR § 385.213(a)(2), do not permit answers to answers or protests unless otherwise ordered by the decisional authority. The Commission has made exceptions, however, where an answer clarifies the issues or assists in creating a complete record.<sup>9</sup> In this answer, the Market Monitor provides the Commission with information useful to the Commission’s decision-making process and which provides a more complete record. Accordingly, the Market Monitor respectfully requests that this answer be permitted.

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<sup>8</sup> PJM Response at 4.

<sup>9</sup> *See, e.g., PJM Interconnection, L.L.C., 119 FERC ¶61,318 at P 36 (2007) (accepted answer to answer that “provided information that assisted ... decision-making process”); California Independent System Operator Corporation, 110 FERC ¶ 61,007 (2005) (answer to answer permitted to assist Commission in decision-making process); New Power Company v. PJM Interconnection, L.L.C., 98 FERC ¶ 61,208 (2002) (answer accepted to provide new factual and legal material to assist the Commission in decision-making process); N.Y. Independent System Operator, Inc., 121 FERC ¶61,112 at P 4 (2007) (answer to protest accepted because it provided information that assisted the Commission in its decision-making process).*

### III. CONCLUSION

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

Respectfully submitted,



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Dated: January 13, 2020



## 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 13<sup>th</sup> day of January, 2020.



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