UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

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PJM Interconnection, L.L.C.	)	Docket No. ER21-1802-000
	)	

COMMENTS OF THE INDEPENDENT MARKET MONITOR FOR PJM

Pursuant to Rule 211 of the Commission's Rules and Regulations,[1] Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor ("Market Monitor") for PJM Interconnection, L.L.C. ("PJM"),[2] submits these comments responding to the filing submitted by PJM Interconnection, L.L.C. ("PJM") on April 30, 2021 ("April 30th Filing"). The April 30th Filing proposed revisions to the PJM market rules to clarify that generators do not incur lost opportunity costs and PJM does not pay lost opportunity cost uplift when generators are dispatched down for a stability constraint.

PJM designed a new market approach for stability constraints to enhance and clarify PJM's current operational processes for generation stability limits. Stability limits are temporary limits on generator output implemented by PJM during certain transmission outage conditions to prevent increased generator output from causing damage to those generators by causing transient instability on the Bulk Electric System ("BES") that would cause a unit trip and corresponding loss of synchronization in the event of an N-1 contingency. Because the generators have to reduce their output to prevent unstable

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1 18 CFR § 385.211 (2020).

2 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").

operations and damage to the generating units, the units could not have operated at a higher output level and therefore no energy market lost opportunity exists. There is no lost opportunity. Therefore there is no lost opportunity cost.

The Market Monitor supports the proposed revisions and recommends that they be approved.

I. COMMENTS

A. No Lost Opportunity Exists Under the Current Treatment of Stability Limits.

As the April 30th Filing explains, PJM identifies stability limits when transmission outage conditions create a situation in which a specific generator cannot operate at its full operating capacity because operating at that level creates a risk of voltage instability that would cause a unit trip that could damage the generating equipment. Such conditions have occurred with greater frequency in the last few years as more large combined cycle plants connected directly to the 500kV transmission system. Under the current treatment of stability limits, PJM requests that the generator reduce its offered economic maximum output limit to the market, and PJM models a surrogate constraint that limits the economic dispatch of the generator.[3] To create the surrogate constraint, PJM reduces the modelled constraint limit on an existing transmission line. The reduced constraint limit is adjusted in real time based on the output of the resource. Fluctuations in the output of the resource or in other flows on the transmission line cause price fluctuations that are inconsistent with the economic dispatch of the market and cause transmission constraint violations that allow virtual traders to profit from false arbitrage.[4]

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3 *See* PJM Manual 3: Transmission Operations, Rev. 58 (November 19, 2020) at Section 3.9.1.

4 *See* Monitoring Analytics, L.L.C., *2021 Quarterly State of the Market Report for PJM: January through March*, Section 3: Energy Market (May 13, 2021) at 158 ("Where arbitrage incentives are created by systematic modeling differences, such as differences between the day-ahead and real-time modeled transmission contingencies and marginal loss calculations, virtual bids and offers cannot result in more efficient market outcomes. Such offers may be profitable but cannot change the underlying

Both the surrogate constraint and the reduction of the economic maximum output limit alter the economic dispatch of the resource so that the dispatcher directed manual reduction in dispatch, or difference between desired MW and dispatch MW, that would trigger uplift payments under Operating Agreement, Schedule 1, Section 3.2.3(f) does not occur.[5] The reasons for changing the approach to stability limits has nothing to do with uplift. The change is intended to avoid the aberrant pricing outcomes that result from the current approach and to remove the responsibility for the generator to reduce the economic maximum output limit to reflect system conditions that PJM monitors and controls for.

B. No Lost Opportunity Exists Under the New Treatment of Stability Limits.

The generator output constraint approach makes the treatment of generator stability limits consistent with the treatment of any other constraint on generator operation, such as a ramp rate constraint. Like other generator constraints, the generator stability limit constraint does not directly affect pricing or trigger eligibility for an uplift payment. When a generator constraint limits the output of a resource, there is no lost opportunity cost incurred to trigger a payment under OA Schedule 1, Section 3.2.3(f). The only difference between the stability limit and other generator constraints is that PJM takes the action to impose the limit instead of the generator, because PJM is the entity with the necessary information to do so.

The reason there is no lost opportunity cost is that there is no lost opportunity. Violating the stability limit to achieve higher energy market revenues at the risk of

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reason for the price difference. The virtual transactions will continue to profit from the activity for that reason regardless of the volume of those transactions and without improving the efficiency of the energy market. This is termed false arbitrage.”).

5 The April 30th Filing (at 4) states that “current market rules regarding lost opportunity cost will apply.” The current market rules do not make a unit eligible for uplift based on the dispatch outcomes that result from a reduced economic maximum output limit or a surrogate constraint that enforce the stability limit in real-time market dispatch.

damaging the generating equipment is not rational or economic behavior for a generator. The new generator output limit approach explicitly and clearly recognizes that fact. The April 30th Filing documents that treatment in the PJM Operating Agreement to provide clarity. For this reason, the Market Monitor supports the April 30th Filing.

II. CONCLUSION

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

Respectfully submitted,

Jeffrey W. Mayes

Joseph E. Bowring
Independent Market Monitor for PJM
President
Monitoring Analytics, LLC
2621 Van Buren Avenue, Suite 160
Eagleville, Pennsylvania 19403
(610) 271-8051
joseph.bowring@monitoringanalytics.com

Jeffrey W. Mayes

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

Catherine A. Tyler
Deputy Market Monitor
Monitoring Analytics, LLC
2621 Van Buren Avenue, Suite 160
Eagleville, Pennsylvania 19403
(610) 271-8050
catherine.tyler@monitoringanalytics.com

Dated: May 21, 2021

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 21st day of May, 2021.

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