

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

PJM Interconnection, L.L.C.	)	
	)	Docket No. ER20-1414-000
	)	

**COMMENTS OF THE INDEPENDENT MARKET MONITOR FOR PJM**

Pursuant to Rule 211 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”),<sup>2</sup> submits these comments in support of the filing submitted by PJM Interconnection, L.L.C. (“PJM”) on March 27, 2020 (“March 27<sup>th</sup> Filing”). The proposed revisions to the Section 1.10.9B of Schedule 1 to the OA provide sellers with the ability to submit hourly differentiated segmented ramp rates for resources in both the PJM Day-Ahead Energy Market and the Real-Time Energy Market, and to update those values intraday. Approving the March 27<sup>th</sup> Filing will allow PJM to dispatch generating units, and model units, based on more accurate information, improving the efficiency of PJM markets.

A ramp rate is the rate at which a generating unit can change output (both up and down) measured in MW per minute. In PJM, generators are allowed to submit either a single ramp rate for their entire MW output range or a ramp rate curve that specifies the ramp rate at different MW points in their output range. PJM also allows generators to have different ramp rates based on direction. The ramp rate curve allows for ramp rates for increasing output (up ramp rate) and ramp rates for decreasing output (down ramp rate).

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<sup>1</sup> 18 CFR § 385.211 (2019).

<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”).

PJM's proposal will expand ramp rates to allow hourly differentiated ramp rates and allow for intraday changes to ramp rates.

Units' inflection points on their ramp rate curve (the points at which the ramp rate changes) are dependent on ambient conditions and the equipment available. Currently, generators can submit only one ramp rate curve for the entire operating day. This means that, at best, generators can submit a ramp rate curve that is correct for some hours of the day but not all. Allowing hourly differentiated ramp rates will enable generators to provide PJM with more accurate information about how their units can be dispatched. For example, a generator will be able to inform PJM that on a 32°F morning, a unit's ramp rate is 5 MW/minute and that on the same day, when temperatures reach 60°F, the unit's ramp rate is only 4.5 MW/minute. This type of information is crucial for providing generators the correct dispatch signal and to manage the system.

In real time, as ambient conditions change or equipment, like duct firing, goes in or out of service, it may be necessary for generators to inform PJM of changes in their ramp rates. Allowing intraday updates to ramp rates will enable generators to provide PJM with more accurate information in real time.

The Market Monitor supports generator modeling improvements. Better generator modeling improves commitment, dispatch, pricing and reliability. PJM itself currently calculates adjustments to unit ramp rates based on observed unit performance in an attempt to more accurately measure energy and synchronized reserves. These adjustments to energy and reserve calculations are known as the Degree of Generator Performance (DGP). More accurate generator submitted ramp rates should decrease PJM's reliance on PJM overriding inaccurate generator submitted ramp rates using DGP and should improve the actual measurement of energy and reserves. But any actual improvements to market efficiency depend on generators submitting updated ramp rates and ramp rates based on actual physical capability. The proposed rules create the opportunity but not the obligation to submit accurate ramp rates. There are no explicit rules requiring such accuracy. For example, ramp rates are not subject to parameter mitigation and are not required to be based on actual physical resource capability. The Commission should require PJM to add

protections to the PJM Market Rules to ensure that generators provide achievable and accurate ramp rates based on actual physical capability. This would ensure that the intended market efficiency benefits are realized. This would ensure that generators do not simply submit inaccurate ramp rates that make it more difficult for PJM to efficiently manage the system. This would ensure that generators cannot use ramp rates to misrepresent capacity in order to exercise market power.

The rule changes proposed in the March 27<sup>th</sup> Filing contribute to the objectives of improved market modelling and performance and should be approved along with additional protections to ensure that the improvements actually increase market efficiency, including requirements that the ramp rates must reflect actual and achievable physical capability.

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,



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Dated: April 17, 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 17<sup>th</sup> day of April, 2020.



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