

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

Electric Transmission Incentives Policy Under	)	Docket Nos. RM20-10-000
Section 219 of the Federal Power Act	)	AD19-19-000
	)	

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

Pursuant to the Notice Inviting Post-Workshop Comments issued October 18, 2021, Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor (“Market Monitor”) for PJM Interconnection, L.L.C. (“PJM”),<sup>1</sup> submits these comments.

The Market Monitor filed comments responding to the notice of inquiry that initiated this phased of the proceeding on July 1, 2021.<sup>2</sup> In those comments, the Market Monitor explained that the opportunity to build projects is an adequate incentive to build transmission projects. Regulation through competition is the best way to ensure that transmission projects are built and are built at lowest cost. Section 219 of the Federal Power Act does not require administrative adders to transmission rates to encourage the building of new transmission facilities.<sup>3</sup> That Section 219 encourages transmission infrastructure investment does not change the fundamental purpose of the Federal Power Act to protect

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<sup>1</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”).

<sup>2</sup> See *Electric Transmission Incentives Policy under Section 219 of the Federal Power Act* Electric Transmission Incentives Policy Under Section 219 of the Federal Power Act, 170 FERC ¶ 61,204 (March 20, 2020); see also *Inquiry Regarding the Commission’s Electric Transmission Incentives Policy*, 166 FERC ¶ 61,208 (March 21, 2019).

<sup>3</sup> See 16 U.S.C. § 824s (2005).

consumers and ensure just and reasonable rates.<sup>4</sup> In PJM, regulation through competition protects the public interest in access to electric power at the lowest possible cost. Regulation through competition should be extended more completely to transmission investments.

The Commission convened a special workshop to consider the WATT Proposal on September 10, 2021. The Market Monitor provides these comments in response to the WATT Coalition's proposals to provide increased, but undefined, levels of incentive payments for investment in Grid Enhancing Technologies (GETs) ("WATT Proposal").<sup>5</sup>

## I. COMMENTS

GETs should be widely adopted and continued development of GETs should be encouraged. As stated by the Commission, GETs can increase the capacity, efficiency, or reliability of transmission facilities. The Commission can change regulatory approaches to GETs by addressing incentives or by direct requirements for the adoption of grid-enhancing technologies. For purposes of this discussion, GETs include, but are not limited to: (1) power flow control and transmission switching equipment; (2) storage technologies; and (3) advanced line rating management technologies.<sup>6</sup> The Market Monitor recommends that batteries not be included as transmission assets or considered to be GETs.

Given the weaknesses of the current transmission cost of service regulatory paradigm as a mechanism for competitive, efficient and flexible outcomes compared to a market approach, no new technologies should be included as transmission assets unless it is

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<sup>4</sup> See 16 U.S.C. § 824s(d).

<sup>5</sup> The Commission cited to comments filed September 3, 2021, by WATT Coalition and Advanced Energy Economy ("WATT Coalition et al."). The WATT Coalition et al. had also filed initial comments in the notice of inquiry proceeding on June 26, 2019, in Docket No. PL19-3-000, including a White Paper on Transmission Technologies and Incentives, prepared by the Brattle Group (Appendix D).

<sup>6</sup> *Grid Enhancing Technologies*, Docket AD19-19-000, Supplemental Notice of Workshop, (November 11, 2019).

unavoidable. In the case of batteries, there is no reason to include batteries as transmission assets. There are market opportunities for batteries to compete and if batteries are economic, private investors will build batteries, take the associated risks and receive the associated rewards. Inclusion of batteries as a transmission asset will have a negative impact on competition to provide batteries.

The goal with respect to GETs should be to establish a regulatory approach that relies on Commission directives to require inclusion of the technologies when appropriate, and that, to the maximum extent possible, relies on competition and market incentives for the construction and operation of GETs. The fact that GETs are not already well established in U.S. wholesale power markets is evidence that the cost of service paradigm is not working to provide incentives for efficient, least cost solutions. The market paradigm does not rely on cost of service ratemaking, including paying higher rates of return to regulated utilities to encourage innovation. The cost of service approach is not well suited to providing incentives for cost cutting innovations. Under the cost of service approach, the regulated companies prefer higher levels of investment to lower levels of investment to reach the same goal because higher levels of investment lead to higher total returns for the regulated companies.

As a result, the Market Monitor agrees that a new approach to encouraging and facilitating investment in beneficial GETs is required.

A well defined market approach should provide for competition to provide GETs, even if the incumbent transmission owner has not requested it, an evaluation by the RTO/ISO of the value of the investment, and rules to ensure that the GETs providers do not exercise market power. RTOs/ISOs should establish competitive procurement processes to acquire cost effective GETs investments. The competitive process should apply to all grid enhancing technologies, regardless of the associated investment level. GETs providers should be permitted to propose investments under this process. Other providers, including incumbent TOs, should be invited to make competing offers to provide comparable services. All should be evaluated and the least cost option should be selected. The

investment should be treated as a transmission investment and cost capped at the corresponding cost of service rate. Depending on the level of interest from GETs providers, the process could be expanded and regularized and streamlined.

The WATT Proposal is not consistent with these basic principles. Payments to GETs investors based on a share of the benefits would result in significant overpayment by customers. The proposal to share benefits would result in rates of return on investment that would likely vastly exceed current allowed rates of return. The WATT Proposal does not appear to address likely rates of return or the reasonableness of such rates of return. The WATT Proposal does not assert that such rates of return are competitive or required in order to incent investment in GETs. The unsupported assertion that such technologies should be paid rates of return well in excess of the returns paid to transmission owners (TOs) should be rejected. Such rates of return are not explicitly identified or capped in the WATT Proposal but would clearly result when low cost investments result in very large asserted benefits. Those who support these rates of return based on the purportedly reasonable shared savings approach never calculate or even reference the rates of return that would result. It is a routine part of standard ratemaking in the transmission area that transmission owners are compensated based on their costs, including a return on and of capital, for building projects with benefits that vastly exceed those costs. It is not a part of such ratemaking that TOs are paid upfront for an arbitrary share of speculative benefits, regardless of the resulting rate of return on investment. There is no reason to make such payments for GETs.

The market approach does not rely on counterfactual benefit sharing. It is not reasonable to rely on ongoing real-time counterfactual analysis of what price differences would have been, or how the markets would have cleared, but for the investment in power flow control technology, for example. Such counterfactual approaches are complex, subject to increasingly difficult interaction effects as more new investments are made, subject to subjective judgments and subject to significant measurement errors as demonstrated by the measurement issues for demand side resources. Benefit sharing is a variant of the standard

regulatory paradigm rather than a market approach, but without the benefit of a defined rate of return which would limit the excess compensation that is likely under this approach. The implied rates of return from the counterfactual benefit sharing approach are many multiples of the incentive rates of return considered for traditional transmission investments. Benefit sharing will result in significant overpayment for these technologies and payment well in excess of competitive rates of return.

The market approach does not rely on cost/benefit analysis or benefit sharing as the basis for compensation. Benefit sharing is speculative by definition and is based on expectations about an uncertain and unknowable future. Assuming that an appropriate metric for defining benefits were defined, benefit analysis cannot address the dynamic intertemporal variability of congestion or the dynamic locational variability of congestion or the more general changes in market dynamics over the likely life of the assets. In the case of power flow control, benefits are the result of the dynamic dispatch of the technology that can affect the market in unpredictable ways, including higher costs for some customers and lower costs for other customers. Cost/benefit analysis as currently used to support transmission investment in PJM also includes subjective judgments, incomplete definitions of costs and benefits, and an incorrect definition of congestion.

Using a competitive, market based approach seems to be a straightforward solution to the incentives issue. But it is not. The optimal roles of market operators and market participants need to be defined. There are complexities in defining the metrics for where a technology should be located on the network. There are complexities in the interactions between competitors and existing transmission companies. There are complexities in defining how the technology should be dispatched once it is installed. There are complexities in defining exactly what is being bought and sold. For example, selling the rights to FTRs on a path is not a workable solution for compensating new power flow control technologies. One issue is that this approach would create incentives to not fully relieve the constraint. If the constraint were fully relieved, the FTR would have no value. The simple difference in prices between nodes is not a good measure of the need for a new

investment. When FTRs are defined based solely on day-ahead price differences and ignore real-time price differences, FTR value is not a good metric of benefits.

The Commission should support the market paradigm and focus on developing the details of a market approach for new transmission technologies rather than relying on inefficient and atavistic incentive approaches that will lead to overpayment and rates well in excess of the competitive and efficient level. There is no reason not to begin immediately. Any initial design should avoid the creation of vested interests that would inhibit the continued development of competition. A first step could be competing to receive regulated revenues for the relevant technology, e.g. DLR technologies. After a competition to determine the lowest offer to install a defined technology over its defined life, the winner would receive its competitive offer price for the asset over its life based on performance guarantees. This would be a significant step in the direction of more comprehensive market based solutions.

As an example of the complexities of defining the benefits of GETs, the reduction in congestion is frequently cited as a metric of benefits. Some reports cite to increasing congestion in PJM and elsewhere as a reason to invest in GETs. Some have proposed receiving a share of reduced congestion as an incentive for adding GETs.

Congestion is frequently misunderstood. Congestion is not static. Congestion exhibits dynamic intertemporal variability and dynamic locational variability. More importantly, congestion is not the correct metric for evaluating the potential benefits of enhancing the transmission grid through GETs.

When there are binding transmission constraints and locational price differences, load pays more for energy than generation is paid to produce that energy. The difference is congestion. Congestion is neither good nor bad, but is a direct measure of the extent to which there are multiple marginal generating units with different offers dispatched to serve load as a result of transmission constraints. Congestion occurs when available, least-cost energy cannot be delivered to all load because transmission facilities are not adequate to deliver that energy to one or more areas, and higher cost units in the constrained area(s)

must be dispatched to meet the load. The result is that the price of energy in the constrained area(s) is higher than in the unconstrained area. Load in the constrained area pays the higher price for all energy including energy from low cost and energy from high cost generation while high cost generators are paid the high price at their bus and low cost generators are paid the low price at their bus.

Counterintuitively, congestion actually increases when the transmission capacity between areas with lower cost generation and areas with higher cost generation increases but does not fully eliminate the need for some higher cost local generation. The smaller the amount of higher cost local generation needed to meet load, the more of the local load is met via low cost generation delivered over the transmission system and therefore the higher is the difference between what load pays and generation receives, congestion.

## II. CONCLUSION

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

Respectfully submitted,



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