UNITED STATES OF AMERICA

BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

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

Post-Technical Conference Comments of the WATT Coalition,

American Clean Power Association, Advanced Energy Economy, American Council on Renewable Energy, Natural Resources Defense Council, and Sustainable FERC Project

Working for Advanced Transmission Technologies ("WATT Coalition"), the American Clean Power Association ("ACP"), Advanced Energy Economy ("AEE"), American Council on Renewable Energy ("ACORE"), Natural Resources Defense Council ("NRDC"), and Sustainable FERC Project, (collectively, "Clean Energy Parties") submit these post-workshop comments in response to the Federal Energy Regulatory Commission's ("Commission") September 10, 2021 workshop addressing certain shared savings incentive approaches that may foster deployment of transmission technologies ("Workshop") in the above-captioned proceeding.[1] The record in this proceeding demonstrates that Grid-Enhancing Technologies (GETs) facilitate just and reasonable

[1] *Electric Transmission Incentives Policy Under Section 219 of the Federal Power Act*, Notice Inviting Post-Workshop Comments, Docket Nos. RM20-10 (Oct. 18, 2021).

rates and that a dedicated non-Return on Equity ("ROE") incentive is vital to facilitate the widespread adoption and deployment of GETs. In particular, a "shared savings" approach such as what WATT has suggested would efficiently incent deployment of these technologies. The WATT shared savings proposal that is the subject of this proceeding is in line with these goals, ensuring that utilities have incentives to invest in technologies that improve the performance of the existing system and get more capacity out of existing transmission facilities.

Adopting the shared savings proposal would fulfill the intent of Congress, expressed over fifteen years ago in Section 219(b)(3) of the Federal Power Act ("FPA"),[2] that the Commission adopt incentives (including performance-based ratemaking) to "encourage deployment of transmission technologies and other measures to increase the capacity and efficiency of existing transmission facilities and improve the operation of the facilities."[3] The shared savings proposal achieves this long unfulfilled Congressional mandate while ensuring that rates are just and reasonable.

I. COMMENTS

A. Congress unambiguously directed the Commission to implement a non-ROE incentive to encourage the deployment of advanced transmission technologies

Most of the comments in this docket that opposed the shared savings incentive and at the September 10, 2021 Technical Conference were, at their core, disputing the merits of the law that requires incentives. The merits of the law were not the subject of the docket nor the Technical Conference. There remains a need for the Commission to fulfill its responsibilities under Section 219(b)(3) of the FPA to provide incentives for GETs.

[2] 16 U.S.C. § 824s(b)(3).
[3] *Id.*

Some comments assert that a shared savings incentive is unnecessary because transmission-owning public utilities can fully recover the cost of GETs deployments with a standard rate of return, just like any other investment. These assertions not only ignore the reality that utilities have little incentive to invest in low-cost GETs under the traditional cost-of-service ratemaking paradigm; they also ignore that Congress answered the question of whether incentives are necessary to deploy GETs when it enacted section 219(b)(3) of the FPA in the Energy Policy Act of 2005. The structure of FPA Section 219 makes clear that Congress intended to facilitate the deployment of advanced transmission technologies using non-ROE incentives. First, FPA 219 specifically identifies that FERC's incentive-based rates should include performance-based rate treatments. Second, FPA section 219(b)(3) unambiguously directs the Commission to "encourage deployment of transmission technologies and other measures to increase the capacity and efficiency of existing transmission facilities and improve the operation of the facilities."[4] Notably, this requirement is distinct from FPA section 219(b)(2), which explicitly directs the Commission to "provide a ROE to attract new investment in transmission facilities (including related transmission technologies)."[5] Had Congress intended the Commission to use solely ROE incentives to encourage the deployment of GETs, it could have done so. But it did not. In short, Congress directed the Commission to utilize both ROE and non-ROE incentives to encourage GETs deployment.[6]

[4] 16 U.S.C. § 824s(b)(3).

[5] 16 U.S.C. § 824s(b)(2).

[6] This is consistent with the Supreme Court's rule against superfluities. *See,* e.g. *Hibbs v. Winn*, 542 U.S. 88, 101 (2004) (*citing* 2A N. Singer, Statutes and Statutory Construction § 46.06, pp. 181–186 (rev. 6th ed. 2000) ("A statute should be construed so that effect is given to all its provisions, so that no part will be inoperative or superfluous, void or insignificant...")).

The Commission has not yet fulfilled its responsibilities under Section 219(b)(3) of the Federal Power Act to provide incentive-based rate treatments for GETs.[7] The WATT Proposal would satisfy this obligation, and as discussed below, the Commission does not have another compliant proposal before it.

B. The record demonstrates that the proposed incentives would ensure just and reasonable rates

Notwithstanding the clear legal directives of FPA sections 219(b)(3) and 219(d) (which requires that any incentives result in just and reasonable rates), the Commission can and should implement a shared savings incentive for GETs because it is the most efficient way to encourage the deployment of GETs at just and reasonable rates. Presently, Commission-jurisdictional transmission owners have little incentive to deploy GETs under standard cost-of-service ratemaking.[8] This has the effect of raising rates for transmission service, as the Clean Energy Parties and many other parties have demonstrated in this docket,[9] as utilities build new transmission projects to provide transmission capacity that could otherwise be unlocked on existing facilities through the use of GETs. By contrast, low-cost GETs projects that improve grid efficiency can significantly reduce congestion and the production costs for power, helping ensure that rates in wholesale markets are just and reasonable.[10]

Although many regions have planning processes whereby transmission projects that have economic benefits (as opposed to projects that are required to meet reliability criteria) can be

[7] *See* 16 U.S.C. § 824s(a) (requiring the Commission to establish such incentives by rule no later than 1 year after August 8, 2005).
[8] *See* WATT Coalition and AEE comments, Docket No. RM20-10, at 5-6 (July 1, 2020)
[9] *Id.*
[10] *See* WATT Coalition Reply Comments, Docket No. PL19-3, at 1-2 (Aug. 26, 2019).

proposed and approved, transmission-owning utilities earn only a small return on identifying and building low cost projects that reduce congestion costs in their territories. Neither the Regional Transmission Operator/Independent System Operator ("RTO/ISO") nor third parties have visibility on what the utility is willing and able to do on their system. The costs and/or financial benefits are simply passed through to consumers and generators, with a return on investment allowed on the small amount of capital costs in these projects. Technologies that can provide these benefits therefore face significant barriers compared to traditional utility capital investment practices, which results in inconsistency with Congress' clear intent.

The Commission should remove these barriers, as Congress intended. The shared savings proposal is a performance-based ratemaking approach to removing these barriers (which Congress directed the Commission to implement as part of an overall incentives rule) that links financial benefit to specific desired results, and uses the planning process to define and require demonstration of those outcomes. Many objections raised at the Technical Conference ignore that performance-based ratemaking is intended to reward investments that are geared toward beneficial outcomes for consumers, rather than simply granting a flat return on investment regardless of outcome.[11] Concepts like "true-ups" are inconsistent with performance-based ratemaking and reduce the incentive to produce beneficial consumer outcomes that performance-based ratemaking is designed to achieve. The record shows that shared savings incentives like those suggested in the WATT Proposal can be highly effective in motivating deployment of GETs.[12]

[11]Advanced Energy Economy, *Performance-Based Regulation: Aligning Utility Incentives With Policy Objectives and Customer Benefits*, at 4 (June 5, 2018).
[12]Andrew Hiorns, Hiorns Smart Energy Networks, Grid-Enhancing Technologies Workshop Day 2 Transcript, Docket No. AD19-19, at 216, lines 20-25, and 217, lines 1-9 (Nov. 6, 2019).

C. Concerns regarding the ability to calculate consumer benefits are misplaced; the shared savings proposal relies on common tools already used in the industry to calculate benefits

Certain commenters claim it would not be possible to calculate benefits associated with GETs.[13] This is not the case. The shared savings proposal utilizes the same or very similar modeling processes, tools, and metrics as currently used by RTOs/ISOs today in their transmission planning processes. In particular, the shared savings proposal relies on estimated production cost savings, a metric often used by utilities and RTOs/ISOs in planning. The RTOs/ISOs themselves recognize this fact. At the November 5-6, 2021 GETs Technical Conference, Commission staff asked Craig Glazer, Vice President of Federal Government Policy for PJM Interconnection, L.L.C. ("PJM"): "Are RTOs and ISOs able to calculate the benefits required under the WATT Coalition proposal?"[14] Mr. Glazer responded "...the short answer is we can do this. We effectively do this now through the Order 1000 process. It's part of the screening process."[15]

Unavoidably, there is at least some uncertainty in every aspect of public utility planning – so perfect foresight should not be the standard (just as it is not in other aspects of Commission-jurisdictional rates).

[13] *See*, e.g., Joe Bowring, Independent Market Monitor for PJM, Grid-Enhancing Technologies Workshop Day 2 Transcript, Docket No. AD19-19, 311, lines 12-25, and 312, lines 7-16 (Nov. 6, 2019).
[14] Samin Peirovi, Office of Energy Policy and Innovation, Grid-Enhancing Technologies Workshop Day 2 Transcript, Docket No. AD19-19, at 316, lines 5-9 (Nov. 6, 2019).
[15] Craig Glazer, PJM, Grid-Enhancing Technologies Workshop Day 2 Transcript, Docket No. AD19-19, at 316, lines 10-15 (Nov. 6, 2019).

D. Numerous layers of consumer protection are built into the proposal

Panel 2 of the Workshop focused on mechanisms to protect consumers from unjust and unreasonable rates stemming from the disbursement of an incentive. Some panelists claimed that allowing public utility transmission owners to keep a small portion of the savings created by a GETs project as an incentive to invest in such technologies presented risks to consumers. These claims ignore the fact that even though a portion of the savings are diverted to the project proposer, allowing the remaining savings to accrue to consumers is a dramatic improvement over the status quo, where customers pay the costs of network congestion instead of receiving savings from resolving that congestion – and GETs can often resolve congestion at a low cost relative to other potential solutions. Moreover, the shared savings proposal includes multiple layers of consumer protection:

- A project must be approved in a Commission-approved economic planning process that verifies that it will achieve cost-benefit ratio of at least 4 to 1, a threshold well above those typically used to approve transmission cost allocation under the "roughly commensurate" standard;
- The shared savings rate is only in place for a 3-year period, with a requirement to reapply for the incentive to continue in subsequent periods and show that savings have materialized as estimated;
- Only estimated production cost savings are calculated as benefits, a conservative approach to meeting the 4 to 1 ratio requirement;

- Transmission owning public utilities are limited to retaining 25% of the total savings from the project, ensuring that consumers, rather than the developer, receive the lion's share of the benefits;
- For small projects, the proposal includes a cap on total incentives of $10 million, while for mid-size projects, a competitive process is utilized that encourages project proponents to propose reasonable sharing terms in order to win the right to develop the project; and
- Project costs, including the cost of incentives, flow through transparent formula rates.

In addition, the Commission could consider requiring the filing of informational reports of actual savings to improve transparency of project operations in practice. Finally, the protections of FPA Section 206 remain available should costs or benefits turn out to be wildly different than expectations; Congress, in Section 219, specifically indicated its intent that this consumer protection embedded in the FPA remain a primary tool for protecting customers.

Some commenters argued that utilities will still prefer to build a new transmission line rather than install a GETs project because the new transmission line's Net Present Value would be greater than the expected shared savings disbursement from the GETs project over 50 years.[16] While we agree that is likely true in some situations, in the experience of Clean Energy Parties, GETs are often *complementary* to large capital projects and can make them more financially feasible and valuable in the long term. GETs serve both as intermediate or "bridge" solutions while longer-term projects are planned and realized to manage congestion during line outages needed for construction of new lines, and to optimize flows once major new assets are placed in

[16] *See*, e.g., Bob Weishaar, Industrial Energy Consumers of America, Workshop to Discuss Certain Performance-based Ratemaking Approaches Transcript, Docket Nos. RM20-10 and AD19-19, at 113, lines 13-21, (Sept. 10, 2021).

service. In this way, GETs can offer an improvement on the benefit-to-cost ratios of new transmission infrastructure. There are typically complex and challenging (both for reliability and economic reasons) grid outages associated with constructing large transmission projects. The fact that GETs can be easily and practically re-deployed can help to minimize any impact of these construction projects. Utilities in the United States and abroad are already looking to deploy GETs for this unique application.

E. No viable alternative to the shared savings proposal that would comply with the directive of Congress in FPA Section 219 has yet been proposed

While Clean Energy Parties, and the WATT Coalition in particular, provided a fully formed and specific proposal throughout this proceeding, Clean Energy Parties have consistently said that there may be other workable approaches and have encouraged the development of such alternatives. However, at this point, two and a half years after the submittal of a shared savings approach in Docket No. PL19-3-000, only one other proposal has been submitted. Unfortunately, as discussed below, this alternative is not workable, leaving the shared savings proposal as the only fully formed proposal that can meet the Commission's obligations under FPA Section 219.

Specifically, the one alternative approach was offered by Dr. David Patton, President of Potomac Economics. Dr. Patton suggested incentivizing GETs deployment by providing financial transmission rights ("FTRs") and incremental capacity rights to the GET project sponsor.[17] However, Clean Energy Parties submit that this proposal is not workable for GETs developers and transmission owners because:

[17] David Patton, Potomac Economics, Grid-Enhancing Technologies Workshop Day 2 Transcript, Docket No. AD19-19, at 313, lines 3-15, (Nov. 6, 2019).

- The transmission owner that decides on GET deployment would not keep the benefit in most cases, given how they are regulated and how FTR allocations are determined under RTO/ISO tariffs.

- Network congestion can be highly volatile and depends on many different factors that, other than transmission outages, are not within the purview of the transmission owner. Examples include fuel costs, generation expansion, and occurrence of extreme weather events.

- Compensation based on FTRs is an ineffective incentive for efforts that provide significant congestion mitigation. For example, if congestion in a given area is fully relieved through the use of GETs, FTRs in that area would have no value.

- Incremental capacity rights granted via FTRs are geared towards projects that provide additional transmission capacity in a planning sense, whereas GETs are usually designed to deliver congestion mitigation benefits in the operational timeframes in a more variable manner than planning capacity frameworks can accommodate. As a result, the more crude long term FTR would not reflect the value provided to consumers in shorter time frames.

The shared savings proposal motivates transmission owners by providing *ex-ante* shared savings compensation, which provides certainty to the return on GET investments (and efforts) to proposers – consistent with the certainty they have for investments in large capital projects.

This would appropriately align incentives of transmission owners and customers, which the FTR proposal would not achieve.

F. Operators and planners have experience in modeling power flow control

At the Workshop, certain speakers raised concerns regarding whether Advanced Power Flow Controls can be modeled.[18] The answer is yes. Flexible AC Transmission System ("FACTS") devices, in which advanced power flow control is typically grouped, have been around since at least the 1990s and are consistently used in operations and scheduling to address real-time constraints. RTOs/ISOs in the United States, as well as system operators abroad, have significant experience modeling this type of technology, with certain assumptions on how they will operate it.[19] Some transmission owners have already modeled advanced power flow control, and system operators globally are modeling this technology with a range of dynamic operating assumptions.[20] However, the WATT Proposal suggests basing benefits on production cost savings, which do not require complex control and operational modeling capabilities for quantification. Therefore the WATT shared savings proposal can be implemented.

G. Incentives for Software and Capital GETs Projects Should be Consistent

At the November 5-6, 2021 GETs Technical Conference, David Patton from Potomac Economics raised questions about whether it is appropriate to provide the same type of incentives for software projects as compared to other projects. For example, he stated that "...it

[18] David Patton, Potomac Economics, Workshop to Discuss Certain Performance-based Ratemaking Approaches Transcript, Docket Nos. RM20-10 and AD19-19, at 183, lines 16-25, and 184, lines 1-20, Sept. 10, 2021).

[19] AEMO, *2020 ISP Appendix 3. Network Investments*, at 25, (July 2020). Victoria-New South Wales Intertie (VNI) preferred option including power flow controllers.

[20] EPRI, *Evaluation of SmartValve™ Devices Installation at Central Hudson*, (Aug. 2020).

feels like the incentives that are appropriate for software is much different than for capital investment… I would never advocate that any of the things they've done in the past [to] improve the optimization of the system, that they should somehow keep a portion of the savings that they achieved by doing that."[21]

While we agree that these projects may feel different, we argue that they should be treated consistently for the purposes of setting performance-based rates. Any investment in innovation, be it for capital projects or for incorporating new software or optimized processes, requires investment in the most scarce resource TOs and RTOs have: the time of their most experienced and qualified staff. By design, access to capital is not a challenge given the utility regulatory framework, but the time of their expert staff is limited. As such, there is no difference between software and other types of projects for all practical purposes, since at the end of the day the transmission owner or RTO needs to allocate expert staff time between them regardless of the type of project. The shared savings proposal provides incentives that have the same structure regardless of the project type (software or otherwise), and would give incentives that are proportional to the benefits that ratepayers get from the project. Thus, the firms would have the incentive to allocate their expert staff time to projects that deliver the most benefits to ratepayers, as they should, regardless of the project type.

We also note that the efforts made by transmission owners and RTOs to optimize the system in the past two decades were usually made to directly optimize the operation of generation and other market resources, in which case there is no incentive problem, or if there is, it is more limited than in the case of transmission optimization. In the very few instances where

[21] David Patton, Potomac Economics, Grid-Enhancing Technologies Workshop Day 1 Transcript, Docket No. AD19-19, at 59, lines 8-14, (Nov. 5, 2019).

the efforts were related to transmission operations, the purpose has usually been to improve reliability rather than for efficiency improvements (for example, switching solutions tend to be used in an ad-hoc basis to mitigate overloads). The shared savings proposal aims to have RTOs and transmission owners implement very different projects from those they have done in the past.

H. Protections against circumvention of the project cost cap are possible

At the Workshop, the question was raised whether there was any risk that applicants might attempt to circumvent the $25 million capital cost threshold for medium-sized projects proposed by WATT by breaking large GETs projects into smaller ones to meet the cap requirements.[22] This question is based on the faulty premise that the reviewing entity would be unable to differentiate between benefits quantified for different projects. Today, individual utility reliability projects are approved as just and reasonable by referencing specific benefits flowing from each project; each is approved by detailing their own benefits. The Commission is perfectly capable of ensuring that utilities do not double-count project benefits. GETs projects should be no different. If, for example, a shared savings incentive applicant can demonstrate that multiple regionally-adjacent projects that each save customers $100 million (for example, 4:1 benefit-to-cost ratio for a $25 million project), it would behoove the Commission to closely scrutinize those projects so customers can ultimately realize the savings from those projects.

I. Operational complexity can be accommodated

[22] Samin Peirovi, Office of Energy Policy and Innovation, Workshop to Discuss Certain Performance-based Ratemaking Approaches Transcript, Docket Nos. RM20-10 and AD19-19, at 302, lines 17-25 (Sept. 10, 2021).

Some November 5-6, 2021 GETs Technical Conference participants claim that deployment of GETs would increase operational complexity.[23] These claims of operational complexity are not reasons to reject incentives, particularly ones required by law. Rather, using incentives to encourage the adoption of new approaches provides operational experience and opportunities for learning, and incentives are effective at, and explicitly designed to, encourage this kind of innovation. Many innovations in the electric sector were once considered complex, before they were adopted and became mainstream. Various types of GETs have been deployed and operationalized both in the United States and internationally,[24] demonstrating that the minimal operational complexities associated with GETs have been actively addressed as these new technologies become more mainstream. As evidenced where GETs are already deployed and where they may soon be required, any operational complexities can be fully addressed, enabling these technologies to help enhance the operational efficiency of the grid.

Several panelists at the November 5-6, 2021 GETs Technical Conference also expressed concerns regarding the complexity of the interactions between GETs on different parts of the system.[25] In response, Clean Energy Parties note that transmission operators including

[23] Robert Bradish, American Electric Power, Grid-Enhancing Technologies Workshop Day 1 Transcript, Docket No. AD19-19, at 77, line 25, and 78, lines 1-12 (Nov. 5, 2019).

[24] *See* cases studies posted on WATT website here: WATT Coalition, "What are Grid Enhancing Technologies?" (n.d.)

[25] *See* Anjan Bose, Washington State University, Grid-Enhancing Technologies Workshop Day 1 Transcript, Docket No. AD19-19, at 80, lines 6-13, 22, (Nov. 5, 2019): "...let's say you're going to use the transmission system utilization better. You're going to make it better. How are you going to do that if you can use a whole bunch of these things? You can't do it by changing the power flow on one line because if you do that for 37 lines, they will fight each other, right? So, you've got to coordinate this thing. So, the problem of doing wide area monitoring and control is out there and it has two major obstacles. One is that any of wide area monitoring and control requires communication... But the other bigger problem is analytics." Also *see* Steve Herling, PJM, Grid-Enhancing Technologies Workshop Day 1 Transcript, Docket No. AD19-19, at 101, lines 16-21, and 102, lines 1-3 (Nov. 5, 2019): "...we're concerned about having large numbers of these devices each individually trying to solve one problem fighting with each other. We need to kind of make that leap to what Doctor Bose was discussing, which is

RTO/ISOs are making generation dispatch and other system decisions routinely in their operations, taking network impacts into account. The record does not show that GETs create any different or unique impacts on the network other than these other complexities that are routinely managed in day-to-day operations.

II. CONCLUSION

The Commission has an opportunity to finally fulfill its responsibility given by Congress in FPA Section 219(b)(3) to provide incentives that deploy technologies that increase the capacity and efficiency of existing transmission facilities and improve the operation of the facilities. There is only one viable proposal on the table in the extensive record in this docket.

Signed,

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looking at these devices as a group, with a control function based on the grid...our evaluations right now are based on one device solving one problem and we're not yet, you know, making that leap to a grid solution."

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