UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Grid-Enhancing Technologies	**)**	**Docket No. AD19-19-000**

Post-Technical Conference Comments
of the American Wind Energy Association
February 14, 2020

I. Introduction

Pursuant to the notice issued by the Commission on January 17, 2020 in the above-captioned docket, the American Wind Energy Association (AWEA) offers these post-technical conference comments.[1] AWEA continues to support the Commission's examination of its transmission incentives policies, with particular focus – consistent with Congressional direction – on "encourag[ing] deployment of transmission technologies and other measures to increase the capacity and efficiency of existing transmission facilities and improv[ing] the operation of the facilities."[2] The record in this proceeding, including the November technical conference on Grid Enhancing Technologies ("GETs"), strongly indicates that a range of technologies are ready for broad, rapid deployment in a supportive policy environment.

From the perspective of AWEA and its members, moving forward with incentives to improve the transmission system with GETs is particularly valuable, because GETs are low cost and rapidly deployable (relative to new build). Wind energy growth continues apace,[3] but transmission constraints pose a significant challenge to further development in certain areas. Transmission limitations result in system congestion and curtailment, as

[1] AWEA is a national trade association representing a broad range of entities with a common interest in encouraging the expansion and facilitation of wind energy resources in the United States. The views and opinions expressed in these comments do not necessarily reflect the official position of each of AWEA's individual members.
[2] 16 USC 824s(b)(3).
[3] *See* American Wind Energy Ass'n, *US wind power reaches milestone 100 gigawatts, 46 gigawatts more on the way* (Oct. 31, 2019), https://www.awea.org/resources/news/2019/wind-at-100-gw.

well as reduced reliability and unnecessarily high costs to customers, both through congestion charges and the opportunity cost of failing to supply load with least-cost energy. AWEA and its members will continue to support initiatives to expand grid capacity with new transmission lines, but also support measures that improve the existing system. Broader implementation of GETs will benefit customers, enhance reliability, and provide greater access to low-cost renewable resources.

AWEA again urges the Commission to advance this proceeding in 2020 with a Policy Statement inviting applications for deployment of GETs that would follow the current "risks and challenges" framework for incentives.[4] The Commission should also initiate a rulemaking proceeding which would supplement or replace the "risks and challenges" framework for transmission incentives with a benefits-based framework, as described in AWEA's previous comments[5] and below.

[4] *See* 18 CFR 35.35(d); *Promoting Transmission Investment through Pricing Reform*, Order No. 679, 71 FR 43294 (Jul. 31, 2006), FERC Stats. & Regs. ¶ 31,222 (2006), *order on reh'g*, Order No. 679-A, 72 FR 1152 (Jan. 10, 2007), FERC Stats. & Regs. ¶ 31,236, *order on reh'g*, 119 FERC ¶ 61,062 (2007).

[5] *See* Initial Comments of the American Wind Energy Association, Docket No. PL19-3 (Jun. 26, 2019)("Initial Comments") https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=15282898, and joint comments of the Grid Advancement Coalition, Docket No. PL19-3 (Aug. 26, 2019)("Reply Comments") https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=15334692.

II. AWEA Responses to Commission Questions

1. *Workshop participants identified several types of technologies that are currently capable of being deployed, such as power flow control and transmission switching technologies, dynamic line ratings, and storage as transmission. What other technologies that increase the capacity, efficiency, or reliability of transmission facilities are ready for deployment?*

Response:

AWEA supports the use of a general definition of GETs, as the Commission introduced in its notice beginning this docket. AWEA supports the Commission's focus on non-traditional transmission investments that improve economic efficiency by reducing congestion and/or improve reliability. [6] The Commission should not limit the ability of additional technologies to qualify as incentive-eligible GETs in the future, but AWEA is not aware at this time of additional technologies not referenced in the November 5th and 6th technical conference that should be considered. Power flow controls, enhanced line rating, energy storage, and topology optimization should all be considered as incentive-eligible GETs based upon the record in this proceeding. Additionally, policy changes that encourage and properly value grid-enhancing technologies will likely encourage innovation in this area in the future.

2. *Some workshop participants argued that further deployment of technologies that increase the capacity, efficiency, or reliability of transmission facilities can be encouraged with various types of incentives. What types of incentives would encourage the deployment of technologies referred to in Question 1?*

Response:

AWEA supported a shared savings approach in its Initial Comments, and joined with numerous other parties to endorse that approach in their Reply Comments.

[6] *See e.g.* Nov. 5 transcript at p.51, Office of Energy Policy and Innovation Director Jignasa Gadani (A GET is "not a traditional transmission investment, and it should enhance existing economic efficiency or increase reliability.").

Additionally, the record reflects that few other actionable proposals were made. The shared savings approach would appropriately incentivize cost-effective investment in GETs by identifying benefits up-front, and allowing customers and the sponsor of the GETs to share the realized savings. This concept has received significant vetting, has received support from diverse stakeholders through the comments and technical conference, and has been applied successfully elsewhere.[7] AWEA acknowledges that there may be other approaches that might work; the Commission can and should review those in the future when they are proposed. Additionally, a Policy Statement could adopt a flexible framework capable of accommodating the shared savings approach while simultaneously inviting other incentives proposals meeting certain criteria.

3. *In discussion at the workshop of the "shared savings" approach for the deployment of GETs to existing transmission assets, workshop participants expressed general ratemaking concerns, and identified implementation issues, such as the measurement of benefits and distribution of payments. Please provide comment on the proposed ratemaking structure and any implementation challenges.*

Response:

AWEA notes that the "general ratemaking concerns" raised at the technical conference are not particular to the shared savings approach. At their root, such issues are fundamentally with the text of the Federal Power Act, which *specifically* directs FERC to utilize incentives – including performance-based ratemaking - to improve the use of the existing transmission system.[8] Performance-based regulation necessarily requires some estimation of benefits or other specific targets, which can then be directly tied to the incentives for achieving those particular benefits or reducing costs.[9] The Commission has

[7] *See* Bruce Tsuchida, The Brattle Group, *Improving Transmission Operation with Advanced Technologies* (Jun. 24, 2019), available as App'x D to WATT Coalition Comments, Docket No. PL19-3 (Jun. 26, 2019)(citing success of "benefit sharing" approach in deploying power flow controls in other countries).
[8] 16 USC 824s(b)(3).
[9] *See e.g.* Nat'l Renewable Energy Laboratory, *Next-Generation Performance-Based Regulation* at p. ix (Sept. 2017), https://www.nrel.gov/docs/fy17osti/68512.pdf ("Performance-Based Regulation provides a regulatory framework to connect goals, targets, and measures to utility performance, executive

the record and tools to directly address these topics, and should consider successful models of incentive-based and performance-based rates from U.S. states and other countries to inform its implementation of clear statutory requirements.

The data, methods, and assumptions which could be used to measure benefits from GETs are quite similar to what is commonly performed in economic transmission programs. Benefits assessments can be performed (and regularly are performed) in that context, and conducting or evaluating up-front and after-the-fact benefits assessments for a shared savings approach to GETs is well within the capabilities of grid operators and most other public utilities. Moreover, GETs are low-cost relative to traditional investments included in utility rate base (which usually do not include an explicit tie to performance or particular benefits), so the risk to consumers from an error in assumptions, methods, or data is minimal. Other parties have proposed a reasonable cost cap on GETs seeking incentive treatment,[10] which AWEA does not oppose.

Finally, cost allocation has not received much attention in this docket. AWEA appreciates that the Commission is closely studying the details of how such a policy would work. AWEA is open to traditional cost allocation methods (such as a rolled-in approach, or roughly *pro rata* direct assignment to those estimated to benefit). Cost allocation can be addressed in individual applications for incentives, and the Commission does not need to determine a global approach at this time. For example, a Policy Statement issued in the near term could outline the items that must be addressed in an application, including a proposed cost allocation; for projects using a "shared savings" approach, any proposal would necessarily identify a methodology for assessing benefits both before- and after-the-fact, as well as a means of assigning the costs.

4. *Referring to the technologies mentioned in Question 1, some workshop participants indicated that RTOs/ISOs consider qualitative benefits,*

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compensation, and investor returns. For some enterprises, PBRs determine utility revenue or shareholder earnings based on specific performance metrics and other non-investment factors. …For utilities of all types, PBR can strengthen the incentives of utilities to deliver value to customers.").

[10] *See, e.g.* WATT Coalition Comments, Docket No. PL19-3 at 6 (Jun. 26, 2019)(proposing $25 million cost cap).

including certain reliability and flexibility attributes, in the regional transmission planning process. How do RTOs/ISOs currently measure or consider these benefits? Please provide examples.

Response:

Based upon deployments to date, GETs often provide significant reliability, resilience, and other benefits. AWEA believes the record provides a strong basis for the Commission to proceed with an approach to deploy GETs, using incentives based specifically on quantifiable economic benefits as a conservative approach.

GETs can be used to improve or address reliability conditions. The benefits can be quantified via a reliability assessment, using metrics and methodologies that have already been vetted; or could be valued based on reducing or eliminating an existing or projected reliability condition. In other words, reliability can be assessed quantitatively (albeit not using traditional economic criteria). One class of reliability analysis techniques uses reliability-based methods and includes equivalent conventional power (ECP), effective load carrying capability (ELCC), and equivalent firm capacity (EFC). These methods use power system reliability evaluation techniques, which are based on loss of load probability (LOLP) and loss of load expectation (LOLE) over a period of time. There are also approximation methods, when full blown LOLP analysis is not feasible.

Furthermore, even in regions that do not have liquid capacity trading markets, a practical benefit of proving reliability benefits to a utility or load serving entity through LOLP or approximation techniques is a reduction in the amount of spinning reserves and non-spinning reserves that must be maintained. GETs have the potential for greatly reducing reserve requirement costs, and a benefits assessment should be capable of considering and crediting these attributes.

Additionally, there are numerous qualitative or non-traditional benefits associated with GETs, including their contributions to grid inertia, grid stability, grid balancing and regulation, ancillary services, and operational flexibilities (such as availability, maintenance outage requirements, minimum time to repair, minimum time between

failures, right of way requirement, and redundancy). Many of these benefits are not reflected in typical benefit-to-cost assessments, meaning that grid operators may not consider the full range of benefits. To that end, the Commission should structure any GETs policy to ensure that grid planners attempt to quantify these benefits where possible; it may also be appropriate to consider these qualitative benefits as supplementary criteria to decide between various GETs solutions which might have similar benefit-to-cost ratios during their expected lifetime.

5. *What software or other changes would an RTO/ISO need to make to implement GETs? As more of these technologies come onto the system, what challenges exist for coordinating their control in terms of analytics, automation, and optimization?*

Response:

GETs can generally be deployed now without significant software upgrades. Their use could be optimized better in the future with software changes, and AWEA encourages those improvements. However, AWEA is not aware of any written or oral testimony demonstrating that software is a barrier in the near term. Software change opportunities vary by technology and by system operator so it is difficult to generalize about what changes could be made to optimize new technologies.

6. *Workshop participants discussed the benefits of pilot programs. Should the Commission encourage the testing and deployment of technologies that increase the capacity, efficiency, or reliability of transmission facilities through pilot programs and demonstration projects? If so, is there regulatory support that the Commission could provide to support and encourage such efforts? Could the Commission use its transmission incentives policy to encourage such pilot programs and demonstration projects? If so, please describe how the Commission could do so.*

Response:

AWEA encourages the Commission to focus its efforts in this proceeding on broad adoption, rather than pilot programs and demonstration projects. Pilot

programs can be useful, but the GETs discussed in the November technical conference have been successfully studied and deployed, both in the United States and abroad. Pilot programs provide an opportunity for observation, tend not to be fully integrated into grid operations, and frequently provide limited benefits to transmission customers. Additionally, several of the GETs identified by the Commission have a clear network effect, where broader deployment could significantly enhance benefits to customers (versus a smaller-scale demonstration or pilot). The GETs discussed in this proceeding are ready for wide deployment, and they can and should move forward if transmission owner incentives are aligned with efficient service delivery. While pilot programs could further demonstrate the benefits of GETs, without an obligation to implement or consider such programs, the response and adoption might continue to be slow. A strong policy signal is required to foster deployment of GETs and ensure that the existing transmission system is effectively utilized.

III. Conclusion

First, AWEA urges the Commission to issue a Policy Statement in the near-term inviting proposals to use GETs to improve the existing transmission system. Such a Policy Statement should specifically allow for proposals using a "shared savings" based approach, while remaining open to other options. This approach would be wholly consistent with the Federal Power Act's requirement to use incentives, including performance-based rates, 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."[11] Such proposals could be made under the current "risks and challenges" framework.

Second, AWEA also encourages the Commission to initiate a rulemaking to add a benefits-based framework to its regulations, which could either replace or provide an alternative incentive structure to the current the "risks and challenges" approach.

Respectfully submitted,

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[11] 16 USC 824s(b)(3).

Document Content(s)