

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

Inquiry Regarding the Commission’s)
Electric Transmission Incentives Policy)

Docket No. PL19-3-000

**COMMENTS OF
THE AMERICAN COUNCIL ON RENEWABLE ENERGY**

The American Council on Renewable Energy (“ACORE”) submits these comments in response to the Federal Energy Regulatory Commission’s (“FERC” or “Commission”) Notice of Inquiry (“NOI”) on its current effective order¹ and policy statement² on electric transmission incentives regulations, issued March 21, 2019.³

I. Executive Summary

Transmission incentives need reform to promote necessary investment in the transmission system, ensure grid reliability and resilience, promote economic growth, harness the nation’s abundant domestic renewable energy and other resources, and mitigate environmental and greenhouse gas emissions. We commend FERC for initiating this NOI and support the utilization of all the Commission’s tools to promote new transmission and grid optimization.

The Commission should shift from a “risks and challenges” to a “benefits” framework, which can unlock private sector investment with minimal regulatory reform. A specific technology incentive utilizing this benefits framework would help promote new transmission investment, grid optimization, and the deployment of advanced technologies, including energy

¹ *Promoting Transmission Investment through Pricing Reform*, Order No. 679, 116 FERC ¶ 61,057, order on reh’g, Order No. 679-A, 117 FERC ¶ 61,345 (2006), order on reh’g, 119 FERC ¶ 61,062 (2007).

² *Promoting Transmission Investment Through Pricing Reform*, 141 FERC ¶ 61,129 (2012) (2012 Incentives Policy Statement).

³ *Inquiry Regarding the Commission’s Electric Transmission Incentives Policy*, 166 FERC ¶ 61,208 (2019).

storage. The RTO membership incentive should continue. It provides consumer benefits because RTO participation is critical to achieving efficient and reliable operation with a large amount of renewable resources. As the Commission reforms its transmission incentive policy, clear Commission preferences would help drive investment through regulatory certainty.

Transmission incentive reform should be augmented with transmission planning reform to more effectively promote new transmission. The incorporation of grid optimization and advanced technologies in the planning process, more standard and broad cost allocation, and increased inter-RTO transfer capability will lead to a more robust and efficient electric grid. Where possible within its authority, FERC should enhance efforts to streamline transmission siting and enable construction of necessary transmission lines.

II. Who We Are

ACORE works across renewable technologies and represents the nation's leading renewable energy developers, manufacturers and investors, along with corporate electricity consumers, electric utilities, manufacturers of energy storage and smart grid technologies, and the many other diverse industries that comprise the country's thriving renewable energy economy. Since 2008, renewables have made up more than half of all new power generation capacity in the U.S.⁴ Over the past seven years, renewable energy generation has been the nation's largest source of private sector infrastructure investment.⁵ This investment contributes

⁴ BloombergNEF, *2019 Factbook Launch: Media Briefing*. (2019). Retrieved from https://www.bcse.org/wp-content/uploads/2019-02-13_Factbook_Press_Launch_for_website.pdf.

⁵ BlackRock, *The Mainstreaming of Renewable Power: Growth of an Infrastructure Sector*. (2015). Retrieved from <https://www.blackrock.com/au/intermediaries/literature/market-commentary/blackrock-the-mainstreaming-of-renewable-power-en-au.pdf>. (Non-publicly available data from Dealogic shows U.S. renewable investment through year-end 2016 was \$98.5 billion.)

significantly to the modernization of the grid and ensures the availability of a reliable, resilient and affordable power supply while reducing emissions and driving economic development.

III. Comments on Reforming Transmission Incentives to Promote Necessary Investment in the Transmission System

Transmission incentive reform has the potential to enhance and diversify the U.S. electric generation mix. Reforms that address service congestion should simultaneously lower electricity costs and encourage adoption and greater amounts of renewable energy by incentivizing connections between locations that can inexpensively generate renewable electricity and locations that demand it. Benefit-based incentives can ensure that transmission owners only benefit when consumers also benefit, and FERC's just and reasonable standard is satisfied.

New transmission can unlock access to large amounts of wind and solar energy. These resources are located throughout the country but can be remote from load. For example, according to the National Renewable Energy Laboratory (NREL), the central U.S. and ocean plains along the coasts contain large amounts of potential wind energy resources while the desert southwest contains large amounts of potential solar energy resources. At the same time, much of the U.S. population is not located in these regions. Significant transmission development is required to connect these cost-competitive energy resources with areas of high demand and to allow local surpluses and shortages that can occur at any moment to be spread out across the region.

By linking the major interconnections and realizing a broader power grid, these resources can be unlocked while also providing a level national playing field where all resources can compete. This greater geographic diversity in the nation's generation fleet can

increase resilience by distributing the risk of any single event disrupting a whole region's supply. The market would drive further integration of new energy resources under the current regulatory framework.

A. Shift from a “Risks and Challenges” to a “Benefits” Framework to Reward Quantifiable Improvements to the Grid

FERC should shift from a “risks and challenges” approach to a “benefits” framework. New transmission provides widely understood benefits to grid capacity and resilience as well as resource efficiency. Dynamic line ratings and other technological innovations can also provide quantifiable economic benefits and reduced power costs by increasing the capacity of transmission infrastructure at lower costs than new wire solutions, but these innovations are not properly compensated for their benefits under the current approach. These benefits should be documented and shared with transmission owners as an incentive. This improved approach would build off existing RTO economic planning processes to achieve efficient, low-cost, and reliable electricity for American consumers.

B. Adopt a Specific Transmission Technology Incentive to Optimize the Existing Grid at Low Cost

The Energy Policy Act of 2005 directs FERC 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.”⁶ The following proposal implements this directive by incentivizing the deployment and use of efficiency-improving technologies for the benefit of electricity consumers.

⁶ Energy Policy Act of 2005, Pub. L. No. 109-58, Stat. 961

1. Incentivize Congestion Reduction as a Measurable Benefit

To address geographic resource constraints and deliver transmission benefits, the Commission should consider incentivizing reductions in congestion and curtailment in a technology-neutral way. Newly available grid operations technologies such as more advanced dynamic line ratings, power flow control systems, and topology optimization can reduce this congestion and curtailment for less cost than new lines. Currently, utilities earn little to no money from the process of delivering more over existing wires.

FERC should realign the incentives so that utilities can earn money from approaches that reduce congestion. Grid expansion often requires allocations of hundreds of millions of dollars, while grid operation improvements can be single digit percentages of these costs. Within RTOs, transmission owners should also be allowed to keep some of the congestion cost reductions that are created by improved grid operations as further incentive to deploy these new consumer cost-saving technologies.

We support a proposal based on the WATT Coalition's approach of a specific, well-defined incentive focused only on low-cost projects that provide quantifiable congestion reduction benefits. This incentive is based on the existing economic planning and operations planning processes which have been approved by FERC, are in transmission tariffs, and have models and processes in place.

2. Develop Criteria to Facilitate Lowest-Cost Technological Innovation and Deployment

FERC should establish criteria for what qualifies as "transmission technologies and other measures to increase the capacity and efficiency of existing transmission facilities and improve

the operation of the facilities.” We propose that this incentive include hardware, software, operations and maintenance costs, and associated protocols applied to the transmission system that increase the operational transfer capacity of existing facilities or a set of facilities; be technology-neutral; and allow for congestion reduction on the existing transmission network.

FERC should investigate how to include software upgrades in this incentive. Revisions to the control software used by grid operators is an important technological improvement to enhance grid transmission capabilities. Some grid hardware may make economic sense to deploy, but the grid operator would not be able to utilize it due to the presence of archaic software that cannot interact with the new equipment. An incentive that encourages grid operators to update their systems to make use of modern control software would have outside benefits with low capital expenditures relative to the construction of new transmission lines.

3. Calculate Incentive Awards from System Benefits to Link Monetary Rewards with Transmission Enhancement Efforts

Transmission owners or utilities should submit projects that comply with both the existing regional planning criteria for economic projects and FERC’s “bright-line criteria” for reliability, where total capital investment is under a threshold to be determined by the Commission. Projects should be evaluated using standard costs and benefits calculations as determined by traditional transmission studies for economic planning. The benefits assessment should include production cost and capacity cost savings. Most planning authorities already evaluate the congestion impacts of a proposed project as part of the economic planning process.

If benefits exceed costs for a project, or a set of bundled project deployments, the transmission owner should be awarded an appropriate incentive based on the savings calculated. The utility should include the approved projects along with the shared savings and a benefits

assessment in their periodic rate base filings with FERC. After the time frame of payments has passed, the utility should have the option of either collecting their standard revenue requirement on the investment for the remaining duration of the investment's lifetime or re-evaluating the benefits and pursuing a savings-based approach.

The incentive should be based on a share of the net savings calculated by identifying total benefits over the study time frame, subtracting the project capital costs and the corresponding operating costs over the study time frame, and multiplying net savings by a benefit sharing factor of 25% to 50%, to be requested and justified in the application. We recommend that this sharing factor be a sliding scale with various levers as determined by FERC.

Under the operations planning time frame, each party interested in participating in the technology incentive program proposes to FERC their own specific program to deploy and implement the technologies and other measures in operations planning. For programs proposed by RTOs, member transmission operators have the option to participate in those programs, to propose their own specific programs to complement or substitute the RTO program, or to take no action.

This proposal should include a quantification of the expected societal benefits of the program; a quantification of the expected costs of the program; rules specifying how the program will be administered, including the technologies or measures for deployment and use as part of the program and the proposed duration; and the incentive the party will receive for conducting the program, typically a fraction of the expected societal benefits.

4. Evaluate Incentive Program Participants to Ensure Ongoing Consumer Value

If FERC accepts the party's application, the participating party then executes the program. During the execution phase, the participating party should evaluate opportunities to reduce congestion using solutions that are deployable within the operations time frame. These evaluations are expected to be performed multiple times over the operational time frame, such as six months before the start of a given season, one month before the start of the season, one week before real-time operations, one day before real-time operations, and so on, using the latest data available at that time, such as the most current outage schedule. During each evaluation, the participating party identifies a set of candidate projects and operational measures to reduce congestion. These projects and operational measures are assessed using predefined criteria. If a candidate project meets the criteria and sufficient program funding exists to implement the project, the party executes the project, such as deploying dynamic line rating on a specific line.

The set of candidate projects and operational measures should depend on the timing of the evaluation relative to real-time operations. For example, deploying mobile power flow controllers and dynamic line ratings are viable candidate projects up to a month prior to real-time. In contrast, making appropriate topology changes are viable up to near real-time operations.

The actual benefits of the program should be regularly compared to the expected benefits that were specified in the program application. This comparison should be reported to FERC. If the actual benefits are underwhelming, the participating party has the option to issue an action plan to correct this discrepancy, including adjusting the program based on updated knowledge or even terminating the program if warranted. A base, net-savings sharing factor should be awarded regardless for program participation. An additional share should be awarded as actual benefits

are realized. To continue receiving the participation award, applicants should demonstrate their continued participation every two years.

At the end of the program period, the overall benefits should be compared to the expected benefits and the comparison reported to FERC. This report will be considered if the participating party chooses to apply for future programs. Third-party verification of congestion relief, such as from a market monitor, may alleviate any concerns regarding the accuracy of actual benefit achievement.

C. Continue the RTO Membership Incentive to Promote the Growth of Organized, Competitive Markets

ACORE supports continuing the RTO membership incentive. RTO membership and expansion of markets into the West and Southeast allows new resources to supply their services to a broader geographic diversity, building resiliency while motivating economic development and containing costs through a market-based approach. Incentives help utilities on the margin make this choice.

D. Clearly Express Project Preferences and Use Available Authority to Ensure Regulatory Certainty and Promote Transmission Investment

Since FERC's 2012 Promoting Transmission Investment Through Pricing Reform Policy Statement, transmission developers fear spending resources on an application only to get rejected. Clear policy statements from the Commission may encourage more applications for transmission incentives. Commissioners should make clear in orders and in discussions with stakeholders the types of projects they believe to be consistent with Order No. 679 and its subsequent clarifications. Uncertainty from the Commission reduces innovation in technology

and scope in project applications due to the time and capital resources necessary to create such filings.

FERC also has broad authority to develop new incentives that promote a resilient, reliable, and low-cost transmission system. While Section 219 of the Federal Power Act is commonly seen as the basis of FERC's incentive authority, FERC also offered forms of incentives through Section 205 prior to the 2005 amendment that added Section 219.⁷ This more recent legislation does not appear to limit FERC's preexisting authority.

IV. Comments on Augmenting Transmission Incentive Reform Goals with Transmission Planning Reform to More Effectively Promote New Transmission

If the goal of the Commission's transmission incentive reform proceeding is a more modern, resilient, and cost-effective bulk power system, then broader transmission planning reforms will assist in achieving this aim. Improvements to the Commission's planning and cost allocation processes can better allow the development of new long-distance transmission lines to match sources of electric generation with regions of demand. The Commission should also work within its authority and with companion federal and state agencies to reduce barriers to transmission siting. Much as freight needs highways and rail, American energy needs transmission lines to reach markets. Transmission lines can be better realized through streamlined siting processes.

A. Encourage Use of Network Optimization Methods and Advanced Technologies in the Order No. 1000 Planning Process for More Efficient Grid Development

⁷ *Inquiry Regarding the Commission's Electric Transmission Incentives Policy*, 166 FERC ¶ 61,208 (2019) P 4.

FERC should encourage use of network optimization methods and use of advanced technologies in the Order No. 1000 planning processes. Despite its broad goals, large regional and interregional transmission lines have been few and far between since Order No. 1000 came into effect. As with the grid modernization and optimization benefits realized from the aforementioned, a refined planning process that incorporates modern approaches to grid development will lead to greater transmission capacity at lower cost.

B. Allocate Costs in a Wider and More Standard Way to Promote Inter-Regional Grid Expansion

To promote inter-regional grid expansion, including across seams, tariffs should be revised to allow RTOs to utilize broader areas to allocate costs more widely. This would better spread costs to all who benefit. Regulatory review should consider all benefits, including connecting new generation. This revision allows for broader regional cost allocation versus those considered “economic projects” which require narrower 80/20 cost allocation metrics and often stall, and “public policy” projects for which costs are typically assigned to the requesting state.

FERC should establish cost-allocation policies that recognize the full regional benefits of significant interregional transmission, including effects on delivered energy costs. The Commission should allocate the requisite portion of those costs that reflect regional benefits to all customers in the region, regardless of their utility’s or their own contractual status with the new project.

C. Enable Transmission Owners to Increase the Transfer Capability between RTOs

FERC should enable transmission owners investing in existing transmission infrastructure and grid optimization to increase the transfer capability between RTOs, reducing

financial disincentives to schedule power across RTO seams. Real and artificial barriers, such as RTO seams, can deter the flow of electricity from one RTO to another. This result produces inefficient energy and capacity price formation that affects potential flows of electricity from high resource areas, such as in the Midwest, to high demand areas, such as in the East. Currently, excess renewable power is trapped within some RTO boundaries, failing to reach customers that desire more renewable energy in their power supply portfolios.

The Commission should standardize planning processes across regional boundaries as a first step to enable further interregional transfer capability. FERC should require RTOs and smaller Order No. 1000 planning regions to harmonize their differing methods and criteria for project approval. Currently, projects are subject to the so-called “triple hurdle” problem. Under the existing framework, they must clear unique planning processes in each region they propose to enter, as well as an additional combined test. This standardization, or at least harmonization to reduce the hurdles to one or two, would prevent the rejection of potential projects which are unable to either navigate the complexity of divergent processes or are unable to structure themselves for approval through competing processes.

V. Conclusion

New and optimized transmission is needed to ensure grid reliability and resilience, promote economic growth, harness the nation’s abundant domestic renewable energy and other resources and mitigate environmental and greenhouse gas emissions. In particular, the use of updated and modified rate incentive structures and enhanced transmission planning and cost allocation will help reduce obstacles to and better encourage private sector investment in the development of a more flexible, reliable and resilient 21st century transmission system.

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