



**UNITED STATES DEPARTMENT OF ENERGY
OFFICE OF ELECTRICITY**

**Procedures for Conducting) Notice of Procedures for Studies
Electric Transmission Congestion) and Request for Written Comment
Studies) 83 Fed Reg. 42647 (2018)**

**COMMENTS OF WIRES AND THE NATIONAL ELECTRICAL MANUFACTURERS
ASSOCIATION ON THE DEPARTMENT OF ENERGY REQUEST FOR PUBLIC
COMMENT**

WIRES¹ and the National Electrical Manufacturers Association (“NEMA”)² (“Commenters”) respectfully submit these comments in response to the Notice of Procedures issued by the Office of Electricity (“OE”) of the Department of Energy (“DOE” or “the Department”) in the above Notice of its intention to conduct the triennial congestion study as required by §216(a)(1) of the Federal Power Act (“FPA”) to determine the state of all forms of congestion on the nation’s electric transmission network.

WIRES and NEMA, applaud DOE and OE for seeking input about the scope and nature of the analysis that will be conducted in 2019. We believe that this, the fourth, congestion study will frame the challenges to the future adequacy of the Nation’s energy delivery infrastructure to

¹ WIRES is an international non-profit coalition of investor-, publicly-, and cooperatively-owned electric transmission providers, transmission customers including renewable energy developers, service and technology companies, construction firms, and regional grid organizations, formed in 2006 to promote investment in electric transmission through development and dissemination of information about the Nation’s need for a stronger, well-planned, and environmentally beneficial high-voltage transmission system. Information about WIRES’ Members, core principles, and activities is available at www.wiresgroup.com.

² The National Electrical Manufacturers Association (NEMA) represents nearly 350 electrical equipment and medical imaging manufacturers that make safe, reliable, and efficient products and systems. Our combined industries account for 360,000 American jobs in more than 7,000 facilities covering every state. Our industry produces \$106 billion shipments of electrical equipment and medical imaging technologies per year with \$36 billion exports. More information is available at www.nema.org.

meet the growing needs for electric reliability and resilience, energy diversity, new technology, and workable bulk power markets and how the siting of those facilities ought to be addressed as a policy and regulatory matter. Therefore, we also express support for the sustained efforts of DOE and other interested Executive Branch departments and agencies to ensure that the Nation's energy delivery infrastructures remain or become adequate to sustain national energy policy goals that the Congress recognized in the Energy Policy Act of 2005. The Commenters have supported other federal initiatives that sought to improve permitting of infrastructure projects and to rationalize national energy policy, including DOE's Quadrennial Energy Review ("QER"). We now look to these federal agencies to produce tangible results in the form of a more robust and highly integrated national transmission network.

The Commenters appreciate the opportunity to submit comments on the important issue of the future of the high voltage transmission grid and look forward to doing so again when the proposed study is issued for public comment next year.

I.

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II.

BACKGROUND

On August 16, 2014, the Secretary of Energy issued for public comment the general procedures it proposed to use in studying congestion on the U.S. electric transmission system. When and if finalized, the study will be the fourth in a series of triennial studies that identify geographic area(s) experiencing transmission capacity constraints or congestions that adversely affect consumers in order to designate congested electrical regions (“national interest electric transmission corridors” (“NIETC”)) within which the Federal Energy Regulatory Commission (“FERC”) might exercise facilities siting authority, under certain circumstances, to minimize system constraints. Triennial congestion studies are mandated by the FPA for this limited purpose. However, federal siting of transmission within designated corridors has become a virtual impossibility due to appellate court interpretations of Section 216 and the assertion of diverse state and federal policies and laws concerning the authorization of interstate transmission additions and upgrades. That is not to say that DOE’s congestion study will be unimportant. To the contrary. We believe it provides a suitable forum for discussing important aspects of transmission development in North America that can make solutions to congestion very difficult to implement – inefficient regulation of infrastructure development and the paucity of timely information upon which good planning and project proposals can be based.

Past DOE congestion studies have represented a snapshot of system constraints where the capacity of the transmission grid is inadequate to transfer power as required to serve demand or maintain reliability. DOE states that such a constraint “within an area’s transmission network prevents the network from accommodating all transactions desired at a given time by authorized users.” Quite reasonably, the DOE Notice indicates that this form of economic congestion is not

the only form of congestion it proposes to study. OE indicates it will also investigate congestion with reliability implications, and adverse impacts on the achievability of “established federal, state, or local public policy goals” such as renewable energy standards or federal resilience and security requirements, which could potentially be alleviated by additional transmission capacity. Moreover, in an important reference to arguments previously made with respect to the scope of other corridor studies and designations under FPA §216, the Notice acknowledges that “it might be informative” to study congestion “focused on specific transmission project(s) and, if appropriate, designate a National Corridor tailored to the project(s)” instead of the regional congested corridors that were so broad as to defy easy implementation and that have therefore proven practically inconsequential. The Commenters believe that this innovative perspective on congestion, if implemented in DOE’s next study, could render its work much more helpful to planners and to subsequent siting proceedings under state and federal law.

The data that DOE proposes to rely on in the upcoming study is appropriate as far as it goes. If the billions of dollars in investment in transmission that the Nation must make in the next quarter century is to yield optimal results in terms of reliability, resilience, economic development, and access to diverse resources, then that investment—whether it be new steel in the ground or technologies added to the systems to optimize the capacity, control, or situational awareness of existing infrastructure—must be based on the best information. However, both DOE and the industry recognize that physical congestion can change location and dimension subject to near-term and longer-term grid trends and is therefore difficult to understand or predict. Congestion of the various kinds DOE proposes to include in its new analysis is also changing and is not uniform across the country.³ DOE may therefore wish to reassess the quality

³ Dep’t of Energy, Procedures for Conducting Electric Transmission Congestion Studies, 83 Fed. Reg. 42647, 42648 (Aug. 23, 2018), incorporating by reference data sources used in the National Electric

and nature of the information currently collected and maintained by the Energy Information Administration regarding transmission and grid-related developments. Rapidly-changing technological and economic developments will make DOE's work on this project more challenging; however, its own national laboratories have already conducted sophisticated and highly credible analyses of how transmission expansions and upgrades could result in more integrated and economically beneficial bulk power transactions and enable the achievement of important state and federal public policies.⁴ We urge DOE to utilize this excellent work in this process.

II.

DISCUSSION

A. **Broader Definitions of Congestion**

As DOE's Notice makes clear, congestion is multi-faceted. The lack of transmission capacity in specific regions and locations prevents more economic dispatch of generation resources and creates significant costs for electric customers. Inadequate transmission delivery capability can produce uneconomic results such as increased energy prices. In 2005, these well-recognized consequences of congestion led Congress to propose unusual extraordinary procedures to encourage additional transmission development. The Commenters concur with DOE's view that transmission constraints that create congestion across the electric system are also likely to indicate broader system issues that should be within the scope of the study. Despite

Transmission Congestion Study at xxiii-xxiv (Sept. 2015), available at https://www.energy.gov/sites/prod/files/2015/09/f26/2015%20National%20Electric%20Transmission%20Congestion%20Study_0.pdf.

⁴ For example, presentation of Aaron Bloom, Dep't of Energy, Nat'l Renewable Energy Laboratory, *Interconnections Seam Study*, available at www.wiresgroup.com; see also Dave Swenson, *The Interconnection Seam Study: Construction and Operational Economic Impacts*, Iowa State University (July 2018), available at https://register.extension.iastate.edu/images/events/transgridx/Economic_Impact_Job_Creation_relative_to_Large-Scale_Transmission_--7-23-18.pdf.

best efforts in organized markets, conventional congestion persists and interregional transfer capability is frustrated, arguably at great cost to consumers. There is a relatively low level of awareness of the nature of congestion and its economic impact, and no simple indication of the areas affected and the degree to which they are affected. This is particularly true where organized markets do not exist and where less information is available to industry experts about its impacts.⁵ We look to DOE to explore and explain the reasons for the forms of congestion it describes and then – perhaps not in this study but in others – to map out practical solutions. In addition to the implications for assessing system reliability, insufficient transmission capacity can make it difficult for utilities and other load serving entities to meet state or federal public policy goals to which they are otherwise subject. For example, thirty states have enacted requirements under which their utilities must incorporate lower-carbon, increasingly cost-competitive renewable resources in their resource portfolios. Meeting these requirements will require integrating generation resources that are, in many cases, location-constrained and require expanded or upgraded transmission delivery capability to reach distant markets.

In some regions where transmission capacity is inadequate or even non-existent, this is congestion in the truest sense. Finally, aging transmission facilities, outdated control technology, or infrastructure that is insufficient to deliver electric power from diverse resources and locations heighten concerns about the resilience of the electric system and the threats to national security in the face of extreme weather, physical attack, or other contingencies and should also be part of the congestion analysis. A lack of transmission capacity can dramatically limit the number and

⁵ Internationally, large interconnections have adopted a metric to indicate where a lack of interconnecting transmission is likely to be an economic constraint and to identify the location of interconnection inadequacy. European Commission, Brussels, *Communication from the Commission to The European Parliament, The Council, The European Economic and Social Committee and the Committee of the Regions, Communication on Strengthening Europe's Energy Networks* (November 23, 2017) available at https://ec.europa.eu/energy/sites/ener/files/documents/communication_on_infrastructure_17.pdf.

availability of remedies or defenses with which to meet such challenges when states and locales need them most.⁶

The Commenters have noted in other proceedings that, without modernization or expansion of the high voltage transmission grid, achievement of various public policies, whether renewable energy portfolios, clean energy standards, or others governing greenhouse gas emissions, will be difficult if not impossible. Access to new forms of generation therefore becomes a public policy matter that, with identifiable exceptions, only robust transmission can address. The Commenters suggest that DOE should identify and examine existing federal, state, and local policies, determine what those will require in terms of new supply resources, and ascertain the amount and general location of transmission capacity that will be needed to deliver output from those resources to customers. We note that a thorough examination of the evolving deliverability or transfer capabilities of the grid is consistent with, and can inform, existing transmission planning processes that have been implemented by transmission providers at the direction of FERC⁷ and that are so important for the success of state and federal public policies. In addition, questions about the resilience of the existing grid going forward, especially in extreme weather conditions, under conditions of physical or cyber-stress, and where substantial

⁶ *E.g. Grid Resilience in Regional Transmission Organizations and Indep. System Operators*, Docket No. AD18-7, Comments of WIRES (May 9, 2018) available at <http://www.wiresgroup.com/docs/AD18-7-000%20Comments%20of%20WIRES.pdf>; The Brattle Group, Pfeifenberger *et al.*, *Toward More Effective Transmission Planning: Addressing the Costs and Risks of An Insufficiently Flexible Electricity Grid* at pp. 11-13 (April 2015), available at https://www.wiresgroup.com/docs/reports/WIRES%20Brattle%20Rpt_TransPlanning_042315.pdf.

⁷ *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, Final Rule 136 FERC ¶ 61,051 (2011), Order on Reh'g and Clarification, 139 FERC ¶ 61,132 (2012), Order on Reh'g and Clarification, 141 FERC ¶ 61,044 (2012).

job creation from infrastructure investment is a public priority, should also be included in any analysis of the need for transmission, including DOE’s congestion study.⁸

B. Other Determinative Factors Under FPA Section 216

The primary purpose of the triennial congestion study is to support DOE’s authority to designate national interest electric transmission corridors (“NIETC”),⁹ within which the transmission providers can seek state and, under certain circumstances, federal permission to site facilities.¹⁰ Needless to say, NIETC designations and the related federal “backstop” siting procedures have met with legal and policy complications that have virtually halted any exercise of the authority under the statute by transmission providers or FERC. Congress’s statutory scheme is therefore moribund, as a practical matter. The Commenters observe that, rather than conduct a study of broad regional forms of conventional grid congestion that could meet a similar fate, DOE has an opportunity to collect and develop a range of information that would be

⁸ “The power system can be vulnerable to disruptions originating at multiple levels, including events where a significant number of generating units experience unexpected outages. The transmission system provides an effective bulwark against threats to the generation fleet through the diversification of resources and multiple pathways for power to flow to distribution systems and ultimately customers. By providing customers access to generation resources with diverse geography, technology, and fuel sources, the transmission network buffers customers against extreme weather events that affect a specific geographic location or some external phenomenon (unavailability of fuel and physical or cyber-attacks) that affect only a portion of the generating units.” The Brattle Group, Chupka & Donohoo-Vallett, *Recognizing the Role of Transmission in Electric System Resilience* at p. 3 (May 9, 2018) available at http://www.wiresgroup.com/docs/reports/Transmission_Resilience_WIRES_FINAL_05092018.pdf.

⁹ DOE’s analysis, if conducted as the Notice suggests, can also provide a useful avenue for policymakers and industry to evaluate system constraints through a national lens otherwise unavailable through local and regional analysis. It offers an opportunity to evaluate congestion trends over time by comparing current results with data from previous studies and advance an understanding of the relationship of transmission additions and upgrades to changes in generation, demand, and the economy.

¹⁰ Congestion on the transmission system remains a concern, costing consumers billions of dollars annually. For example, “Although system-wide energy prices rose slightly, prices often varied substantially throughout [the Midcontinent Independent System Operator], reflecting congestion on the MISO transmission network. The value of real-time congestion increased by 7.2 percent to \$1.5 billion[.]” MISO Independent Market Monitor, 2017 State of the Market Report for the MISO Electricity Markets, at ii (June 2018) available at <https://cdn.misoenergy.org/2017%20State%20of%20the%20Market%20Report242952.pdf>.

useful to industry and regulators in multiple ways. The FPA provides DOE with broad authority to examine a range of factors, including economic development, energy diversity and national defense and homeland security, when conducting the triennial study. Section 216 enumerates several considerations that are becoming increasingly important and that could have been examined in previous studies and were not. We urge DOE to utilize this authority in a way that will enhance the knowledge base about the many benefits of greater sustained investment in transmission. Congress authorizes DOE to study the probable effects and benefits of a NIETC designation that would help identify where the need for more robust transmission investment is greatest, based on whether --¹¹

- The economic vitality and development of the corridor or the end-use markets served by the corridor, may be constrained by lack of adequate or reasonably priced electricity;
- Economic growth in the corridor or the end-use markets served by the corridor, may be jeopardized by reliance on limited sources of energy;
- The diversification of electric generation supplies and baseload fuels is warranted;
- The energy independence of the United States would be served by a designation;
- The designation would be in the interest of national energy policy; and
- The designation would enhance national defense and homeland security.

Upon completion of the upcoming triennial study, DOE should consider using its authority to designate NIETCs focused on meeting these enumerated goals of relieving congestion, increasing resource diversity, increasing overall system resilience, and facilitating policy goals.

¹¹ *Siting of Interstate Electric Transmission Facilities*, 16 U.S.C. § 824p (4) (2005).

Once a network of national corridors is established, DOE should work proactively with utilities, RTOs, federal, and state and local governments to advance transmission projects that address these issues in the designated areas.

C. Project-Specific Corridors

FPA §216 does not dictate the geographic, topographic, or market-related scope of the congestion corridors that DOE will be analyzing and designating. Given the increasingly integrated nature of the transmission grid and the bulk power system, the “national interest” underlying an NIETC could be served by a broad or regional analysis or, in some strategic locations, a more focused examination of grid features where seams between markets or interconnections, unusual weaknesses in transmission capacity relative to potentially available new resources (e.g., location-constrained renewables in the Great Plains), where special loads or markets that need protection (e.g., military installations or exposed coastal areas), or where access to diverse sources of generation is important for reliability. When DOE determines the appropriate scope of any corridor between resources and loads, nothing prevents it from concluding that a single transmission addition or upgrade, or group of projects or upgrades, could both successfully resolve one or more of the forms of congestion that DOE has described and also provide benefits that are broad and regional or interregional. In such cases, a NIETC can be predicated on the corridor between specific resources and specific loads that can be brought together by a single project or group of projects. Addressing the congestion, public policy, resilience, or other issues using such a corridor would likely be less difficult than addressing them under the statute by means of the large, unwieldy corridors that were previously designated and that became difficult to justify to affected stakeholders and the courts.

In sum, the Commenters urge the DOE to pursue the designation of project-specific NIETCs that are more likely to help solve specific grid problems. This would entail developing a workable procedural approach, perhaps including bidding processes, to resolve the inevitable chicken-and-egg problem created by designating corridors before projects are formally proposed. Finally, the shifting generation mix in many regions and the evolutionary state of public policies affecting the electric system militate against large, interconnection-wide corridors and in favor of analysis of more geographically limited areas where future needs, electricity demands, and demographic changes are more identifiable and predictable. DOE may therefore wish to explore more fully the relationship between market-driven retirement of certain baseload generation units, the development of new generation, and the need for transmission additions created by any resulting system congestion as broadly defined by the Notice.

D. Data Sources and Metrics

In the past, DOE has relied primarily on data gleaned from state of the market reports conducted by RTOs and ISOs to examine congestion in these areas. These reports continue to offer an appropriate starting point for DOE's analysis. The following data sources and metrics are recommended to supplement DOE's report:

- DOE should examine capacity price differentials as an indication of insufficient transmission capacity to promote economic outcomes. Capacity price reductions and avoided capacity costs are a clear benefit of transmission expansion and should also be evaluated in forward looking congestion studies.
- For the MISO region, DOE should examine the recent Regional Transmission Overlay Study (RTOS), which provides a broad view of transmission issues in the

MISO footprint.

- DOE should pay close attention to the size and delays in generation interconnection queues, particularly MISO and SPP, as an indication of a lack of sufficient transmission capacity to promote economic outcomes. Delays in interconnection queues may also present resource diversity and resilience concerns.

There is a notable paucity of available data on whether positive economic and public policy outcomes are being achieved in non-RTO regions. Moreover, although conventional congestion has declined overall as more transmission is built, it is not always clear whether planning within and between RTOs has reduced or eliminated congestion. DOE should therefore examine the data produced by integrated resource plans in various jurisdictions and ascertain whether the needs enumerated in the Notice can be met by transmission expansion and upgrades in regions with divergent planning regimes. The availability of usable data in regions with organized markets tends to reflect a clear benefit to planners and the industry in terms of transparency and the ability to identify sources of congestion and pursue the most economic solutions through a regional transmission planning process. In other regions, the uniformity and quality of the DOE analysis could be hampered by any discrepancy in the availability of information for use in the 2019 report.

III. CONCLUSION

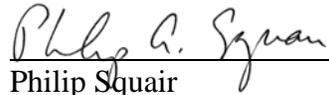
The Commenters extend their thanks to the DOE for this opportunity to comment and urge the Office of Electricity to turn the page on past, practically challenging approaches to corridor designations under FPA §216 that have led to unmanageable stakeholder processes, unreasonably protracted designation procedures, and court challenges. Most importantly, the

Commenters contend that NIETC designations can and should be done on the basis of the multiple factors described in the statute and the development of the best available data. We applaud the DOE for initiating this process and opening the door for an analysis that will be more than a snapshot of one feature of the electric system that will have limited utility going forward.

Respectfully submitted,



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