

## COMMENTS OF PUBLIC INTEREST ORGANIZATIONS

Natural Resources Defense Council, Sustainable FERC Project, RMI, Earthjustice, Sierra Club, National Wildlife Federation, Southern Environmental Law Center, Western Resource Advocates, Montana Environmental Information Center, National Audubon Society, and Alliance for Affordable Energy (together “Public Interest Organizations” or “PIOs”) submit these comments in response to the March 6, 2023 Draft Transmission Needs Study issued by the Department of Energy (“Needs Study” or “Study”).<sup>1</sup>

### **I. PIOs Agree with the Needs Study’s Conclusions Regarding the Need to Expand Transmission Planning**

PIOs strongly agree with the Needs Study’s conclusions regarding the need to expand transmission planning, particularly interregional and cross-interconnection transmission, to enhance reliability, support electrification efforts, and to reduce costs for consumers. As the Study notes, “studies reviewed signify a pressing need to expand electric transmission—driven by the need to improve grid reliability, resilience, and resource adequacy, enhance renewable resource integration and access to clean energy, decrease energy burden, support electrification efforts, and reduce congestion and curtailment.”<sup>2</sup> Emphasizing the importance of regional and interregional transmission planning to ensure reliability in the face of increasingly common severe weather events, the Study finds that “[r]ecent experience with extreme weather events demonstrates that planning for the bulk power system needs to extend beyond the footprint of individual utilities or regions to provide assurance that energy can be delivered from where it is available to where it is needed to mitigate risks associated with common mode failures.”<sup>3</sup> Highlighting the importance of

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<sup>1</sup> Department of Energy, *Draft Transmission Needs Study*, 88 Fed. Reg. 13811 (March 6, 2023).

<sup>2</sup> Needs Study at ii.

<sup>3</sup> *Id.* at 3.

scenario-based multi-value transmission planning in reducing costs for consumers, the Study finds that “holistic, scenario-based, multi-value transmission expansion planning can also provide energy price benefits to consumers, and this Needs Study seeks to assess opportunities to lower consumer energy costs through such coordinated transmission planning and development efforts to meet expected future conditions.”<sup>4</sup>

PIOs have long advocated for scenario-based, multi-value transmission planning because of the multiple benefits it provides. As we stated in our comments in response to the Federal Energy Regulatory Commission’s recent proposals to address systemic problems with existing regional and interconnection planning, the “failure to conduct transmission planning across a regional and interregional portfolio using a multi-value and scenario-based methodology produces an inefficient patchwork of incremental transmission projects that limit the planning processes’ ability to identify more cost-effective investments that meet both current and rapidly changing future system needs, address uncertainties, and reduce system-wide costs and risks that systematically results in inefficient infrastructure and excessive electricity costs.”<sup>5</sup> As a result, current transmission planning processes across the nation result in inefficient investments that foreclose meaningful competition, miss out on economies of scale, and result in consumers paying considerably more for significantly less—less choice, less capacity, less flexibility, less resiliency, and ultimately less reliability.<sup>6</sup>

**A. The Study Establishes a Sufficient Basis for Future Action but Could Benefit from Additional Clarification**

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<sup>4</sup> *Id.*

<sup>5</sup> *Comments of Public Interest Organizations* at 51 (Oct. 12, 2021), Accession No. 20211012-5519 (“PIOs’ Initial ANOPR Comments”), *citing* Brattle Report at 4 (internal quotations omitted).

<sup>6</sup> *Id.* at 53.

In compiling the Needs Study, DOE examined 50 sophisticated transmission modelling studies that highlight the historical and anticipated drivers, benefits, and challenges of transmission expansion. These studies include reports from the National Labs, industry, academia, and consultants that incorporate quantitative and qualitative analysis of transmission needs, including increased reliability, cost savings, and other benefits. The studies have a wide geographic diversity, subject matter expertise, and cover a wide range of issues faced by the nation’s transmission system today. Given DOE’s review of these studies, it was not necessary to replicate these already existing studies with its own qualitative or quantitative study where the cited studies provide sufficient and reliable information to identify transmission needs. Conducting a systematic review or meta-analysis of transmission studies is a routine and scientifically appropriate means of research and grounds for policymaking.

That being said, greater clarity from DOE around this point would be beneficial, including the scope of its research and its own criteria for assessing whether a present or future transmission need exists in the first place. One critical area for clarification is DOE’s position regarding its own criteria for comprehensive identification of a transmission need. Numerous studies, and the Federal Energy Regulatory Commission’s recent regional transmission NOPR, have indicated that to adequately address future needs, planners must evaluate transmission needs under multiple reasonably anticipated scenarios that incorporate several drivers—including expected generation changes, shifting trends in demand, and extreme weather patterns—and assess all the potential benefits of proposed solutions instead of only focusing on one or two limited types.<sup>7</sup>

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<sup>7</sup> See *Building for the Future Through Electric Regional Transmission Planning and Cost Allocation and Generator Interconnection*, 179 FERC ¶ 61,028, 87 Fed. Reg. 27,504 (May 4, 2022) (“Long-Range Transmission Planning NOPR”); see also The Brattle Group and Grid Strategies, *Transmission Planning for the 21st Century: Proven Practices that Increase Value and Reduce Cost* (Oct. 2021); Rob Gramlich & Jay Caspary, *Planning for the Future: FERC’s Opportunity to Spur More Cost-Effective Transmission Infrastructure*, at App. A, ACEG (Jan. 2021) (citing numerous studies demonstrating the value of forward-looking, multi-value transmission planning).

Clarifying DOE's own criteria is helpful in identifying the relative value of the studies that DOE relies upon in its analysis, and whether an identified transmission need is potentially even greater than existing analysis has indicated. For example, where DOE relies on studies that have identified transmission needs based on a more limited analysis, it would be valuable to note those limitations both to denote the likelihood that identified needs are actually more pressing than indicated and also to ensure that where less comprehensive studies have not identified transmission needs, DOE's imprimatur of such a study does not indicate that further transmission needs do not exist. This is especially important for regions where comprehensive, scenario-based, and multi-benefit transmission planning and analysis have not occurred. DOE's indication of such limitations and indication of where additional studies should occur in the future would be especially valuable in guiding the use of this document not only in the future designation of NIETCs but in assisting relevant stakeholders with focusing their own future analyses.

**B. Comments from Some Parties Concerning the Needs Study are Misplaced**

PIOs note that most of the comments of DOE's prior draft Transmissions Needs Study as set forth in the Appendix A-2 are generally supportive of DOE's framework and assessed needs. PIOs note, however, that certain parties would inappropriately limit the scope of the Needs Assessment. For example, Southeast Regional Transmission Planning (SERTP) asserts repeatedly that the Draft Study is an overly broad analysis of transmission needs that exceeds the statutory mandate set forth in Section 216 of the Federal Power Act.<sup>8</sup> SERTP objects in particular to DOE's inclusion of future generation as part of its analysis.<sup>9</sup> These objections misread Section 216's mandate.

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<sup>8</sup> See, e.g., Appendix A-2, Comments 43, 147-148.

<sup>9</sup> *Id.*, Comment 147.

By definition, an analysis of transmission congestion and constraints examines the systemic limitations on delivering generation to load. Nor does Section 216(a)(1) limit DOE's analysis to existing or historical conditions. To the contrary, Section 216(a)(2) requires the issuance of a NIETC report based upon the Needs Study that may designate a NIETC where there is existing *or future* transmission congestion or constraints. As further discussed in Section II, *infra*, Section 216(a)(4) of the Federal Power Act sets forth numerous factors that may be considered in designating a NIETC, including national energy policy and security interests, economic growth, diversification of resources, as well as enhancing the ability of generators to the electric grid. Because the Needs Study serves a primary role in in NIETC designation, it is necessary for DOE to broadly assess the multiple drivers of existing and future transmission needs.

Additionally, both SERTP and PJM assert that its planning processes have adequately addressed its transmission needs and object to a “top-down” assessment of interregional needs.<sup>10</sup> SERTP also objects to interregional transmission needs identified by the Study on a number of grounds, primarily that the benefits of transmission needs identified in the Study would not justify the costs.<sup>11</sup> These objections are belied by the current state of regional and interregional transmission planning which, as multiple transmission stakeholders have noted, has resulted in unjust, unreasonable, and unduly discriminatory rates and practices.<sup>12</sup>

Since its passage a decade ago, the problems with regional and interregional transmission planning that Order No. 1000 was designed to address remain. Despite spending increasing amounts of money on transmission, the vast majority of transmission investments in RTO regions

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<sup>10</sup> *Id.*, Comments 11, 148, 156, 157, 158.

<sup>11</sup> *Id.*, Comments 55, 83, 97, 148.

<sup>12</sup> *See, e.g.*, Federal Energy Regulatory Commission, *Building the Future Through Electric Regional Transmission Planning and Cost Allocation and Generator Interconnection*, Comments of Public Interest Organizations, Sec. V, Docket No. RM21-17-000, Accession No. 20211012-5519 (“PIOs’ ANOPR Comments”), *available at* [https://elibrary.ferc.gov/eLibrary/filelist?accession\\_number=20211012-5519&optimized=false](https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20211012-5519&optimized=false).

fall outside the Order No. 1000 regional planning process and in non-RTO regions such planning is functionally nonexistent.<sup>13</sup> Transmission owners have every incentive to avoid competition and prudence review by building local projects, and empirical data shows that regional and interregional projects have largely or entirely failed to materialize in either RTO or non-RTO regions—including PJM and SERTP.<sup>14</sup> This is primarily a result of the failure of current transmission planning efforts to accurately account for the multiple benefits of transmission or allocate costs.<sup>15</sup> The failure to properly plan for regional and interregional transmission needs has led to excessive costs for consumers and a failure to meet system demands that has already jeopardized reliability, resulted in interconnection queue delays, and caused catastrophic harm.<sup>16</sup> PIOs agree with the April 20, 2023 comments regarding the scope and jurisdiction of the Needs Study filed in this docket by the Southern Renewable Energy Association. In particular, PIOs agree that the Needs Study provides a necessary objective perspective, especially with regard to interregional and intra-regional transmission needs that are not currently represented in existing transmission planning processes across the country, including in the SERTP transmission planning process.

### **C. Studies Examined by the Needs Study Uniformly Show an Urgent Need to Expand Transmission**

As explained in more detail in the Needs Study, the authors reviewed 50 recent reports to highlight both the historical and anticipated drivers, benefits, and challenges of expanding the

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<sup>13</sup> *Id.* at 30.

<sup>14</sup> *Id.* at 30-49; *see also* Federal Energy Regulatory Commission, *Building the Future Through Electric Regional Transmission Planning and Cost Allocation and Generator Interconnection*, Reply Comments of Public Interest Orgs., 24-25 Docket No. RM21-17-000 (Nov. 30, 2021), *available at* [https://elibrary.ferc.gov/eLibrary/filelist?accession\\_number=20211130-5284&optimized=false](https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20211130-5284&optimized=false) (“PIOs’ Reply Comments”). *See also* Johannes P. Pfeifenberger et al., *A Roadmap to Improved Interregional Transmission Planning*, (Nov. 30, 2021) at [https://www.brattle.com/wp-content/uploads/2021/11/A-Roadmap-to-Improved-Interregional-Transmission-Planning\\_V4.pdf](https://www.brattle.com/wp-content/uploads/2021/11/A-Roadmap-to-Improved-Interregional-Transmission-Planning_V4.pdf) (“Roadmap”).

<sup>15</sup> PIOs’ ANOPR Comments at 49-51.

<sup>16</sup> *Id.* at 53-57; PIOs’ Reply Comments at 5-7; *Roadmap* at 24-29.

nation’s electric grid. Together, these studies demonstrate a pressing need to expand transmission for multiple reasons, including to enhance renewable energy integration and access to lower cost resources, support electrification efforts, improve resource adequacy, reduce congestion and curtailment, and most importantly to ensure grid reliability and resilience.<sup>17</sup> The Study cites several indicators that point to an immediate need for more transmission infrastructure, including removing or reducing the variation in prices caused by congestion by allowing lower-cost energy to reach high demand areas. The Study also notes that over the last several years, installation of new generation, the vast majority of which is renewable, has been delayed because of longer wait times for interconnection agreements and increased costs to connect to the grid, demonstrating that a “piecemeal” approach to transmission deployment through the interconnection process is less effective than a full regional transmission planning process.<sup>18</sup>

Moreover, the Study demonstrates that transmission investment in lines greater than 100-kV has declined since 2011, noting “[a] review of historical transmission system data from 2011 to 2020 provides insight into key indicators that demonstrate the need for increased transmission capacity. These indicators include an overall decrease in historical transmission investment in higher voltage lines, regional and interregional wholesale electricity price differentials, and a record amount of new generation and storage capacity in interconnection queues across the county. Regional entities spent between \$0.19 and \$5.29 per MWh of annual load on new transmission in the past decade, on average. Most of these investments were made in the first half of the decade, with transmission investments steadily declining since 2015.”<sup>19</sup> Not only has the pace of high-

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<sup>17</sup> Needs Study at 19. Other relevant studies that should be considered as part of the Needs Study include Rob Gramlich, *Enabling Low-cost Clean Energy and Reliable Service Through Better Transmission Benefits Analysis*, Aug. 9, 2022, *available at* <https://acore.org/wp-content/uploads/2022/08/ACORE-Enabling-Low-Cost-Clean-Energy-and-Reliable-Service-Through-Better-Transmission-Analysis.pdf>.

<sup>18</sup> *See id.*

<sup>19</sup> *See id.* at ii.

voltage transmission buildout slowed, but public utility transmission operators have also largely sought to avoid the regional planning process. As PIOs pointed out in our comments to the FERC transmission and cost allocation rulemaking, the loopholes that exist in Order No. 1000 to avoid regional planning and competition have led to the vast majority of projects approved in RTOs to be excluded from the competitive process for rulemaking.<sup>20</sup> The result has been the buildout of replacement or local transmission projects (i.e., lower voltage lines) that are built without effective oversight and need not be competitively bid. It is thus not surprising that higher-voltage transmission buildout has slowed since Order No. 1000 went into effect, with a corresponding rise in congestion and constraints.

**D. The Needs Study Demonstrates the Value of Interregional Transmission**

The Needs Study states that “[i]nterregional transmission investments will help improve system resilience by enabling access to diverse generation resources across different climatic zones, which is becoming increasingly important as climate change drives more frequent extreme weather events that damage the power system.”<sup>21</sup> It further states that “[r]ecent experience with extreme weather events demonstrates that planning for the bulk power system needs to extend beyond the footprint of individual utilities or regions to provide assurance that energy can be delivered from where it is available to where it is needed to mitigate risks associated with common mode failures.”<sup>22</sup>

Based on the plethora of existing studies, PIOs strongly agree with DOE that expanded transmission capacity – especially between the three interconnections, between different regions of the country, and between different utility service territories – is essential for a reliable,

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<sup>20</sup> PIOs’ Initial ANOPR Comments at 18 *et seq.*

<sup>21</sup> Needs Study at iii.

<sup>22</sup> *Id.* at 3.



affordable, and clean energy system. “Expanding interregional transmission capacity enables the system to take advantage of the geographic and temporal diversity of energy resources, so that abundant production in one region can help compensate for low production in other areas, which improves the electric system’s ability to produce affordable, reliable energy while increasing the operational flexibility of the grid.”<sup>23</sup> As DOE further notes, interregional transmission is also key for grid resilience: “Several authors mention the benefits of transmission in reducing weather risks by allowing utilities to share generating resources, enhancing the stability of the existing transmission system, aiding with restoration and recovery after an event, and improving frequency response and ancillary services. One case in which transmission likely would have improved grid resilience was during the severe cold weather event that occurred in February 2021 in Texas and the South Central United States (FERC et al. (2021)).”<sup>24</sup> NREL’s Interconnections Seam Study shows that increased intercontinental transmission helps balance generation and load with less total system installed capacity across each of the generation scenarios, due to load and generation diversity, and increased operating flexibility, with “benefit-to-cost ratios ranging from 1.2 to 2.9, indicating significant value to increasing the transmission capacity between the interconnections and sharing generation resources for of all the cost futures studied.”<sup>25</sup> MIT researchers Patrick R. Brown and Audun Botterud have found that “inter-state coordination and transmission expansion [including across regions and interconnections] reduce the system cost of electricity in a 100%-renewable US power system by 46% compared with a state-by-state approach, from 135 \$/MWh to 73 \$/MWh.”<sup>26</sup> LBNL recently showed that “[i]nterregional and regional transmission links reduce congestion and expand opportunities for trade” and that while “[m]any links have hourly

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<sup>23</sup> *Id.* at 79.

<sup>24</sup> *Id.*

<sup>25</sup> NREL Interconnections Seam Study at 7 (preprint).

<sup>26</sup> Brown & Botterud, *Joule* 5, January 20, 2021, at 115.

average pricing differences that exceed \$15/MWh – equivalent to \$130 million per year for a 1000 MW link,” “[i]nterregional links (\$24/MWh in the median case in 2021) have greater value than regional links (\$11/MWh in the median case in 2021) – though many high-value regional links exist.”<sup>27</sup>

However, despite these myriad benefits, and as PIOs have noted in our comments to FERC’s rulemaking on transmission planning and cost allocation, the interregional coordination process required by Order No. 1000 is effectively broken. For virtually all planning regions, this process has essentially become a paperwork exercise, has failed to identify or implement needed projects, and consequently has failed to alleviate unlawful rates and practices identified by the Commission as requiring an expeditious remedy over 10 years ago, while the need for interregional transmission has only grown more pressing since.<sup>28</sup>

While eliminating existing barriers to interregional transmission projects can maximize net consumer benefits across regions and improve reliability and resilience in the face of increasing extreme weather events, barriers to interregional planning make it virtually impossible to maximize net consumer benefits and have created a gap in investments near and across market seams as regional planning authorities have shifted away from development along seams with neighboring regions and instead have focused primarily on local and regional investments and generator interconnection requests.<sup>29</sup>

DOE summarizes these barriers in the Study as follows: “Multiple studies specify siting of high-voltage lines as one major challenge, indicating that developers often must navigate multiple state processes and local and federal government requirements. [...] Criteria used to make

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<sup>27</sup> LBNL Empirical Estimates of Transmission Value using Locational Marginal Prices (August 2022) at 3.

<sup>28</sup> *Comments of Pub. Interest Orgs.* at 75 (Aug. 17, 2022), Accession Nos. 20220817-5270 (“PIOs’ NOPR Comments”).

<sup>29</sup> *See id.* at 75-76.

determinations may differ in each state and may even be inconsistent. For example, some states may focus on intrastate benefits and costs only, while others may also take into account or even require interstate, regional, or national benefits and costs. Further, some states may require broad environmental and economic benefits and costs, while others may consider specific policy goals. [...] FERC (2020) and Breakthrough Energy Sciences (2021) further indicate that obtaining approvals in each state also may be difficult because many states focus on intrastate burdens and benefits. A line that does not directly connect resources within a state might not receive permits required to traverse the state.”<sup>30</sup>

**E. DOE Should Adopt High Load and High Clean Energy Assumptions as the Base Case for the Needs Study**

While the Needs Study reviewed public data and over 50 different studies to determine national transmission needs, none of the studies incorporated the passage of the IRA<sup>31</sup> or the recent EPA proposed rulemakings on vehicle emissions.<sup>32</sup> Switching to the high load and high clean energy assumption means the baseline case requires a doubling of the U.S transmission system by 2040.<sup>33</sup> The IRA and EPA vehicle emissions proposed rulemaking provide significant incentives for vehicle electrification. The IRA also provides incentives for residential electrification and clean energy deployment, all of which are not currently accounted for in the Study. DOE has already identified in the Study that the high clean energy assumptions are “in line with the future power sector enabled” by the IIJA and IRA.<sup>34</sup> Other analysis since the passage of the IRA confirms the acceleration of clean energy deployment in the U.S. For example, BloombergNEF estimates solar

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<sup>30</sup> Needs Study at 77.

<sup>31</sup> *Id.* at 84.

<sup>32</sup> U.S. Environmental Protection Agency, “Proposed Rule: Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles,” April 12, 2023, <https://www.epa.gov/regulations-emissions-vehicles-and-engines/proposed-rule-multi-pollutant-emissions-standards-model>.

<sup>33</sup> Needs Study at 106.

<sup>34</sup> *Id.*

deployment will increase 21 percent and wind deployment will increase 36 percent over pre-IRA forecasts.<sup>35</sup> The IRA also included \$9 billion for residential energy efficiency and electrification financial assistance programs.<sup>36</sup> In addition, before EPA released its most recent proposed rulemaking, BloombergNEF found that IRA incentives increased their projections for EV sales in 2030 by 9 percent, estimating that EVs would increase from 43 percent of the U.S. market to 52 percent,<sup>37</sup> and the EPA has estimated that its new rulemaking could potentially require nearly 70 percent of new vehicles sold in 2032 to be EVs.<sup>38</sup> Given the ample evidence presented in these studies as well as the amount of clean energy necessary given the passage of the IRA and the EPA's recent vehicle emissions rulemaking, PIOs recommend that the Study adopt the high load and high clean energy assumptions as the base case.

#### **F. The Needs Study Should Incorporate the Potential for Offshore Wind in the Pacific, Gulf of Mexico, and Great Lakes Regions**

While transmission issues relating to the significant amount of expected offshore wind development is mentioned briefly in the Needs Study, this discussion is primarily limited to discussion of Atlantic Offshore Wind with a brief mention of development along the Pacific Coast.<sup>39</sup> The Study discusses in detail studies relating to offshore wind development in New England, New York, and Oregon and notes that DOE is conducting its own study for Atlantic Offshore Wind.<sup>40</sup> While that work is ongoing, DOE should include in its Needs Study the findings

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<sup>35</sup> David R Baker and Angel Adegbesan, "US Renewable Power Set to Get More Than 20% Boost From New Climate Law," Bloomberg, October 19, 2022, <https://www.bloomberg.com/news/articles/2022-10-19/us-renewable-power-set-to-get-more-than-20-boost-from-new-climate-law>.

<sup>36</sup> Congressional Research Service, "The Inflation Reduction Act: Financial Incentives for Residential Energy Efficiency and Electrification Projects," November 28, 2022, [https://crsreports.congress.gov/product/pdf/IF/IF12258/2?itid=ik\\_inline\\_enhanced-template](https://crsreports.congress.gov/product/pdf/IF/IF12258/2?itid=ik_inline_enhanced-template).

<sup>37</sup> Ira Boudway, "More Than Half of US Car Sales Will Be Electric by 2030," Bloomberg, September 20, 2022, <https://www.bloomberg.com/news/articles/2022-09-20/more-than-half-of-us-car-sales-will-be-electric-by-2030>.

<sup>38</sup> U.S. Environmental Protection Agency, "Fact Sheet: Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles," 5, April 12, 2023, <https://www.epa.gov/system/files/documents/2023-04/420f23009.pdf>.

<sup>39</sup> Needs Study at 57-58, 86.

<sup>40</sup> *See id.*

of its 2021 Atlantic Offshore Wind Transmission Literature Review and Gaps Analysis along with other relevant studies,<sup>41</sup> including findings from Phase I of PJM’s Offshore Wind Transmission Study.<sup>42</sup> In addition, PIOs recommend that the Study recognize the potential for offshore wind in the Pacific, Gulf of Mexico, and the Great Lakes and suggest that DOE initiate studies to analyze how different coordinated transmission solutions would enable offshore wind in these regions. In this regard, PIOs recommend that DOE perform an interim needs study as soon as studies regarding these areas are available.

Moreover, PIOs were surprised to see the lack of offshore wind-related transmission needs identified in the list of identified projects in the Study. While DOE is conducting its own analysis of offshore wind needs in the Atlantic, to the extent that existing studies have identified existing and future transmission congestion or constraints associated with current and future offshore wind development, those needs should be included in the Study.

## **II. DOE Needs to Align the Transmission Needs Study with Statutory Requirements for the Future Designation of Any National Interest Electricity Transmission Corridor**

As noted by DOE, the Needs Study arises in part from Section 216(a) of the Federal Power Act, which directs it to conduct an assessment of national electric transmission capacity constraints and congestion no less than once every three years.<sup>43</sup> The Study plays two unique and essential roles in ensuring the reliability and affordability of the nation’s electric grid. First, it relies on

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<sup>41</sup> Department of Energy, Atlantic Offshore Wind Transmission Literature Review and Gaps Analysis, Oct. 2021, available at <https://www.energy.gov/sites/default/files/2021-10/atlantic-offshore-wind-transmission-literature-review-gaps-analysis.pdf>.2021. See also Johannes Pfeifenberger et al., The Benefit and Urgency of Planned Offshore Transmission: Reducing the Costs of and Barriers to Achieving U.S. Clean Energy Goals (Jan. 24, 2023), available at [https://www.brattle.com/wp-content/uploads/2023/01/Brattle-OSW-Transmission-Report\\_Jan-24-2023.pdf](https://www.brattle.com/wp-content/uploads/2023/01/Brattle-OSW-Transmission-Report_Jan-24-2023.pdf); Kelly Smith et al., Offshore Wind Transmission and Grid Interconnection Across U.S. Northeast Markets, available at <https://createsolutions.tufts.edu/wp-content/uploads/2021/08/OSW-Transmission-and-Grid-NE.pdf>.

<sup>42</sup> This study is available at <https://www.pjm.com/-/media/library/reports-notice/special-reports/2021/20211019-offshore-wind-transmission-study-phase-1-results.ashx>.

<sup>43</sup>16 U.S.C. 824p(a)(1); Transmission Needs Study at 1.

DOE’s experience and expertise in providing an independent assessment of the nation’s transmission system as a whole, including the identification of interregional needs that are often absent from existing regional and local planning processes but are increasingly critical to ensuring grid reliability in the face of changing weather patterns and resource transition. Second, the Study serves as the foundation for implementing a number of DOE’s statutory authorities, primary among them the requirement under Section 216(a)(2) that DOE issue a report every three years that may designate any geographic area that has existing or expected transmission constraints or congestion as a NIETC — designations that will be essential to resolving transmission bottlenecks that compromise the stability and affordability of the nation’s electric grid.<sup>44</sup>

While the NIETC designation process allows DOE to consider any relevant information, it is clear from both the statutory language of Section 216(a)(2) and from the Study itself that the final National Transmission Needs Study (“Final Study”) is intended to serve as a primary resource for making a NIETC designation.<sup>45</sup> The Federal Power Act also establishes specific factors the Secretary may consider in such a designation, namely:

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

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<sup>44</sup> *Id.* at 1; 16 U.S.C. 824p(a)(2).

<sup>45</sup> *Id.*

- the designation would enhance the ability of facilities that generate or transmit firm or intermittent energy to connect to the electric grid;
- the designation—(i) maximizes existing rights-of-way; and (ii) avoids and minimizes, to the maximum extent practicable, and offsets to the extent appropriate and practicable, sensitive environmental areas and cultural heritage sites; and
- the designation would result in a reduction in the cost to purchase electric energy for consumers.<sup>46</sup>

Because the Final Study will serve as a primary resource in the designation of NIETCs not only for DOE but also for regional planning authorities, governmental decisionmakers, affected communities, generation developers, consumers, and other stakeholders, information in the Final Study must provide the clarity needed to support the NIETC decisionmaking process. Additionally, since DOE has expressed an intent to have a participant-driven process for the designation of NIETCs, it is imperative that DOE provide as much clarity, specification, and justification for transmission needs identified by the Study. Consequently, the Final Study needs to explain whether and how each transmission need identified therein also implicates any of the factors set forth in Section 216(a)(4) in order to enable DOE and stakeholders to better understand, justify, and prioritize NIETC decisionmaking.

Providing this kind of information at the outset is necessary for DOE to rely on the Final Study (as statutorily intended) in setting clear, rational, and fair criteria for NIETC designation that allow participants to understand who is best suited to apply for NIETC designation and why. These criteria could include, for example, categories such as Extra-High Voltage projects or HVDC projects that connect at least two of the three U.S. interconnections or at least two Order No. 1000 transmission planning regions, Extra High-Voltage projects or HVDC projects that connect at least two different states or at least two different balancing authorities, or projects that

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<sup>46</sup> 16 U.S.C. § 824p(a)(4).

are at least 1 GW and 100 miles. If clear, comprehensive, and compelling information regarding what specific transmission is needed, where it is needed, and all the reasons why it is needed is not provided in the Final Study, addressing those needs – whether part of local and regional planning processes or as part of the NIETC designation – becomes more challenging.

### **III. In Reducing Congestion and Constraints in MISO, PIOs Recommend that DOE Consider Market Boundaries in Addition to the Grid Topology when Identifying Potential Solutions**

The Needs Study recommends that to alleviate congestion between the Midwest (MISO North) and the Delta (MISO South), it is more efficient to develop a solution connecting the Midwest to the Plains (SPP) and then connecting the Plains to the Delta, i.e., to route electricity flows through SPP rather than directly between MISO North and MISO South.<sup>47</sup> DOE’s finding was based on the following:

- Differentials in wholesale price differentials, with DOE noting that “Transmission between ISOs was generally more valuable than transmission within ISOs;”<sup>48</sup>
- Capacity expansion models indicated the highest needs in the country between the Midwest and Plains regions as well as between the Mid-Atlantic and the Midwest regions. The next highest level of need was identified between the Delta and Plains regions;<sup>49</sup> and
- Congestion between the Midwest and Delta regions.<sup>50</sup>

While flows from MISO North to SPP and from SPP to MISO South would be useful for many reasons, the Study should recognize the benefits of unifying the MISO market between

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<sup>47</sup> “The historic wholesale price (§ IV.b) and anticipated future capacity expansions model (§ VI.c) analyses suggest congestion between the Midwest and the Delta regions is alleviated most cost effectively by increased transfer capacity between the Midwest and Plains and between the Plains and Delta, instead of between the Midwest and Delta directly.” Needs Study at xi.

<sup>48</sup> *Id.* at 28.

<sup>49</sup> *See id.* at § VI.c.

<sup>50</sup> *See id.* at § V.d.4.



MISO North (Midwest) and MISO South (Delta) through increasing the direct transfers between these two regions. When the Illinois Commerce Commission raised the same concern,<sup>51</sup> DOE did not provide a meaningful response. The FPA specifically states that NIETCs can be designated when “the end markets served by the corridor may be constrained by lack of adequate or reasonably priced electricity”<sup>52</sup> or “the end markets served by the corridor may be jeopardized by reliance on limited sources of energy.”<sup>53</sup> Hence, DOE is statutorily authorized to recognize the impacts on the “end markets” and question whether market-to-market implications were considered when recommending against connecting the end markets of MISO North and MISO South.

Additionally, while PIOs recognize (and highlight above) that interregional projects are more difficult to build and should be a primary focus of the Study, DOE should not ignore regions that have had difficulty building transmission within their own market boundaries. Development within MISO South and the connection between MISO North and MISO South has been elusive and is only one example of major transmission needs of potentially national importance occurring within regional market boundaries that should not be ignored in the Study.

Respectfully submitted,

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<sup>51</sup> *See id.* at 114, cmt 5.

<sup>52</sup> 16 U.S.C. § 824p(a)(4)(A).

<sup>53</sup> 16 U.S.C. § 824p(a)(4)(B)(I).

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