UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Anbaric Development Partners, LLC ) Docket No. EL20-10-000

v. )

PJM Interconnection, L.L.C. )

COMMENTS OF THE INSTITUTE FOR POLICY INTEGRITY AT NEW YORK UNIVERSITY SCHOOL OF LAW

Pursuant to the Federal Energy Regulatory Commission’s ("Commission" or "FERC") November 20, 2019 Notice of Complaint,¹ and December 3, 2019 Notice of Extension of Time,² the Institute for Policy Integrity at New York University School of Law ("Policy Integrity")³ hereby files these comments in the above captioned proceeding.⁴ Policy Integrity is a non-partisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy. Policy Integrity has participated in numerous proceedings before the Commission, regional transmission organizations, and state public utility commissions regarding the socially efficient pricing of energy resources at the wholesale and retail levels.

On November 18, 2019, Anbaric Development Partners, LLC ("Anbaric") filed a complaint pursuant to section 206 of the Federal Power Act ("FPA"), alleging that the PJM Interconnection, L.L.C. ("PJM") Open Access Transmission Tariff ("tariff") is unjust,

¹ Notice of Complaint, Docket No. EL20-10-000 (Nov. 20, 2019).
² Notice of Extension of Time, Docket No. EL20-10-000 (Dec. 3, 2019).
³ No part of this document purports to present New York University School of Law’s views, if any.
⁴ Pursuant to Rule 214 of the Commission’s Rules on Practice and Procedure, 18 C.F.R. § 835.214, on December 6, 2019, Policy Integrity filed a timely doc-less motion to intervene.
unreasonable and unduly discriminatory and preferential because it contains provisions that limit the viability of open-access merchant offshore transmission projects.\(^5\) Anbaric’s complaint focuses on the fact that PJM’s tariff currently provides no mechanism (outside of PJM’s transmission planning process) for open-access transmission projects intended to connect planned but not-yet-developed offshore wind generation resources to the PJM Transmission System (what Anbaric terms “Transmission Platform Projects”) to obtain Transmission Injection Rights (“TIR”).\(^6\) Such rights are necessary for the injection of power into the PJM Transmission System and for PJM to perform the interconnection studies that would identify network upgrades needed to support future generation. According to Anbaric, both TIRs and interconnection studies are necessary for the commercial viability of Transmission Platform Project development.\(^7\) Without changes to PJM’s tariff, the only reasonably available option to connect offshore wind generation to the PJM Transmission System is through proprietary radial Interconnection Customer’s Interconnection Facilities (or “gen-ties”).\(^8\)

As is explained in more detail below, Transmission Platform Projects can reduce the cost of providing transmission service to offshore wind generators as compared to the alternative where all transmission is provided by gen-ties because:

- Transmission Platform Projects can take advantage of economies of scale in transmission;
- Transmission Platform Projects can provide offshore wind generators with open access to the PJM Transmission System; and
- Transmission Platform Projects can be selected through competitive solicitation processes.

\(^5\) Complaint and Request for Fast Track Processing of Anbaric Development Partners, LLC at 20-34, Docket No. EL20-1-000 (Nov. 18, 2019) (“Anbaric Complaint”).

\(^6\) Id. at 2, 15.

\(^7\) Id. at 2.

\(^8\) Id. at 3, 16.
As a result, eliminating barriers to the use of Transmission Platform Projects will make it more likely that PJM’s markets yield outcomes that are just and reasonable and not unduly discriminatory, until such time as the regional transmission planning process can be reformed.

A. Introduction

The build out of transmission infrastructure will be critical for the electric sector to meet increasingly ambitious state clean energy deployment goals, including the growing number of state policies to develop offshore wind. Over the longer-term, additional transmission will be necessary in order to decarbonize the electric system and address climate change. As the Commission has recognized, in order for Commission-jurisdictional services to be just and reasonable, regional transmission organizations (“RTO”) must take into account the potential for more efficient and cost-effective transmission options to meet transmission needs driven by public policy requirements such as state renewable procurement goals or federal environmental standards.

But an efficient transmission network to meet state clean energy objectives and enable the development of renewable energy needed to address climate change will not come about through market forces alone. Transmission exhibits many properties of natural monopolies—

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most significantly, economies of scale. As a result, the economically efficient approach to transmission would be development of a single, optimally designed transmission network.

In principle, in an electric system with multiple transmission developers and generators, regional transmission planning is the appropriate tool for the identification and deployment of an efficient, open-access, networked transmission system. This is true for offshore transmission needed to connect offshore wind turbines to onshore load, just as it is for the development of onshore transmission networks.

The Commission’s latest effort to require optimal transmission network development was Order No. 1000. In that Order, the Commission mandated that RTOs develop transmission plans “that reflect[] the identification . . . of the set of transmission facilities that are more efficient or cost-effective solutions” to meet regional transmission needs. For example, “regional transmission planning could better identify transmission solutions for reliably and cost-effectively integrating location-constrained renewable energy resources needed to fulfill Public Policy Requirements such as the renewable portfolio standards adopted by many states.”

However, eight years after the promulgation of Order No. 1000, only limited regional projects have been developed. Moreover, process uncertainty creates practical obstacles for the

14 Id. Note that this transmission system need not include only one owner so long as the transmission of all owners are coordinated and planned. Id. at 264; id. at 287-91 (detailing different business models).
15 Id. at 287-88 (describing centralized transmission planning by a regulator or grid operator and concluding that “most authors . . . deem the traditional centralized grid expansion scheme to be the most effective way to obtain a sufficiently developed grid”).
17 Order No. 1000 at P 78.
18 Id. at P 81.
19 See JOHANNES P. PFEIFENBERGER ET AL., THE BRATTLE GROUP, COST SAVINGS OFFERED BY COMPETITION IN ELECTRIC TRANSMISSION: EXPERIENCE TO DATE AND THE POTENTIAL FOR ADDITIONAL CUSTOMER VALUE 17
development of offshore open-access transmission through PJM’s Regional Transmission Expansion Plan (“RTEP”) process. Reform of the transmission planning process could provide a mechanism for development of efficient transmission networks, including development of an open-access, networked transmission system to bring offshore wind to load consistent with state offshore wind procurement objectives. Yet, states committed to meeting their current (or expanded) offshore wind procurement targets may not be willing to wait for the regional planning process to develop efficient networked offshore transmission. As explained above and in Anbaric’s complaint, PJM’s current market rules effectively leave gen-ties as the only viable transmission alternative, even though that option is not a cost-effective option.

Given the absence of an effective regional transmission planning process, FERC should provide states and merchant project developers alternate means to evaluate and deploy an unbundled, competitively solicited offshore transmission network. However, RTO market rules

(2019). https://brattlefiles.blob.core.windows.net/files/15987_brattle_competitive_transmission_report_final_with_data_tables_04-09-2019.pdf ("seven years after the Commission’s Order No. 1000 was issued, much of the transmission development is focused on reliability and local needs, with only a modest increase in regional projects, and no progress in developing interregional projects, to address market efficiency and public policy needs").

20 See Anbaric Complaint at 5 n.8 (outlining obstacles to the practical use of PJM Interconnection’s Transmission Planning Process to develop open-access offshore transmission as Public Policy Requirement projects).

21 See Anbaric Complaint at 5 n.8 (explaining that open-access offshore transmission could be developed as Public Policy Requirement projects under PJM Interconnection’s Transmission Planning Process but outlining obstacles to the practical use of that process).

22 Moreover, we recognize that changes to the regional transmission planning process are outside the scope of the current proceeding.

such as those in PJM create barriers to the development and deployment of this type of offshore transmission.\footnote{See, e.g., PJM, Offshore Wind Development through the Interconnection Queue: Problem Statement & Issue Charge (2018), https://www.pjm.com/-/media/committees-groups/committees/pc/20190110/20190110-item-08b-offshore-wind-development-problem-statement.ashx; see also Anbaric Complaint at 15-16, 26-27.}

The changes requested by Anbaric will not, on their own, permit development of an optimally designed, open-access offshore transmission network.\footnote{Anbaric Complaint at 54 n.121 (explaining that “a networked offshore interconnection system will pose technical challenges that will likely require in-depth stakeholder discussions to solve the technical issues and implement interconnection procedures for such a system”).} However, they would eliminate one barrier to the development of such a network. And, they would enable development of radial Transmission Platform Projects that will make it more likely that PJM’s markets yield outcomes that are just and reasonable and not unduly discriminatory, until such time as the regional transmission planning process can be reformed.


Offshore wind Transmission Platform Projects offer a host of potential benefits in comparison to the use of gen-ties.\footnote{See id. at 29.} First, because of economies of scale, a single high-capacity transmission line is cost-effective compared to many low-capacity lines in connecting the same collection of offshore wind turbines to the PJM Transmission System.\footnote{See Ross Baldick & Edward Kahn, Network Costs and the Regulation of Wholesale Competition in Electric Power, 5 J. REG. ECON. 367, 370 (1993); see also Rivier et al., supra note 13, at 260.} The “considerable magnitude of the economies of scale”\footnote{Id. at 263.} for transmission line capacity implies “[i]t is hardly rational”\footnote{Id.} and “makes no social, environmental or especially economic sense”\footnote{Id. at 251.} for there to be many parallel transmission lines, or redundant transmission infrastructure.
The figure below illustrates the economies of scale in transmission line capacity. By comparing project (2) to project (3) we see a transmission line with 300 MVA of capacity would cost approximately €225/km, while a transmission line with 1200 MVA of capacity would cost less than €300/km. In other words, building four medium-capacity transmission lines, instead of one high-capacity line with equivalent capacity, increases the cost of transmission infrastructure by a factor of three. Furthermore, because transmission costs for offshore wind can constitute up to 30% of the total cost for a project, the use of fewer higher-capacity Transmission Platform Projects instead of many lower-capacity gen-ties can substantially reduce the cost of delivering offshore wind energy into the PJM system.

![Figure 1](image_url)

**Figure 1- The capacity (Mega Volt Amp) and cost per mile (€/Km) for three transmission projects.**

As the Commission determined in Order No. 1000, “practices that have the potential to undermine . . . a more efficient or cost-effective solution to regional transmission needs . . . can result in rates for Commission-jurisdictional services that are unjust and unreasonable.” By eliminating barriers to the development of Transmission Platform Projects, the Commission can

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32 Rivier et al. *supra* note 13, at 262.

33 Order No. 1000 at P 7.
provide the opportunity for the development of more efficient or cost-effective transmission solutions and reduce the total cost of compliance with state offshore wind procurement obligations. As a result, eliminating barriers to the use of Transmission Platform Projects would make PJM’s tariff just and reasonable.


Transmission Platform Projects enable the use of open access transmission to serve offshore wind generators. Because open access transmission can lower the costs of supplying load, open access Transmission Platform Projects—and therefore the rule changes identified by Anbaric—can enable just and reasonable rates within the PJM system.

In spite of their cost-effectiveness, it is unlikely that decentralized wind turbine developers will build open access projects voluntarily for two reasons. First, coordination of many decentralized wind turbine developers is difficult when their projects are not being built simultaneously. As the development of offshore wind turbines is expected to happen in phases, current wind turbine developers are uncertain which other developers will build wind turbines in the future. Without knowing which developer to coordinate with, or the specifications of future projects, wind turbine developers face risk in any joint transmission project they pursue. Further, incumbent developers have an incentive to underinvest in access infrastructure, relative to what is socially optimal, if the infrastructure is open to future competitors and is not directly contractible.35

34 See Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Servs. by Pub. Utils., Order No. 888, 75 FERC ¶ 61,080, FERC Stats. & Regs. ¶ 31,036 at p. 31,873 (1996) (“Order No. 888”) (finding that the competition effects of open access under Order No. 888 would result in $3.8 billion to $5.4 billion in cost savings).

35 See e.g. JEAN-JACQUES LAFFONT & JEAN TIROLE, A THEORY OF INCENTIVES IN PROCUREMENT AND REGULATION 342-46 (3d ed. 1998). (“In the case of a transferable investment, any cost savings from the investment become
Second, incumbent wind turbine developers have the ability and economic incentive to exclude other developers from connecting to the PJM system through their incumbent gen-ties. Under the Commission’s Order No. 807, gen-ties are provided a blanket waiver from the Commission’s open-access requirements, allowing them to exercise a right-of-first-refusal.\(^{36}\) Requests for interconnection by third-parties can generally be denied on gen-ties for five years, even if there is capacity in excess of the needs of the currently constructed individual generators.\(^ {37}\) Wind farm developers will have the economic incentive to exercise this right-of-first refusal as it raises rivals’ costs in subsequent wind turbine capacity procurement solicitations.

In contrast to wind turbine developers, *merchant transmission developers* have the incentive to build open access Transmission Platform Projects. They are able to capture the benefits of economies of scale and, because they can spread the project’s cost across many wind turbine developers, they do not have the countervailing incentive to exclude wind turbines from their transmission line. Although merchant transmission developers have the incentive to build open-access Transmission Platform Projects, their ability to do so is prevented by PJM’s current tariff.

Modifying PJM’s tariff as proposed in Anbaric’s complaint would guarantee open access to the PJM system for wind turbine developers. Open access to transmission decreases the total cost of electricity because it allows for more competitive procurement of energy from offshore


\(^{37}\) Id. at PP 138, 151.
wind turbines. With open access, wind turbine developers need to compete only on the economics of building a wind turbine, rather than on the development of both turbines and transmission. More and more efficient wind generation developers will be able to submit bids for offshore wind turbine capacity. By encouraging additional entrants and more specialized entrants into the market, open access can lead to more cost-effective offshore wind generation and provide competitive downward pressure on the price for generation from offshore wind facilities.

The Commission has repeatedly recognized that the availability of open-access transmission service can lower costs and, therefore, contribute to rates being just and reasonable.38 As the Commission explained in Order No. 2003, interconnection requirements should be consistent with that “long-held view that competitive wholesale markets provide the best means by which to meet its statutory responsibility to assure adequate and reliable supplies of electric energy at just and reasonable prices.”39 More recently, in Order No. 845, the Commission recognized the importance of eliminating barriers to interconnection as a means of encouraging open access and ensuring just and reasonable rates.40 Similarly, here, changes to PJM’s interconnection requirements can eliminate barriers to generators’ open access to the

38 See, e.g. Fla. Mun. Power Agency, 65 FERC ¶ 61,125, 61,615 (1993) (“As a general matter, the availability of transmission service (or increased flexibility to use transmission) will enhance competition in the market for power supplies over the long run because it will increase both the power supply options available to transmission customers (thereby benefitting their customers) and the sales options available to sellers. This should result in lower costs to consumers”).

39 Standardization of Generator Interconnection Agreements and Procedures, Order No. 2003, 104 FERC ¶ 61,103 at P 694 (2003); id. at P 11 (finding that a standard set of interconnection procedures “will minimize opportunities for undue discrimination and expedite the development of new generation, while protecting reliability and ensuring that rates are just and reasonable”).

40 Reform of Generator Interconnection Procedures and Agreements, Order No. 845, 163 FERC ¶ 61,043 at P 37 (2018) (“the current interconnection process may hinder timely development of new generation, stifle competition, result in uncertainty and inaccurate information, or potentially unduly discriminate against new technologies. . . . For these reasons, we conclude that these reforms are necessary to ensure that rates, terms, and conditions of service are just and reasonable and are not unduly discriminatory or preferential”) (citations omitted).
transmission system and so can facilitate the competition that is necessary for just and reasonable rates.

D. Revising PJM’s Tariff to Allow for Transmission Platform Projects Can Lower Costs by Enabling the Use of Competitive Solicitations for Offshore Wind Transmission.

PJM’s current market rules will result in the development of transmission to serve offshore wind generators only through proprietary gen-ties that are, by definition, shielded from market competition. On the other hand, removing barriers to the use of Transmission Platform Projects opens up the possibility for states to take advantage of market competition in order to meet offshore transmission service needs. The use of competitive solicitations can yield more just and reasonable transmission rates.  

As a natural monopoly, transmission infrastructure is regulated to ensure sufficient and reliable provision of transmission services and infrastructure at a reasonable price. However, under this traditional model, regulators are at a disadvantage because they have limited information on the costs to build new transmission projects and cannot observe whether developers are including only prudent costs. The problem of limited information is referred to as the problem of adverse selection, and often leads to the procurement of projects at inefficiently high costs.

One solution to the problem of adverse selection is to harness market incentives through the use of competitive procurement auctions for transmission infrastructure. Under such auctions, incumbent and merchant transmission developers compete for the right to serve the

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43 Id. at 295.
market and are then regulated afterwards.\textsuperscript{44} Competitive procurement auctions have the possibility “to resolve the adverse selection . . . problems faced by regulators” if implemented correctly and can be used to reduce the cost of procuring new transmission projects.\textsuperscript{45}

Authorities have not yet reached definitive conclusions about the benefits of competitive solicitations for transmission as implemented by RTOs.\textsuperscript{46} A preliminary evaluation from a leading economist of competitive solicitations from RTOs that have occurred as a result of Order No. 1000 show that “the experience to date” with competition “is sufficiently promising.”\textsuperscript{47} Industry analysis supports this conclusion. For example, one study by the Brattle Group on behalf of LS Transmission Holdings estimates that by providing an incentive for prospective developers to submit lower initial bids and to propose or agree to cost-containment and risk-sharing provisions, the use of competitive solicitations can reduce the costs of transmission development by 15-50%.\textsuperscript{48} In particular, the Brattle study identified net cost savings of 23-34% for offshore transmission in the United Kingdom that was selected through a competitive process.\textsuperscript{49}

PJM’s current tariff limits the ability for offshore wind transmission to be developed through a competitive procurement process. Order No. 1000 requires that, in general, non-

\textsuperscript{44} Harold Demsetz, Why Regulate Utilities, 11 J. L. & ECON. 1, 55-65 (1968).
\textsuperscript{46} Id; see also JOSEPH ETO, LAWRENCE BERKELEY NATL. LAB, PLANNING ELECTRIC TRANSMISSION LINES: A REVIEW OF RECENT REGIONAL TRANSMISSION PLANS vii (2016), \url{https://www.energy.gov/sites/prod/files/2017/01/f34/Planning%20Electric%20Transmission%20Lines--A%20Review%20of%20Recent%20RegionalTransmission%20Plans.pdf} (“It will be some time before the outcomes of FERC Order Nos. 890 and 1000 can be fully assessed.”); FED. ENERGY REG. COMM’N, STAFF REPORT: 2017 TRANSMISSION METRICS 3 (2017), \url{https://www.ferc.gov/legal/staff-reports/2017/transmission-investment-metrics.pdf} (“it is difficult to assess whether the electric industry is investing in sufficient transmission infrastructure … and whether the investments made are more efficient or cost-effective”).
\textsuperscript{47} See Joskow, supra note 45, at 61.
\textsuperscript{48} See PFEIFENBERGER ET AL., supra note 19, at 29, 34.
\textsuperscript{49} Id. at 50.
incumbent transmission developers have the opportunity to meet identified transmission needs identified in the transmission planning process, such as through the use of a competitive solicitation. However, practical barriers to the effective use of PJM’s RTEP process for offshore wind transmission limits its use as a means of facilitating competitive procurement. And while PJM states have indicated an interest in using competitive solicitations to procure unbundled offshore transmission through their own programs, PJM’s current tariff does not allow developers to ascertain the network upgrade costs that will be needed and so effectively prevents them from participating in a state solicitation process. Eliminating these barriers will provide at least the possibility for state and local governments, or a consortium of wind developers, to solicit transmission-only offshore transmission.

The principle that competitive procurement of transmission can lower costs and enable just and reasonable rates is at the heart of the Commission’s reasoning in Order No. 1000. The Commission found that transmission procurement solely from incumbent developers “has the potential to undermine the identification and evaluation of more efficient or cost-effective solutions to regional transmission needs, which in turn can result in rates for Commission-

50 See Order No. 1000 at PP 78, 253 (generally requiring removal of federal right of first refusal for incumbent transmission providers to construct transmission facilities selected in a regional transmission plan from Commission jurisdictional tariffs and agreements).

51 Anbaric Complaint at 5-6 n.8 (“[A]s a practical matter, PJM’s planning process for Public Policy Requirement projects does not appear to provide a ready means by which a state or states could procure a Transmission Platform Project through a state-sponsored solicitation with any certainty as to what they are buying and what it will cost until the Project is actually studied and included in PJM’s Regional Transmission Expansion Plan. . . . Moreover, PJM’s planning process for Public Policy Requirement projects does not appear to provide the developers of Transmission Platform Projects an opportunity to undertake the time-intensive and expensive process of developing interconnection arrangements for such Projects”).

52 Id. at 11.

53 MASS. DEP’T OF ENERGY RES, OFFSHORE WIND STUDY 14 (May 2019), https://www.mass.gov/doc/offshore-wind-study/download (“In order for a transmission solution to be open to wider competition and for the benefits to be evaluated effectively, a transmission only solicitation would need to be separate from the energy generation and would need to be completed before the offshore wind generation is solicited”).
jurisdictional services that are unjust and unreasonable or otherwise result in undue discrimination by public utility transmission providers.”

This is because “it is not in the economic self-interest of incumbent transmission providers to permit new entrants to develop transmission facilities, even if proposals submitted by new entrants would result in a more efficient or cost-effective solution to the region’s needs.”

As explained above, the regional transmission planning process has not resulted in the development of competitively procured regional projects. But the same logic that led the Commission in Order No. 1000 to require opportunities for non-incumbent transmission developers and to favor competition applies here as well. By removing barriers to the use of Transmission Platform Projects, the Commission can provide states the choice to incorporate competitive transmission procurement into their offshore wind solicitations. The Commission is not required to find that states will necessarily use competitive solicitations or that such solicitations will definitively produce lower cost transmission, only that there is “ground for reasonable expectation that competition may have some beneficial impact.”

Eliminating barriers to the use of Transmission Platform Projects has the potential to enable competitive solicitations and, as a result, lower transmission costs and ensure the justness and reasonableness of Commission-jurisdictional rates. Doing so would be consistent with the Commission’s “long recognized . . . responsibility to . . . eliminate barriers to competition.”

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54 Order No. 1000 at P 253.
55 Id. at P 256.
56 Id. at P 268 (quoting Wisconsin Gas Company v. FERC, 770 F.2d 1144, 1158 (D.C. Cir. 1985)).
58 Order No. 1000 at P 286 (citing Gulf States Util. Co., 5 FERC ¶ 61,066 at 61,098 (1978)).
E. Conclusion

Over the long term, the Commission should work to reform the transmission planning process so that RTOs such as PJM develop economically efficient, optimal transmission networks including offshore networks. But states within PJM are acting now to require deployment of gigawatts of offshore wind generating resources. Given this reality, the Commission should ensure that the most efficient transmission system possible is available to connect those resources to the PJM Transmission System. In fact, the Commission has an obligation to do so. Section 206 of the FPA requires the Commission to ensure rates are just and reasonable. And the FPA specifically requires the Commission to consider state policy obligations when evaluating whether transmission expansion rules are just and reasonable. As a result of economies of scale, open access, and opportunities for competitive solicitation, merchant Transmission Platform Projects have the potential to lower the cost of transmission service for offshore wind resources that are mandated under state law. Eliminating these barriers would make PJM’s tariff just and reasonable.


60 16 U.S.C. § 824e(a).

61 See 16 U.S.C. § 824q(a)(3), (b)(4) (directing FERC to “exercise [its] authority . . . under [the FPA] in a manner that facilitates the planning and expansion of transmission facilities to meet the reasonable needs of load-serving entities to satisfy [their] service obligations” and defining “service obligations” to mean “a requirement applicable to . . . an electric utility under Federal, State, or local law . . . to provide electric service to end-users or to a distribution utility”) (emphasis added).
Respectfully submitted,

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