UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Integration of Variable Energy Resources	Docket No. RM10-11-000

COMMENTS OF THE
TRANSMISSION ACCESS POLICY STUDY GROUP

Pursuant to the Commission's January 21, 2010 Notice of Inquiry[1] ("NOI") and March 3, 2010 Notice Extending Comment Period,[2] the Transmission Access Policy Study Group ("TAPS") hereby submits comments regarding the Integration of Variable Energy Resources ("VERs"). The Commission seeks input on the extent to which barriers may exist that impede the reliable and efficient integration of VERs into the electric grid, and whether reforms are needed to eliminate those barriers.

TAPS recognizes and supports the need to foster and integrate an increasing amount of renewable resources, including VERs, to achieve national energy and environmental objectives. As owners and buyers of wind generation and other VERs, we support the elimination of discriminatory barriers that give undue preference to other resources and impede the development and delivery of VERs. We caution, however, that modifying market rules and transmission service to promote and indirectly subsidize VERs could produce significant market distortions and unintended consequences, including discouraging new technologies that could address the technical challenges of integrating large numbers of VERs. To assure that electricity markets fulfill their crucial efficiency and reliability functions, the Commission should adhere to its goal "not to

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[1] 130 F.E.R.C. ¶ 61,053 (2010).

[2] *Available at* eLibrary Accession No. 20100303-3004.

adopt rules that favor one type of supply source over another" (NOI P 10); and it should not abandon basic cost causation principles that are needed to assure that wind resources (as a group) and other renewables pick up their fair share of costs.

TAPS also urges the Commission to eliminate a formidable barrier to renewable VERs that the Commission did not identify in its NOI: pancaked transmission rates outside RTOs. The elimination of rate pancaking is consistent with established cost causation rules and Commission precedent, and would remove a major barrier to the development of VERs, which are often location-constrained and must be sited in areas that are remote from major load centers.[3]

I. INTEREST OF TAPS

TAPS is an informal association of transmission-dependent utilities in more than 30 states, promoting open and non-discriminatory transmission access.[4] As entities entirely or predominantly dependent on transmission facilities owned and controlled by others, TAPS members will be directly affected by the terms and conditions of jurisdictional transmission service, which the Commission seeks to re-examine in light of VERs. TAPS members are also owners and buyers of generation resources, including wind generation and other VERs; and they will be directly affected by changes to wholesale markets that aim to remove unnecessary barriers to VERs.

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[3] TAPS generally supports the comments submitted by the American Public Power Association ("APPA") in this proceeding. It is separately submitting these limited comments to emphasize two areas of particular concern.

[4] TAPS is chaired by Roy Thilly, CEO of WPPI Energy ("WPPI"). Current members of the TAPS Executive Committee include, in addition to WPPI, representatives of: American Municipal Power, Inc.; Blue Ridge Power Agency; Clarksdale Public Utilities; Connecticut Municipal Electric Energy Cooperative; ElectriCities of North Carolina, Inc.; Florida Municipal Power Agency; Illinois Municipal Electric Agency; Indiana Municipal Power Agency; Madison Gas & Electric; Missouri Public Utility Alliance; Missouri River Energy Services; NMPP Energy; Northern California Power Agency; Oklahoma Municipal Power Authority; and Southern Minnesota Municipal Power Agency.

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II. COMMENTS

A. Modifying Market Rules and Transmission Service to Promote and Indirectly Subsidize VERs Risks Significant Market Distortions and Unintended Consequences

The NOI (P 9) states that "the Commission seeks to take a fresh look at existing policies and practices in light of the changing characteristics of the nation's generation portfolio with the aim of removing unnecessary barriers to transmission service and wholesale markets for VERs (and other technologies that may aid their integration) and promoting greater efficiencies that ultimately will reduce costs to consumers."

TAPS members are owners and buyers of wind resources and other VERs, as well as other types of generation. Our goal is to integrate all of these resources into a reliable and reasonably-priced power supply for our customers—not to promote any particular type of generation resource at the expense of others. Based on our experience dealing with all of these different types of resources, our sense is that most of the existing policies and practices specifically identified in the NOI are not, as a general matter, unduly discriminatory and do not pose unnecessary barriers to VERs.

While we appreciate the need to foster and integrate an increasing amount of renewable resources to achieve environmental objectives, including VERs, we strongly

support the Commission's goal "not to adopt rules that favor one type of supply source over another." *Id.* P 10. Modifying existing electricity markets and transmission service to favor and promote VERs at the expense of other types of generation will distort the market. In contrast to taxes or credits that could be specifically targeted to particular types of generating resources, changing electricity market rules and the terms and conditions of transmission service to favor and decrease costs for VERs will affect *all* generation resources, producing cost shifts and likely unintended consequences. Indeed, such changes could actually *increase* the costs of using and integrating VERs by raising the cost of the types of generation needed to firm those variable resources and to integrate them into a reliable power supply. Those impacts will become increasingly problematic as the number and energy contribution of VERs increase in the future.

For example, the rules of the market and the structure of Balancing Authorities should not be changed to favor any particular type of resource. Most of the rules developed for existing markets are designed to be applied to all types of resources, and it is important that there be a level playing field with respect to all types of generation. Particularly because renewable energy technologies are still developing, altering existing market rules to ignore or discount the value of dispatchable resources will send the wrong market signal and potentially discourage emerging technologies that could help ensure reliability while also meeting national environmental and renewable energy goals.

Similarly, existing capacity markets and resource adequacy credit criteria should not be diluted to enhance the value of VERs. Using unduly "optimistic" capacity ratings and criteria threatens reliability. At least with respect to the Midwest Independent Transmission System Operator ("Midwest ISO") and the Southwest Power Pool, the

existing treatment of wind resources, which accords such generators a capacity value of only a small fraction of their nameplate rating, is consistent with the data on their availability at peak—*i.e.*, when the need to assure the availability of capacity reserves is most crucial.[5] Such assessments are necessary to maintain the integrity of resource adequacy regimens and are not unduly discriminatory.

Although the Commission has stated that cost allocation issues are beyond the scope of this proceeding (NOI P 9), it is important to allocate costs in a way that assures wind resources (as a group) and other renewables pick up their fair share of costs. Renewable portfolio requirements, such as those now in place in 30 states (including the

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[5] In 2006, EnerNex Corporation, in collaboration with the Midwest ISO, prepared a Final Report for the Minnesota Public Utilities Commission that modeled the Effective Load Carrying Capability ("ELCC") of significantly increased wind generation in Minnesota, Iowa, and the Dakotas. (The study modeled three hypothetical scenarios: 15%, 20%, and 25% wind penetration.) Based on actual wind and load patterns experienced in 2005, EnerNex concluded that the ELCC of the wind generation in aggregate ranged from 4.1% (at 25% wind penetration) to 5.1% (at 20% wind penetration) of the rated installed capacity. In 2003, a year when wind and load patterns happened to be better correlated, the ELCC of the wind generation in aggregate ranged from 17% (at 25% wind penetration) to 20.9% (at 15% wind penetration). I Final Report – 2006 Minnesota Wind Integration Study 51 (2006), *available at* http://www.puc.state.mn.us/portal/groups/public/documents/pdf_files/000664.pdf.

In January 2010, EnerNex also prepared a report for the National Renewable Energy Laboratory that modeled wind penetration levels of 20% to 30% in the Eastern Interconnection, assuming different transmission investment scenarios and various different geographic patterns of new wind development. Based on that analysis for the Eastern Interconnection as a whole, the ELCC of the wind generation in aggregate ranged from 16% to 33% of rated capacity, depending on the assumptions used. Nat'l Renewable Energy Lab., *Eastern Wind Integration and Transmission Study*, 25-30, 54, 205 (2010), *available at* http://www.nrel.gov/wind/systemsintegration/ewits.html (follow "PDF 17.8 MB" hyperlink).

These reports modeled wind penetration levels far in excess of current conditions, as well as transmission and geographic distributions of new wind generation that do not exist. They illustrate, however, that the ELCC of wind generation will vary widely, depending on wind conditions (which no one controls) and load conditions (also driven, in part, by weather conditions that cannot be controlled). Capacity credits at the low end of the modeled range may be appropriate, since the key issue is whether such resources can be counted on to be available whenever needed—*i.e.*, not whether wind and load patterns happen to be correlated over the entirety of a given year.

It is also important to remember that the ELCCs projected by the two EnerNex reports are based on wind generation *in aggregate*. Individual VERs may have much lower or much higher ELCCs for the balancing authority in which they are located. And particularly where markets are used to compensate generators for capacity, any capacity credits awarded to specific units must be accurate to ensure sufficient reserves for reliable operation, to encourage the siting and construction of wind generation that improves reliability, and to assure just and reasonable rates.

District of Columbia), mean that reflecting cost causation, consistent with basic Commission cost allocation principles, will result in a fair spreading of those costs to the entities that benefit. Modifying evenhanded cost allocation rules to selectively socialize the kinds of costs associated with one type of resource—wind, solar, and other VERs, while directly assigning the types of costs associated with others (*e.g.*, fuel, fuel transport, and carbon), would be discriminatory and inefficient.

B. The Commission Should Eliminate Unnecessary Rate "Pancakes" Between Multiple Transmission Providers

The Commission has long recognized that pancaked transmission rates create obstacles to the competitive markets it seeks to foster.[6] Eliminating rate pancakes is a "central attribute of RTO formation." *Id.* However, there has been no progress on eliminating this significant barrier in the many parts of the country not covered by RTOs.

Pancaked individual transmission system rates are especially burdensome for VERs and transmission dependent utilities ("TDUs") that seek to include VERs within their generation portfolios. Location-constrained VERs are often remote from load and must cross multiple transmission providers in order to reach customers. The only way that many utilities can integrate VERs into their power supply is to pay multiples of the transmission service charges that would be necessary to deliver conventional fossil-fueled resources.

The distorting impact of rate pancaking on VERs is not only a matter of straightforward economic theory: it is observable in the relative rates of wind capacity

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[6] *See, e.g.*, *Regional Transmission Organizations*, Order No. 2000-A, 65 Fed. Reg. 12,088, 12,104 (Mar. 8, 2000), [1996-2000 Regs. Preambles] F.E.R.C. Stat. & Regs. ¶ 31,092, at 31,383 (2000), *petitions for review dismissed per curiam for want of standing sub nom. Pub. Util. Dist. No. 1 v. FERC*, 272 F.3d 607 (D.C. Cir. 2001).

installation on the two sides of the Midwest ISO-MAPP border. The Midwest ISO "Transmission System," *i.e.*, the area within which the Midwest ISO is the Transmission Provider and rates are therefore internally de-pancaked, includes roughly half of Iowa, half of North Dakota, and virtually all of Minnesota, but very little of South Dakota. Data from the U.S. Department of Energy National Renewable Energy Laboratory ("NREL") shows that each of these four states has substantial wind development potential (*i.e.*, sustained winds of a suitable speed), with the greatest potential concentrated in the generally non-Midwest ISO state of South Dakota.[7]

But their actual wind development is the reverse of what the geographic distribution of physical wind development potential would lead one to expect. For example, as of 2007, installed wind capacity in Minnesota (which is located almost entirely within the Midwest ISO footprint) was 896 MW, whereas installed wind capacity in South Dakota (which is located almost entirely outside the Midwest ISO footprint) was 44 MW.[8] According to NREL data updated through December 2009, Minnesota now has over 1,800 MW of installed projects, and South Dakota has 313 MW. Based on the same updated data, North Dakota has about 1,200 MW of currently installed wind generation;[9]

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[7] Off. of Energy Efficiency & Renewable Energy, U.S. Dep't of Energy, *Estimates of Windy Land Area and Wind Energy Potential by State for Areas >= 30% Capacity Factor at 80m* (2010) http://www.windpoweringamerica.gov/docs/wind_potential_80m_30percent.xlsx (last visited Apr. 12, 2010).

[8] Off. of Energy Efficiency & Renewable Energy, U.S. Dep't of Energy, *Installed Wind Capacity by State*, http://www.windpoweringamerica.gov/docs/installed_wind_capacity_by_state.xls (last visited Apr. 12, 2010).

[9] *Id.*

and about 700 MW of that total is associated with existing Midwest ISO transmission owners.[10] Thus, the half of North Dakota that has enjoyed de-pancaked access to Midwest ISO markets while existing installed wind projects were conceived and developed now has more than twice the installed wind capacity of South Dakota. This difference was observed even though South Dakota has significantly more physical wind resource potential, and even though the other differences[11] between South and North Dakota include: (1) the fact that South Dakota is physically closer to the urbanized and

[10] *See* the American Wind Energy Association, U.S. Wind Energy Projects – North Dakota, http://www.awea.org/projects/projects.aspx?s=North+Dakota (last visited Apr. 12, 2010). The 700 MW includes the Langdon Wind Project, which is shared by Otter Tail Power Company (a Midwest ISO Transmission Owner) and Minnkota Power Cooperative, Inc. (which is outside the Midwest ISO, but shares an integrated transmission system with Otter Tail pursuant to grandfathered transmission service agreements entered into before the Midwest ISO was formed).

In addition to the Langdon project, certain other wind generators interconnected with Minnkota Power Cooperative may also have the right to deliver to certain Midwest ISO loads without paying a pancaked transmission rate, pursuant to the Otter Tail/Minnkota grandfathered agreements. If these projects were added to the 700 MW associated with Midwest ISO transmission owners, that total would increase to approximately 940 MW out of the total of 1,202 MW within North Dakota.

[11] As with any non-laboratory comparison, there are multiple differences between the two Dakotas, and pancaking may not have been the only difference that affected their relative wind resource development. But some of those differences (*e.g.*, location, and thus transmission energy losses) would be expected to favor development in South Dakota, while others (*e.g.*, the fact that the rules for settling energy imbalances were, prior to Order No. 890, more hospitable to wind within the Midwest ISO than outside it) would be expected to favor development in North Dakota. With Order No. 890 having already improved the energy imbalance rules, pancaking stands as a principal remaining barrier to long-term commitments under which high plains wind resources would be contracted as long-term power supply for the more densely populated portions of the Midwest ISO.

industrialized load concentrations of the Mississippi River Valley and Great Lakes areas; and (2) the interconnection queue and wait times are long in the portions of North Dakota within the Midwest ISO.[12]

It is also telling that while Western Area Power Administration ("WAPA") and Xcel each has a substation close by (the two substations are 0.2 miles apart), the Buffalo Ridge wind farm in South Dakota connected to Xcel's transmission system, thereby avoiding the pancaked rates that would add to its delivered costs and restrict its market.[13]

Expanding the areas that can be reached by paying a single wheeling charge would remove the economic distortion caused by pancaked rates. And by removing artificial barriers to the development and use of wind resources on the upper Great Plains, such action would also benefit the environment and serve other high-priority national goals. Eliminating pancaking outside RTOs would also reduce the incentive for Transmission Owners not to join an RTO. These benefits, moreover, could be achieved without compromising technical or reliability standards, or changing the operating protocols needed to keep the grid running.

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[12] *See also Midwest ISO*, 129 F.E.R.C. ¶ 61,060, P 7 (2009) (describing the then-current situation where there were 12.7 MW of interconnection requests for every 1 MW of load in the Otter Tail Power Company's Midwest ISO pricing zone, which, according to the Filing Parties in that case, "indicates that interconnection customers intend 'to serve significant amounts of Load outside the host pricing zone.'"). According to the testimony of JoAnn M. Thompson, "The preponderance (more than ninety percent (90%)) of these requests are wind generation requests …." Prepared Direct Testimony of JoAnn M. Thompson Filed on Behalf of the Midwest ISO Transmission Owners, filed in *Midwest ISO*, Docket No. ER09-1431-000, at 8 (July 9, 2009), *available at* eLibrary Accession No. 20090710-0033. Ms. Thompson also noted (*id.* at 7-8) that "interconnecting to a non-Midwest ISO transmission owner is less attractive than directly interconnecting to the transmission of a Midwest ISO transmission owner, such as Otter Tail," because, among other reasons, "a generator located within the Midwest ISO can transmit to loads in the thirteen-state Midwest ISO region … at non-pancaked rates."

[13] *See* Application of Buffalo Ridge I LLC for Order Accepting Initial Tariff, Waiving Regulations, and Granting Blanket Approvals, *Buffalo Ridge I LLC*, Docket No. ER09-279-000, at 2 (Nov. 14, 2008), *available at* eLibrary Accession No. 20081117-0029; *see also* Application of Buffalo Ridge II LLC for Order Accepting Initial Tariff, Waiving Regulations, and Granting Blanket Approvals, *Buffalo Ridge II LLC*, Docket No. ER10-378-000, at 2 (Dec. 3, 2009), *available at* eLibrary Accession No. 20091207-0042.

The Commission's effort to eliminate pancaked rates should not end at RTO borders. The Commission should exercise its long-established authority to order joint, non-pancaked rates where transmission systems are integrated. *Fort Pierce Utils. Auth. v. FERC*, 730 F.2d 778, 783-85 (D.C. Cir. 1984).[14] Many, if not all, regions would meet that test. In addition, the fact that TDU loads and resources span multiple transmission systems supports a finding of integration and signals the need for a joint rate.

The Commission could also use avenues outside of pure transmission rate regulation to create incentives for transmission owners to adopt regional rates that eliminate pancaking. For example, market-based rate determinations can be tied to a transmission provider's willingness to provide customers effective access to a broader market through participation in regional or joint rates. It can also be made a factor in assessing transmission rates.

CONCLUSION

For the foregoing reasons, TAPS urges the Commission to adhere to its goal "not to adopt rules that favor one type of supply source over another," as it evaluates proposals to modify market rules and transmission service to eliminate barriers to Variable Energy Resources. *Id.* P 10. The Commission also should not abandon basic cost causation principles, which are needed to assure that electricity markets operate properly, and that wind resources (as a group) and other renewables pick up their fair share of costs.

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[14] *See also Permian Basin Area Rate Cases*, 390 U.S. 747, 776-77 (1968) (Supreme Court approving Commission's use of area rates, noting that "the width of administrative authority must be measured in part by the purposes for which it was conferred").

The Commission should also consider policies to eliminate one of the major barriers to VERs—*i.e.*, rate "pancakes" between multiple transmission providers, which are especially burdensome to location-constrained resources such as wind generation. Instituting policies to eliminate rate pancaking outside RTOs is consistent with Commission precedent, and it would allow utilities to integrate VERs into their power supply without paying multiples of the transmission service charges.

Respectfully submitted,

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