

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

**Integrating Renewable Resources            )**  
**Into the Wholesale Electric Grid            )**

**Docket No. AD09-4-000**

**POST-TECHNICAL CONFERENCE COMMENTS OF THE**  
**NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION**

Pursuant to the Commission’s February 27, 2009 Supplemental Notice of Technical Conference, the National Rural Electric Cooperative Association (“NRECA”) respectfully submits its comments regarding the integration of renewable resources into the wholesale electric grid in Docket No. AD09-4-000.

**I. INTRODUCTION**

NRECA is the not-for-profit national service organization representing approximately 930 not-for-profit, member-owned rural electric cooperatives. The great majority of these cooperatives are distribution cooperatives, which provide retail electric service to over 42 million consumer-owners in 47 states. Kilowatt-hour sales by rural electric cooperatives account for approximately 10% of total electricity sales in the United States. NRECA’s members also include approximately 65 generation and transmission (“G&T”) cooperatives, which supply wholesale power to their distribution cooperative owner-members. Both distribution and G&T cooperatives were formed to provide reliable electric service to their owner-members at the lowest reasonable cost.

NRECA and its member cooperatives support power developed from renewable resources. In 2007, rural electric cooperatives received eleven percent of their power from renewable sources, as compared with nine percent for the industry as a whole.

The delivery of renewable resources will require extensive expansion of the transmission grid because such resources will often be located in areas remote from high-consumption urban load centers. As it happens, many of these renewable energy-rich remote locales are within the service areas of NRECA's member electric cooperatives, so NRECA and its members are particularly aware of the opportunities and challenges posed by the delivery of energy from renewable resources. NRECA supports efforts to expand the transmission grid to meet the needs of consumers, including the need to deliver renewable resources from remote locations.

## **II. COMMENTS**

As the Commission moves forward to fashion rules for the industry governing such expansion of the transmission grid, NRECA urges the Commission to ensure that (1) the development of new transmission facilities, including extra-high-voltage ("EHV") facilities, is planned in a manner that does not compromise the open, inclusive regional planning process established in Order No. 890;<sup>1</sup> (2) the development and operation of new EHV transmission facilities take into account the operational and reliability effects on the underlying transmission grid; and (3) any cost recovery mechanism for new EHV facilities, or otherwise for facilities designed to integrate intermittent, renewable resources into the transmission grid, must provide for the recovery of all costs imposed on the underlying transmission grid in a transparent manner and must assure that all costs are allocated so as to not disproportionately burden consumers

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<sup>1</sup> *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, FERC Stats. & Regs. ¶ 31,241, *order on reh'g*, Order No. 890-A, FERC Stats. & Regs. ¶ 31,261 (2007), *order on reh'g*, Order No. 890-B, 123 FERC ¶ 61,299 (2008), *order on reh'g*, Order No. 890-C, 126 FERC ¶ 61,228 (2009) ("Order No. 890").

located either in rural, sparsely populated regions that have plentiful renewable resources that potentially could be exported elsewhere, or in “fly-over” locations – *i.e.*, areas situated between renewable energy rich areas and dense load centers.

**A. Transmission Planning**

1. The Commission Should Facilitate the Development of Interconnection-Wide Planning Through an Industry-Led Bottom-Up Process.

It was suggested at the March 2, 2009 Technical Conference held in this docket (“Technical Conference”) that one thing the Commission could do to facilitate the integration of renewable resources into the transmission grid would be to require transmission planning to be conducted on an interconnection-wide basis.<sup>2</sup> Judgment on this proposition needs to await its development into concrete proposals. However, to the extent transmission planning areas need to be expanded from region-wide to interconnection-wide, the process should utilize the inter-utility processes already undertaken pursuant to Order No. 890 as its fundamental building blocks. It is especially important that the principles of openness and inclusiveness embodied in the planning process mandated by Order No. 890 not be compromised, and that transmission facility planning necessary for local reliability and other service requirements is incorporated in any interconnection-wide planning. Stakeholder participation at the local level is critical to assuring that all aspects of proposed grid expansions are taken into account and costly mistakes avoided. Experience has taught that bottom-up planning – with full participation by load-serving entities (“LSEs”) – is much to be preferred to top-down planning. Neither state nor federal governments are equipped to perform the intensely technical tasks involved in transmission planning; they should not be the primary movers in the process.

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<sup>2</sup> March 2, 2009 Technical Conference Transcript (“March 2 Technical Conference Transcript”) at 47 (Moler), 60 (Barton).

At the urging of NRECA and others, the Commission mandated an open and inclusive local, as well as regional, transmission expansion planning process in Order No. 890. Under Order No. 890, transmission providers' planning processes are to focus on both the economic and reliability needs of consumers.<sup>3</sup> NRECA's members have devoted substantial resources to implementing the Order No. 890 planning processes, both as transmission service providers and as transmission service users. While the integration of renewable energy and the development of EHV facilities may pose unique challenges that require interconnection-wide planning, it is imperative that the Commission not abandon the inclusive, bottom-up planning process developed under Order No. 890. It is also important that the Commission not be prematurely persuaded by the arguments of some that bottom-up planning is inherently unsuitable for and a distraction from development of transmission facilities that span multiple regions across an interconnection. While there are, no doubt, improvements in coordination of inter-regional planning processes that can and are being made, many shortcomings to date are primarily a result of the start-up nature of these efforts, not congenital defects. The Commission should not require the wheel to be reinvented. The basic premises of these existing Order No. 890 planning processes should be incorporated into the planning of any mega-scale transmission projects; any such larger scale projects must not be allowed to avoid or supersede open and inclusive planning.

To the extent that the Commission determines interconnection-wide planning to be appropriate, NRECA urges the Commission to consider that industry-led interconnection-wide planning could benefit from the Department of Energy's ("DOE's") experience in designating the National Interest Electric Transmission Corridors and conducting congestion studies

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<sup>3</sup> Order No. 890 at P 542.

mandated by EPA Act 2005.<sup>4</sup> Expansion of the planning process to an interconnection-wide basis would require the development of new planning models. DOE might be able to lend substantial technical and financial support to the integration of regional planning processes into interconnection-wide processes.

To the extent that the Commission determines that something less than interconnection-wide planning is the best way to proceed, NRECA supports an inter-utility approach to transmission planning. A good example of this approach on the regional level is the CapX2020 project, organized by a consortium of cooperative, municipal and investor-owned utilities in the upper Midwest, that will expand the grid to deliver electricity from, among other sources, the burgeoning wind farms in that section of the country.<sup>5</sup> Given that many of the contemplated transmission projects will prove both highly contentious and highly technical, an industry-led bottom-up approach – on at least an inter-utility, if not interconnection-wide basis – will facilitate planning with a firm technical foundation despite likely political pressure.

2. Planning of EHV Facilities Must Be Integrated with Lower-Voltage Transmission.

It is critical that EHV planning be integrated with the planning of the conventional grid. Because of the magnitude of the effects of an EHV installation on the underlying conventional grid, planning of both the EHV “overlay” and of the underlying conventional grid has to be simultaneous and coincident in order to optimize the operation and minimize the cost of each. Coordinated planning of EHV and lower-voltage transmission facilities is important because construction of an EHV facility can make it impossible politically to site a lower-voltage facility needed to serve local load in the same area. Moreover, minor changes in routing options of EHV

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<sup>4</sup> Energy Policy Act of 2005, section 1221, Pub. L. No. 109-58, 119 Stat. 594.

<sup>5</sup> See, <http://www.capx2020.com/>.

facilities can result in a many-fold savings in the length and cost of the underlying transmission facilities that will eventually be interconnected with the EHV facility. Coordinated planning, open to participation by local LSEs, is needed to ensure that both national and local needs are met, in a manner consistent with the Commission's obligation under Section 217(b)(4) of the Federal Power Act ("FPA")<sup>6</sup> to facilitate planning and expansion of the grid to meet the needs of LSEs. Aside from the need for coordination, there certainly will be planning challenges related to developing EHV transmission. Difficulty obtaining equipment related to EHV facilities may well be an issue. For instance, new transformers required to accommodate EHV facilities can take up to two years to be delivered, and, at present, they are only available from abroad. If EHV planning does not take such issues into account, it will likely delay projects.

### 3. NRECA Supports Back-up Siting Authority for the Commission.

Panelists at the Technical Conference spoke about the need to address the complex issue of siting – as Commissioner Spitzer described it, one of two “elephants in the room.”<sup>7</sup> While some advocated federal legislation granting the Commission much greater siting authority,<sup>8</sup> others suggested the importance of the role of local authorities.<sup>9</sup> For its part, NRECA has supported the Commission's exercise of back-up authority to site transmission facilities within DOE-designated National Electric Interest Transmission Corridors both at the Commission<sup>10</sup> and

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<sup>6</sup> 16 U.S.C. § 824q(b)(4).

<sup>7</sup> March 2 Technical Conference Transcript at 10 (Spitzer).

<sup>8</sup> *Id.* at 47 (Moler).

<sup>9</sup> *See, e.g., id.* at 20 (Azar).

<sup>10</sup> *See, Regulations for Filing Applications for Permits to Site Interstate Electric Transmission Facilities, Comments of the National Rural Electric Cooperative Association on Notice of Proposed Rulemaking, filed in Docket No. RM06-12-000 (August 25, 2006).*

in the Court of Appeals.<sup>11</sup> NRECA likewise expresses here its support for the Commission's exercising authority for siting of conventional as well as EHV transmission, provided: that (1) the projects are interstate; (2) the projects are the product of a FERC-approved open, inclusive coordinated inter-utility, inter-regional planning process consistent with Order No. 890; and (3) the projects do not purport to be restricted to delivering electricity generated by renewable resources.

First, federal intervention in the politically sensitive area of transmission siting should be limited to interstate projects to provide due regard for the authority of state siting agencies. Second, transmission system expansion will be accomplished in the most timely and cost-effective manner if it is done as part of an inclusive, coordinated regional Order No. 890 planning process. Third, the Commission should not exercise siting authority necessary to construct transmission projects that purport to be restricted to delivering electricity generated by renewable resources. No element of the transmission system is physically able to distinguish electric current generated by one form of generator from current generated by another form of generator.

## **B. Maintaining Bulk Power System Reliability**

### **1. EHV Must Be Integrated with Lower-Voltage Transmission.**

One important operational challenge that did not receive much attention at the Technical Conference is the fact that expansion of the grid with EHV facilities will significantly affect the operation of the lower-voltage elements of the transmission system. Operationally, EHV transmission's effects on existing transmission system operations can have significant reliability impacts on lower-voltage facilities, thereby imposing significant costs on local utilities. For

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<sup>11</sup> See, *Piedmont Environmental Council, et al. v. FERC*, Petition for Rehearing En Banc Submitted by Intervenors in Support of Respondent at 7, No. 07-1651 (4th Cir. April 6, 2009).

instance, EHV flows could cause overloads on existing local transmission facilities or require changes to protective equipment and transformers to handle higher fault current. Slight changes in the location of EHV facilities can impose higher costs or degrade service for some customers while reducing costs or improving service for others. The needs of affected stakeholders must be taken into account in a coordinated, open planning process in order to optimize consumer benefit, maintain reliability and avoid anticompetitive effects or undue discrimination.

2. To Ensure Reliability Is Not Impaired, Electricity Generated with Renewable Resources Should Not Be Afforded Preferential Access to Transmission Facilities, Including EHV Facilities.

Affording electricity generated with renewable resources preferential access to transmission facilities, including EHV facilities, would have undesirable consequences. First, there is no way to segregate such electricity from electricity generated by other means, except by isolating it (and its generating sources and the loads to which it is delivered) from the existing transmission system. Second, due to its intermittent nature, virtually no source of electricity generated with renewable resources constitutes a complete power supply capable of providing service 8,760 hours per year. As recognized by panelists at the Technical Conference, these intermittent resources need to be integrated with other generating resources to provide a reliable power supply.<sup>12</sup>

Furthermore, a preference for renewable resources could disrupt the Order No. 890 coordinated planning processes, as well as the priority-of-service rules established by Order Nos. 888<sup>13</sup> and 890. Such a preference would also likely have any number of unforeseen and

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<sup>12</sup> See, e.g., March 2 Technical Conference Transcript at 208 (Kirby).

<sup>13</sup> *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, Order No. 888, FERC Stats. & Regs. ¶ 31,036 (1996), *order on reh'g*, Order No. 888-A, FERC Stats. & Regs. ¶ 31,048, *order on reh'g*, Order No. 888-B, 81 FERC ¶ 61,248 (1997), *order on reh'g*, Order No. 888-C, 82 FERC P 61,046 (1998), *aff'd*

unintended consequences, including, most notably, consequences that would have the effect of increasing the price charged for power, thus increasing consumer costs, degrading service or both.

Similarly, rights-of-way acquired in connection with the siting of EHV facilities should not be restricted against other uses, such as for subtransmission or distribution facilities, communications facilities, and the like. Rights-of-way for EHV facilities can be utilized more efficiently and cost-effectively if compatible uses are not prohibited.

It is also important for the Commission to bear in mind that creating a preference specifically for renewable resources would, contrary to FPA Section 217(b)(4), undermine the ability of LSEs to obtain the long-term firm transmission rights they need to deliver their power to their consumers on a long-term basis.

### **C. Cost Allocation and Recovery**

#### **1. EHV Transmission Costs Must Be Allocated Fairly.**

NRECA recognizes that the transmission grid needs to be expanded to meet the needs of consumers, including the need to deliver renewable resources from remote locations, and that this may require the development of EHV transmission, at substantial cost. NRECA urges the Commission to implement cost allocation policies that are fair and that take into consideration the benefits received from any new transmission facilities. NRECA's member cooperatives serve load in rural areas, the location for many renewable generation resources. They must not be made to bear more than a fair share of the cost of EHV transmission to deliver renewable energy to more populous, urban load centers. This is a serious concern given that the transmission investment required to export energy from renewable-rich regions, such as the

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*in relevant part sub nom. Transmission Access Policy Study Group v. FERC*, 225 F.3d 667 (D.C. Cir. 2000), *aff'd sub nom. New York v. FERC*, 535 U.S. 1 (2002).

upper Midwest, to more populous regions could very likely exceed the total transmission investment already existing in these regions to serve what little load there is in these areas. NRECA is also concerned about its cooperative members who serve “fly-over” states with few renewable resources, few consumers, and insufficient transmission infrastructure, but who might be saddled with the costs of EHV transmission that must cross their regions to deliver renewable resources from renewable rich areas to denser load areas. NRECA is concerned further about the imposition of costs upon cooperatives located remotely from EHV projects who will experience no benefit whatsoever, either in power supply options or improvement to the underlying transmission system. The Commission has to be sure to get the cost allocation rules “right;” otherwise, the cost of power will dramatically increase for consumers in regions that do not benefit proportionately from the new investment. Clearly, the Commission recognizes these are difficult issues. Commissioner Spitzer, for example, raised an important point at the Technical Conference when he commented on the difficulty of achieving acceptance of increased costs, particularly where a state has already constructed its transmission and its customers could, potentially, be billed twice.<sup>14</sup>

Much of NRECA’s membership favors allocation of EHV transmission costs to beneficiaries of the energy to be delivered. However, they are concerned that EHV projects resulting from the political process may result in cost allocation that may unduly burden non-beneficiaries. Many, but not all, have indicated a willingness to accept allocation of new EHV transmission costs on an interconnection-wide, postage-stamp basis, provided that: (1) covered facilities are EHV, plus “off-ramps” and lower-voltage transmission upgrades and associated facilities required to accommodate EHV facilities; (2) covered facilities are the product of open

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<sup>14</sup> March 2 Technical Conference Transcript at 110 (Spitzer).

and inclusive inter-utility and inter-regional planning under Order No. 890; and (3) covered facilities do not purport to be restricted to delivering electricity generated by renewable resources. Other NRECA members who do not support cost allocation on this basis believe that consumers who do not stand to benefit in any appreciable way from the projects proposed should not bear any costs associated with them.

Regarding the first of the provisos to interconnection-wide, postage-stamp cost allocation, integrating EHV transmission facilities with the current grid would result in considerable expense related to the need to develop and upgrade additional conventional, lower-voltage facilities, with which the EHV transmission would be interconnected. The conventional facilities necessitated by the creation of new EHV transmission should be included as part of the cost of the EHV facilities. NRECA urges the Commission to examine, as was suggested at the Technical Conference, the “true all-end costs of large scale integration of remote renewable resources . . . includ[ing] the cost to interconnect these resources to the grid, the cost per mile of backbone transmission that will move the wind and the cost of the off ramp subtransmission and distribution network being built to feed off the new backbone transmission.”<sup>15</sup>

Second, only costs associated with EHV projects planned through a FERC-approved Order No. 890 planning process should be imposed on transmission customers, because an inclusive regional planning process is the best way to ensure that the proposed projects are the most appropriate and cost effective for the region.

Finally, any new EHV transmission facilities that NRECA would consider appropriate for postage-stamp pricing must not be limited to delivering only energy generated by renewable resources. The electric current produced by one generator or type of generator is

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<sup>15</sup> See, *id.* at 225 (Wagner).

indistinguishable from the current produced by another. Furthermore, unlike transmission service, generation from renewable sources (with the possible exceptions of hydroelectric and geothermal generation in very limited locales) is not available for 8,760 hours per year without storage. Therefore, any line purportedly dedicated solely to renewable energy would have to be available to traditional power sources in any event, at least on an intermittent basis, in order to provide reliable service.

2. Pricing of All Grid Expansion Must Remain Just and Reasonable.

There was some discussion at the Technical Conference of whether additional incentives are needed to encourage development of technologies and means of integrating renewable resources into the transmission grid.<sup>16</sup> For nearly 75 years, the standard for federal regulation of the price of interstate transmission service has been the “just and reasonable” standard. There is no reason to depart from this standard. The Commission cannot abandon the fundamental principle that transmission rates must be just and reasonable in its desire to encourage integration of renewable energy resources.

If the grid expansion necessary to deliver renewables is subsidized in any fashion, the value of the subsidy needs to be made explicit and transparent. If the subsidy takes the form of concessionary or exceptional regulatory policy, it should not disproportionately burden rural consumers. If concessionary or exceptional policy reduces the risks incurred by entities owning transmission facilities, rates of return should reflect reduced risk. The benefit of reduced risks should not be compounded by additional rate-of-return “incentives.” The Commission’s

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<sup>16</sup> *Id.* at 147 (Elahi).

transmission incentive policies in Order Nos. 679, *et al.*<sup>17</sup> are more than sufficient to address the development of new transmission to integrate renewable transmission. Finally, NRECA urges the Commission not to provide incentives in the form of increased returns on equity where transmission projects are not the product of an Order No. 890 planning process, in order to ensure that incentives are only provided where the project is the result of an open, inclusive, regional planning process. Nor should the Commission make a practice of granting incentives in the form of increased returns on equity where other incentives that reduce risk (*e.g.*, 100% recovery of abandoned plant costs) are also being awarded.

### 3. Ownership of New EHV Facilities Should Be Open to All.

EHV facilities are likely to be “bottleneck facilities,” with substantial potential for anticompetitive effects. New EHV facilities will create a new sub-market for EHV transmission. Traditional FPA mechanisms, notably under Section 206, will mitigate potential market power abuses in this new market to some extent. Dispersed ownership of EHV facilities, however, would provide an additional—and structural—safeguard against such effects. Control of the upstream, essential facilities will likely affect the state of competition in downstream power and energy markets.

Therefore, any creditworthy entity should be permitted to participate in the ownership of new EHV facilities. Planning for new EHV projects should be open to proposals by any who wish to make them in conjunction with a collaborative Order No. 890-compliant planning process. This will ensure that the best-conceived, most cost-effective facilities are installed, as well as reduce the potential for undue concentration of ownership.

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<sup>17</sup> *Promoting Transmission Investment through Pricing Reform*, Order No. 679, FERC Stats. & Regs. ¶ 31,222, *order on reh'g*, Order No. 679-A, FERC Stats. & Regs. ¶ 31,236 (2006), *order on reh'g*, 119 FERC ¶ 61,062 (2007).

### III. CONCLUSION

Integrating renewable generation into the wholesale electric power grid poses a host of new challenges for industry participants as well as the Commission. In attempting to meet these challenges, the Commission should not abandon the current industry-led, open and inclusive bottom-up planning approach embodied in Order No. 890, but instead, should ensure that planning, operation and pricing of new transmission facilities is implemented consistent with existing infrastructures and policies. NRECA commends the Commission for initiating this inquiry and looks forward to continuing to work with the Commission as it begins to formulate proposals on how to further integrate renewable resources into the transmission grid.

Respectfully submitted,

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