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Subcommittee on Energy and Power

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Chairman Whitfield, Ranking Member Rush, it is a pleasure to testify before you today on an issue of the utmost importance– upgrading our electric infrastructure. Today, I start my fifth month as a Senior Advisor to Secretary Chu. The Secretary hired me primarily to accomplish one task: build new electric infrastructure. Transmission and storage are my focus. As an attorney and former Commissioner on the Public Service Commission of Wisconsin involved with permitting new extra-high voltage transmission lines, I come from the trenches.

I am passionate about transmission. It is akin to mortar in a foundation. This nation requires a robust and resilient transmission grid to connect its building blocks. You need look no further than your own briefcases to understand that our nation's need for electricity is changing and doing so dramatically. How many gadgets do you carry today that require charging on a frequent basis and when did you start carrying them?

To propel this nation forward in the global economy, we must build a grid for the 21st century and we must build it fast. While in some corners of this nation we have the grid of the late 20th century, in others it is only the early 20th century.

Everyone knows the adage that Thomas Edison could understand the mechanics of our current grid. What most do not realize is that our grid can be visualized as a plate balancing on top of a stick. When something is placed on one side of the plate, a weight of an equal amount must be placed on the opposite side of the plate to ensure stability. If too much counterweight is placed, then the plate tilts in the opposite direction. If the plate is the grid, the weights and counterweights are the demand for electricity and the generation. The placement of those weights and counterweights happens second-by-second.

For about the last 130 years, we have built the infrastructure necessary to ensure that the plate does not topple. While I will talk today about the need for more transmission generally, this nation also needs to develop a new type of transmission grid – one that cannot be described by a plate, a stick and weights.

If the need for a modern grid is so obvious, are we set to build this critical asset?

A. BARRIERS TO TRANSMISSION DEVELOPMENT

The barriers to developing transmission are regionally-specific and complex. While I continue to discover more and more barriers, the following describes some of them:

1. Uncertain Public Policy Goals

As a state utility commissioner, I was frequently faced with the question of whether to spend billions of dollars either on new electric infrastructure or on upgrading existing plants. The biggest obstacle to making a sound decision was predicting what the future would hold: not the future of how much electricity we would need to generate; but what the public policies would be in the future. For example, what fuels could be used to produce that electricity and what environmental impacts would be acceptable. The possibility of changes in public policy increases the fear that money spent today will be spent on the wrong technology, and, for that reason, the formulation and adherence to a policy that provides guidance to participants in the electric utility industry is in many ways more important than the contents of those policy.

Thankfully, 30 states provided guidance through enacting laws or goals on fuel types, and the Environmental Protection Agency (EPA) is now providing additional guidance on emissions limits. Regardless of this welcome guidance, too much uncertainty remains.

2. Market Power

It is simple supply and demand economics: if demand increases and supply stays the same, then prices rise. If the existing suppliers are able to block competition, those suppliers have the ability to make profits even if their products would be uneconomic in a competitive marketplace.

To ensure they can continue to sell their commodity, some generators would prefer not to have competition, e.g. they would prefer not to have transmission built that could bring cheaper electrons to their customers. Not surprisingly, this is especially true for inefficient generators, because they lose in a competitive market. Hence, the companies with the most inefficient generation resources will likely be the biggest opponents to new transmission.

When a parent company or its generation subsidiaries have the power to block new transmission, it will likely manifest through repeated high prices in that specific location. So, you only need to look at the areas of our nation where we repeatedly have

significant energy price differentials over a long period of time to know that someone or something is blocking the emergence of a competitive marketplace.

3. Out-of-phase Timelines for Building Transmission and Generation

Long transmission lines may take 10 or more years between the point of conception to the start of construction. The length of this process is due, among other things, to the following: local opposition, purchasing easements from hundreds or thousands of individual property owners, obtaining state permits sometimes over multiple states, and obtaining federal permits. In contrast to this protracted time for development, many of the new generators only take approximately 3 years to develop and build new generating facilities. Generators require certainty as defined by long-term power purchasing agreements, stable markets and certainty with respect to environmental regulations.

A dependency exists between transmission developers and generators. Transmission developers are looking for generators who are willing to purchase capacity on future lines and generators would like certainty the line will be built. Unfortunately, the load serving entities often require that the new generator provide energy sooner than the transmission line can be built.

Hence, differing development periods between transmission and generation development can make building a business case for either difficult.

4. Parochialism

Thirty of the 50 states have developed renewable portfolio standards (RPS). A few states have sufficient renewable resources to meet those standards internally on a cost-effective basis. Most do not. Regardless of the cost, a number of states have taken steps to comply with their RPSs in part through native resources, because they are convinced it will improve the economic development of their respective states. It is important to consider the economies of scale that could be captured through working together and tapping the most cost-effective renewable resources.

B. DOE's STRATEGY FOR ELIMINATING THE BARRIERS

Congress has recognized these challenges and the need to upgrade our energy infrastructure by providing numerous authorities to the Department.[1]

1. Power Marketing Administrations

The Department's Power Marketing Administrations are at the forefront of our transmission authorities. Bonneville Power Administration (Bonneville) owns more than 15,000 miles of transmission lines in the Pacific Northwest, while Western Area Power Administration (Western) owns 17,000 miles of transmission lines in 15 states. The Recovery Act provided Western with $3.25 billion in Treasury borrowing authority, which was intended for transmission investment. The Recovery Act also increased Bonneville's borrowing authority to $7.7 billion, which can be used for all of Bonneville's capital needs, including transmission, hydro system modernization, fish and wildlife mitigation, and energy efficiency. BPA has worked with transmission customers to develop processes which allow transmission to be built when needed in the Pacific Northwest. Both PMAs are moving forward with due diligence, to address the immediate demand for transmission.

Congress also turned to the PMAs in Section 1222 of the Energy Policy Act of 2005, to promote additional transmission line development. Section 1222 grants both Western and the Southwestern Power Administration (Southwestern) the authority to participate with the private sector by using third-party funds to construct and upgrade transmission facilities in their service territories. Both the borrowing and the Section 1222 authorities allow the Secretary, through the PMAs, to help deliver power where it is needed most.

2. Backstop Siting of Transmission Lines

a. The Law

Congress provided another tool for accelerating development of transmission facilities by empowering DOE to designate national interest electric transmission corridors (National Corridors), which in turn triggers FERC siting authority. Specifically, EPAct 2005 amended section 216 of the Federal Power Act (FPA) to

[1] This testimony does not provide a complete recitation of DOE's authority over the transmission grid but, instead, focuses on the topic of this hearing.

require DOE to conduct studies every three years of congestion in the nation's electric transmission network, and to authorize the Secretary of Energy to designate any geographic area experiencing electric energy transmission capacity constraints or congestion that adversely affects consumers as a National Corridor. FPA section 216 also granted FERC "backstop" siting authority to issue permits for the construction or modification of transmission facilities in the following limited circumstances:

- If a state in which the transmission facilities are to be constructed or modified does not have authority to approve the siting of the facilities, or to consider interstate benefits of the facilities;
- If the applicant for a permit does not qualify to apply for state approval because the applicant does not serve end-use customers in the state;
- If a state agency authorized to approve the siting of transmission facilities has withheld approval for more than one year after the filing of an application, or for one year after the designation of a relevant National Corridor, whichever is later; or
- If the state agency has conditioned its approval such that the proposed project will not reduce transmission congestion in interstate commerce or is not economically feasible.

b. <u>Historical Summary of DOE and FERC's Application of the Law</u>

Pursuant to the statute, DOE conducted and published a study of electric transmission congestion in 2006. Based on the study, in 2007 DOE designated two National Corridors – one in the Mid-Atlantic region and one in the Southwest. Several parties, including states and environmental groups, challenged both the congestion study and the designations of the National Corridors. The cases were consolidated in a proceeding before the U.S. Court of Appeals for the 9th Circuit, which by a two to one majority vacated the 2006 congestion study and the National Corridor designations. The court held that DOE had not complied adequately with the statute's consultation requirement, and that the corridor designation required the preparation of an analysis pursuant to the National Environmental Policy Act.

Also pursuant to the statute, FERC issued a rule establishing procedures for entities seeking permits to construct or modify electric transmission facilities in National Corridors. Among other things, FERC determined that its authority to permit facilities when a state has withheld approval for more than one year would apply to a timely decision by a state to deny a permit application. The rule was challenged by states and environmental groups in the U.S. Court of Appeals for the 4th Circuit. The

court rejected FERC's interpretation, holding that the statutory trigger for FERC's exercise of siting authority does not include timely denial by a state of an applicant's permit.

While the case before the 9th Circuit was being litigated, DOE completed its 2009 congestion study, and believes the 2009 study was conducted in a manner consistent with the 9th Circuit's interpretation of the statutory consultation requirements. DOE did not designate any National Corridors on the basis of the 2009 study. However, the limitation on FERC's siting authority imposed by the 4th Circuit, if generally applied, would curtail FERC's ability to permit facilities within a DOE-designated corridor. While it can be asserted that the decision is of limited application (i.e., applicable only within the 4th Circuit's five-state area), it is questionable whether a potential applicant for a permit would invest the resources required to file an application with FERC, given the uncertainty of FERC's authority and the likelihood of antagonizing the affected states, and protracted litigation.

Transmission Planning Facilitated by DOE

It is important to maintain a clear distinction between transmission facility *planning* and transmission facility *siting.* Transmission planning focuses on the question of what transmission capacity is likely to be needed in a given geographic area during a specified future planning period, given specific assumptions about that period. Initial transmission planning results in broad-brushed "indicative plans" that provide a general picture of how much energy needs to be moved from one general area to another such area. After an indicative plan has been completed, a party who is considering a possible transmission project in response to needs shown in the indicative plan conducts more granular studies to determine the appropriate size (kV) and endpoints (substations) for the contemplated project. After the endpoints for a possible project have been identified, the developer begins to evaluate alternative routes. Only after the developer has identified a preferred route and some feasible alternatives and submitted an application to the government agencies with siting authority can the siting process begin.

DOE has supported inclusive, long-term, and large-geographic-scale transmission planning processes in the Western Interconnection for most of the past decade. It is probably not accidental that the transmission projects now being approved by state regulators in the West are typically projects that were shown to be regionally beneficial in earlier analyses.

More recently, as mandated by Congress, DOE has provided financial support through the Recovery Act for inclusive, long-term transmission planning at the interconnection level. (These plans will be even more broad-brush than the indicative plans described above.) One important premise of this initiative has been that involving state regulators and NGOs in the transmission planning process will help foster a broader understanding of why, where, and under what assumptions additional transmission would be needed. The more stakeholders understand why additional transmission is needed, the more manageable, predictable, and productive the siting process will become. In general, state regulators and NGOs have responded strongly and favorably to this initiative.

3. FPA Section 216(h)

Section 216(h) of the Federal Power Act states that the U.S. Department of Energy (DOE) is to coordinate all Federal authorizations and related environmental reviews needed for siting interstate electric transmission projects, including National Environmental Policy Act of 1969 (NEPA) reviews. The purpose of this coordination is to streamline agencies' review processes and avoid duplication among Federal agencies.

In October of 2009, nine Federal entities including the White House Council on Environmental Quality (CEQ), the Department of the Interior (DOI), the Department of Agriculture (USDA), the DOE, the Department of Commerce (DOC), the Department of Defense (DoD), the EPA, the FERC, and the Advisory Council on Historic Preservation, signed a Memorandum of Understanding increasing their coordination to expedite and simplify building of transmission lines on Federal lands. The MOU provides uniformity, consistency, and transparency by describing each entity's role and responsibilities when project applicants wish to build electric transmission facilities. Additionally, the MOU designates a "Lead Agency" serving as the single point-of-contact for coordinating all federal environmental reviews necessary to site electric transmission facilities on federal lands. In most instances, the Departments of Agriculture or Interior will be the Lead Agency, since they have jurisdiction over most of the Federal lands and right-of-ways for proposed electric transmission facilities. The MOU requires DOE to maintain a publicly available website and links to the information available from all Participating and Cooperating Agencies. Pursuant to that section, DOE developed an online project tracking system, which can be accessed by DOE-designated Lead Agency project managers to enter pertinent information on 216(h) qualifying projects.

4. <u>Rapid Response Team for Transmission:</u>

Just last week, the Obama Administration announced it would accelerate the evaluation of seven proposed electric transmission applications. This move will speed the creation of thousands of construction and operations jobs while transforming the nation's electric system into a modern, 21st century grid that is safer and more secure, and gives consumers more energy choices.

The Rapid Response Team for Transmission (RRTT) leverages the interagency collaboration established through the 2009 MOU and expands that collaboration to projects outside of federal lands. The same nine agencies of the 2009 MOU have agreed to:

- Coordinating statutory permitting, review, and consultation schedules and processes among involved federal and state agencies as appropriate through Integrated Federal Planning;
- Applying a uniform and consistent approach to consultations with Tribal governments; and
- Expeditiously resolving interagency conflicts and ensuring that all involved agencies are fully engaged and meeting schedules.

The seven pilot projects will serve as demonstrations of streamlined federal permitting and increased cooperation at the federal, state, and tribal levels. Project developers expect that the streamlined projects will increase grid capacity and create thousands of jobs in Arizona, Colorado, Idaho, Minnesota, New Mexico, Nevada, Wyoming, Utah, New Jersey, Pennsylvania, Oregon, and Wisconsin.

Crossing twelve states the RRTT's seven selected pilot project transmission lines are as follows:

- **<u>Boardman-Hemingway Line powering Oregon and Idaho:</u>**

The new 500 kilovolt (kV) transmission line proposed by Idaho Power would create an approximately 300 mile long, single-circuit electric transmission line from a proposed substation near Boardman, Oregon to the Hemingway Substation near Melba, Idaho—known as the Boardman to Hemingway Transmission Line Project or B2H Project. According to the developer of this project during peak construction, this project is estimated to create about 500 jobs in Idaho and Oregon.

- **Gateway West Project to bring new transmission across Wyoming and Idaho:**

Jointly proposed by Idaho Power and Rocky Mountain Power, this project would add approximately 1,150 miles of new, high-voltage transmission lines between the Windstar Substation near Glenrock, Wyoming and the Hemingway Substation near Melba, Idaho. According to the developer of this project, during peak construction, it is estimated to create between 1,100 and 1,200 jobs.

- **Hampton-Rochester-La Crosse Line to bring power to Minnesota and Wisconsin:**

This double-circuit capable 345 kV transmission line will run between a new substation near Hampton, Minnesota, a new substation north of Pine Island, Minnesota, and continue on to cross the Mississippi River near Alma, Wisconsin. A single circuit 345 kV line will be built in Wisconsin to a new substation in the La Crosse area. Two 161 kV lines will be built between the new substation near Pine Island and existing substations northwest and east of Rochester. According to the developer of this project, approximately 1,650 jobs will be created during peak construction.

- **Oregon to get additional transmission from Cascade Crossing Line:**

Portland General Electric's proposed Cascade Crossing Transmission Project includes approximately 210 miles of 500 kV transmission line from Boardman to Salem, Oregon—for the construction of four new substations, expansion of three existing substations, and upgrades to the existing transmission systems near Salem. According to the developer, Cascade Crossing is expected to create about 450 jobs during peak construction.

- **SunZia Transmission, LLC to bring power to New Mexico and Arizona:**

SunZia Transmission, LLC plans to construct and operate up to two 500 kV transmission lines originating at a new substation in Lincoln County in the vicinity of Ancho, New Mexico, and terminating at the Pinal Central Substation in Pinal County near Coolidge, Arizona. According to the developer estimated job creation will be about 3,408 direct jobs during the construction period.

- **Susquehanna to Roseland Line brings new transmission to Pennsylvania and New Jersey:**

PPL Electric Utilities (PPL) and Public Service Electric and Gas Company (PSE&G) have proposed the Susquehanna-Roseland power line project which includes an approximately 145-mile long 500 kV transmission line from the Susquehanna Substation in Pennsylvania to the Roseland Substation in New Jersey, and several 500 – 230 kV substations in both Pennsylvania and New Jersey. Based on the current schedule for the environmental review, the project is expected to be in service in the spring of

2015. According to the project's developer, over 2000 jobs will be created in New Jersey and Pennsylvania.

- **Transwest Express to stand-up transmission from Wyoming to Utah and Nevada:**

TransWest Express LLC plans to construct and operate a more than 700 mile, 600 kV, transmission line, which is estimated by the developer to create 1,035-1,550 direct jobs per year at peak construction. This project will facilitate the development of new wind projects in Wyoming.

C. THE FUTURE OF DOE'S CONGESTION STUDY, DOE's NATIONAL CORRIDOR DESGINATIONS AND FERC's BACKSTOP SITING

DOE, FERC, and other federal agencies have been considering whether it might be appropriate for Secretary Chu to delegate his powers under FPA § 216(a) to FERC in order to efficiently expedite consideration of transmission project proposals under the limited backstop siting powers authorized by that section. In July and August, the proposal was presented to stakeholder groups to solicit comments. In addition to oral comments, 61 written comments were submitted. The comments can be found at http://www.congestion09.anl.gov/delegation/index.cfm. Secretary Chu carefully considered these comments in deciding not to delegate to FERC his authority under FPA § 216(a) but to develop an alternative.

DOE and FERC have agreed to work together to develop processes and procedures to make the statute work more efficiently. In addition to its new collaboration with FERC, DOE recognizes that it can administer its § 216(a) powers better, faster, with more transparency and more effectively. Consequently, among other things, DOE will be doing the following:

- Begin immediately to identify targeted areas of congestion based on the evaluation of existing information and on comments submitted by stakeholders;
- Identify narrower areas of congestion than the broad areas previously studied; and
- Solicit statements of interest from transmission developers while considering what National Corridors to designate.

D. CONCLUSION

In closing, as someone who is passionate about the need to modernize our grid, I understand and have faced the passions on all sides of this issue. I believe the Administration is on the path to best implement many existing planning and siting authorities many of you worked very hard to enact into law. I look forward to answering your questions.