STATEMENT OF

KEVIN M. KOLEVAR

ASSISTANT SECRETARY FOR ELECTRICITY DELIVERY AND ENERGY RELIABILITY

U.S. DEPARTMENT OF ENERGY

BEFORE THE

SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

JULY 31, 2008

Mr. Chairman and Members of the Committee, thank you for this opportunity to testify before you on the Department's work to overcome the challenges of building transmission to meet growing electricity demand. This is a critical issue that our country is facing today, as one of the largest energy consumers in the world.

Our electricity grid is a complex and impressive system. It has to remain in a constant state of balance in order to function properly. The demand has to be equal to the load at all times. The grid operators who work to achieve this constant state of balance are among the most skilled and talented workforce in the world.

However, there is only so much that they can do in this effort. We as a Nation have to start thinking about upgrading and modernizing our electric systems in order to keep pace with increasing demand and a changing generation mix.

The electrical system in the continental U.S. is broken into three distinct systems. These are the Eastern Interconnect, the Western Interconnect, and the Electric Reliability Council of Texas (ERCOT). The Eastern Interconnect consists of 36 different States plus the District of Columbia, and partially covers 3 more, serving about 100 million customers. The Western Interconnect covers most of 11 States plus Western Texas, serving 29 million customers. ERCOT covers most of the state of Texas, serving 11 million customers. It is important to lay these statistics out on paper, as it literally shows that we are all "interconnected".

As a Nation, our population has grown nearly 25 percent in the last 2 decades. During this time period, electricity (summer peak) demand has grown over 53 percent. In order to keep up with this growth in demand, we have developed new generation. Since 1996, total electricity demand has grown by 18 percent, and the industry has kept pace with this, illustrated by a 27 percent growth in total generating capacity.

However, transmission infrastructure growth in the same period did not keep pace. We have seen only a 6.8 percent growth in total transmission line miles in that same period, and only 12 percent over the last two decades. While there has been an uptick in the development of new transmission infrastructure since 2005, these have typically been

small upgrades needed for reliability, not components of the large, high-voltage, multistate, and inter-regional transmission network needed to deliver reliable and clean energy from remote locations to population centers.

By 2030, the Energy Information Administration projects a 30 percent increase in U.S. electricity demand, a projection that accounts for future efforts to improve energy efficiency and demand response. Although this is a positive indicator of a growing economy, it means a significant amount of new demand on electricity generation and transmission systems that are already stressed and aging. Thus, to keep our lights on and to ensure that consumers have access to clean and affordable electricity, this country needs to add not only substantial new generation capacity, but new transmission infrastructure as well.

As I believe we all understand, electricity is the backbone of our economy. Without a robust, reliable and affordable supply system, the operation of all sectors of our economy, the well being of our citizens, and our national security will be severely threatened.

Of course, the Department continues to invest heavily in the research and development of a wide range of advanced clean energy technologies, including renewable generation like wind and solar power, clean coal technologies with carbon capture and storage, and next generation nuclear reactors. DOE also devotes significant resources to energy efficiency and related demand-side technologies. These demand-side measures, such as conservation and increased efficiency, are almost always less costly and can be

implemented much faster than supply-side resources. Advancement of these clean generation and demand-side technologies and their increased market penetration are critical to the President's vision of a cleaner, more secure energy future.

This Administration also understands that modernization of the existing electricity transmission and distribution infrastructure paired with the development of a new long distance, high voltage transmission network is a critical component of a secure energy future; largely because much of the Nation's future electricity demands will be met by generation sources that are distant from load. This applies to many new types of clean and abundant energy sources. For example:

- Most of the Nation's best utility scale wind, geothermal, and solar resources are located in remote areas where existing transmission capacity is either minimal or non-existent;
- Most new nuclear plants will not be sited in populous areas, and will likely require additional transmission capacity;
- Clean coal generation with Carbon Capture and Storage (CCS) will presumably be sited near geologic formations suitable for CO_2 storage, and may not be near major existing transmission facilities.

The good news is that, as evidenced by this Committee's ongoing interest, people are increasingly focusing on the changes that will be required to our existing infrastructure as

we pursue new energy generation sources. It is increasingly apparent that without major investments in transmission, many of the optimal wind and solar sites will not be viable.

At the Department, we are working to ensure that transmission development is considered early in the development of new generation planning and have undertaken several initiatives in this effort.

As directed by the Energy Policy Act of 2005 (EPAct), DOE conducted the National Electric Transmission Congestion Study of 2006, which analyzed generation and transmission capacity across the U.S. and identified geographic areas that have existing or emerging transmission congestion and constraint problems. Upon completion of the study, the Department was required to issue a report, based on the study, in which the Secretary of Energy "may designate any geographic area experiencing electric energy transmission capacity constraints or congestion that adversely affects consumers as a national interest electric transmission corridor."

During the development of the study, which relied on extensive consultation with States and other stakeholders, the Department provided numerous opportunities for discussion and comment by States, regional planning organizations, industry, and the general public as required by FPA section 216(a)(1). The Department initiated a series of conference calls with States in December 2005 and January 2006 to describe the Department's plan for the development of the Congestion Study and to request their suggestions and relevant information. On February 2, 2006, the Department published a Notice of Inquiry

explaining the Department's intended approach for the Congestion Study and invited comment. On March 29, 2006, the Department held a technical conference for the public in Chicago, Illinois to address the questions presented in the Notice of Inquiry. In addition to these efforts, the Department held numerous meetings with State officials to discuss the Congestion Study and participated in several State conferences and events where information about the study was presented.

The Department sought input from the following organizations: National Conference of State Legislatures, Seattle, WA, Aug. 18, 2005; Southern States Energy Board, Atlanta, GA, Aug. 27, 2005; Midwest State Energy Office, via webcast, Aug. 31, 2005; National Association of State Energy Officials, New York, NY, Sept. 12, 2005 and Washington, DC, Feb. 7, 2006; CREPC, San Diego, CA, Sept. 20, 2005, Sept. 27, 2006, and Portland, OR, April 4, 2006; NARUC, Palm Springs, CA, Nov. 14, 2005, Washington, DC, Feb. 14 3 and 22, 2006, San Francisco, CA, Aug., 1, 2006, and via conference calls on Jan. 11, 2006, and June 16, 2006; NYPSC, Albany, NY, Dec. 20, 2005; OMS, via conference call, May 11, 2006; Florida Public Service Commission, Tallahassee, FL on June 15, 2006; Midwestern Legislative Conference, Chicago, IL, Aug. 20, 2006; Organization of PJM States, Inc., Cambridge, MD on Sept. 17, 2006; CPUC, via conference call on Sept. 20, 2006; CEC, via conference call on Sept. 22, 2006; and Maine PUC, via conference call, Oct. 6, 2006.

In April 2007, the Department designated two draft National Corridors, one in the Mid-Atlantic area and one covering both Southern California and Western Arizona. The

releasing of national corridors in draft form was an additional action not required by law for the specific purpose of providing all interested parties with additional opportunities to provide input and comments. During the comment period, the Department conducted dozens of hours of public meetings across the country, and held extensive consultations with State officials, local agencies, regional entities, and the public. On October 5, 2007, the Secretary of Energy designated these two areas as National Corridors – the Mid-Atlantic Area National Corridors and the Southwest Area National Corridor.

The National Corridors identify areas where the transmission systems are not keeping pace with electricity requirements. Corridor designation indicates that the Federal Government has concluded that a significant transmission constraint or congestion problems exists in an area, that these problems adversely affect consumers, and that it is in the national interest that the problems be alleviated.

Corridor designation does not constitute a finding that additional transmission capacity must be built in the affected area; and it further does not mean that additional transmission is the only, or the best solution to resolve the congestion. In fact, the Department already goes to great lengths to encourage additional local generation, demand response and energy conservation as solutions to electric system challenges.

Likewise, these designations do not propose, direct or permit anyone to build a transmission facility; and do not equate to a determination of a route for a proposed transmission facility. State authorities continue to have primary responsibility for

deciding how to resolve transmission congestion problems, evaluating transmission projects, and the siting of transmission facilities.

After thoroughly and carefully considering both the properly filed requests for rehearing and other comments the Department received, DOE denied requests for rehearing of the National Corridors in March 2008.

The Department is currently undertaking the second National Electric Transmission Congestion Study, to be issued in August of 2009, as required by EPAct. The law requires DOE to prepare national congestion studies on a set schedule, and although it authorizes DOE to designate National Corridors, it does not require such designations.

The Electricity Office is in the process of conducting six regional workshops to receive and discuss input on what publicly-available data should be considered to identify and understand the significance and character of transmission congestion for the Congestion Study, including comments. We have already held workshops in San Francisco, Oklahoma City, Hartford, Atlanta, and we will conduct two more workshops in Las Vegas and Chicago between now and mid-September. We encourage all interested stakeholders to review the papers and transcripts on our website and submit comments. We are emphasizing contacts with States, regional transmission planning entities, and others to compile an accurate assessment of transmission congestion for this study.

As the challenges to continued electric reliability are not only technical, but also structural, DOE is also working to harmonize the multitude of State and Federal regulatory rules such that they complement, rather than conflict with each other. Today, a key challenge to timely development of the appropriate network of wires and other facilities required to reliably deliver new electricity to American consumers is the rigorous and lengthy State and Federal authorization requirements.

On the Federal side, we are doing our part to coordinate and streamline transmission siting decisions pursuant to Section 368 of EPAct. Section 368 directs the Secretaries of Agriculture, Commerce, Defense, Energy, and the Interior (the Agencies) to identify corridors for crude oil, petroleum distillate fuels, natural gas, and hydrogen pipelines and electricity transmission and distribution facilities, and to incorporate the designated corridors into relevant agency land use and resource management plans or equivalent plans. Section 368 also directs the agencies to take into account the need for upgraded and new infrastructure and to take actions to improve reliability, relieve congestion, and enhance the capability of the national grid to deliver energy.

Section 368(a) requires such designations for Federal lands in the 11 contiguous Western States, while section 368(b) requires corridor designations be made in the remaining 39 States. The Agencies are preparing Programmatic Environmental Impact Statements addressing Federal lands under both sections 368(a) and (b).

At this time the Agencies are reviewing and drafting responses to the 14,000 comments (which includes over 1,000 substantive comments) addressing corridor location and other suggested revisions received on the Draft Programmatic Environmental Impact Statement for the Designation of Energy Corridors in Eleven Western States. We expect to have the Final Programmatic Environmental Impact Statement for the Designation of Energy Corridors in Eleven Western States out by the end of this year. A Notice of Intent to conduct a Programmatic Environmental Impact Statement regarding corridor designations in the remaining 39 States will soon be published by the Agencies.

In EPAct, Congress also assigned a role for DOE to facilitate the Federal approval required to site a transmission facility. EPAct added section 216(h) to the Federal Power Act, requiring the Department to act as the lead agency for purposes of coordinating all applicable Federal authorizations and related environmental reviews needed for siting electric transmission facilities. The purpose of this coordination is to streamline agencies' review processes and avoid duplication among Federal agencies.

In August 2006, DOE and eight other Federal agencies signed a Memorandum of Understanding to facilitate implementation of the 216(h) coordination process. The MOU establishes a framework for early cooperation and participation that will enhance coordination of all applicable land use authorizations and related environmental, cultural, and historic preservation reviews, as well as any other approvals that may be required under Federal law in order to site an electric transmission facility. DOE has delegated its section 216(h) coordination responsibilities for transmission projects in National Corridors to the Federal Energy Regulatory Commission (FERC).

DOE has submitted draft regulations implementing the provisions of section 216(h) to the Office of Management and Budget for interagency review. It is our hope that this process will be completed in the very near future.

Finally, the Department has been providing financial and technical assistance to States and regional planning entities to improve the effectiveness of the entire range of electricity options available – energy efficiency, demand response, electricity storage, and development of a smarter grid. In the area of Smart Grid, for example, we are implementing the provisions in Title 13 of the Energy Independence and Security Act of 2007, which directs us to implement a program to research, develop, and demonstrate smart grid technologies; report to Congress every two years on the status of smart grid deployments; establish a smart grid advisory group and an energy storage advisory group; and establish a smart grid task force among relevant Federal agencies.

As we look for opportunities to deploy clean power and to enact cost-effective clean energy programs, it is important to remember that the electric industry exists to reliably and safely meet consumer demands. Every kilowatt-hour of projected demand growth that is not met through energy efficiency or demand response programs will have to be met from new supply. We expect that the need for net new generation capacity will continue to increase, and with this, the need to ensure that these sources can be delivered reliably and affordably to consumers. As previously stated, the Department does not believe that additional transmission is the only, or necessarily the best solution to resolve the difficulties ahead in meeting load growth; we encourage State or regional planning

entities to also consider all local generation, demand response and energy conservation options available.

Nevertheless, the fact of the matter is that more investment in transmission will have to be on the table as a major tool to achieve the energy goals that this Administration, Congress, States, and industry leaders share, to achieve a secure and clean energy future.

This concludes my statement, Mr. Chairman. I look forward to answering any questions you and your colleagues may have.