Testimony of
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Good morning Chairman Bingaman, Senator Domenici and distinguished members of the Committee on Energy and Natural Resources.

Thank you for holding this hearing today and allowing me the opportunity to offer the views of American Electric Power (AEP) on the state of the nation's transmission grid and the implementation of the 2005 Energy Policy Act (EPA2005) transmission provisions.

My name is Susan Tomasky and I am President of AEP Transmission, the organization within AEP whose 2,000 employees operate the nation's largest electricity transmission system. Three Regional Reliability Organizations oversee our vast system and we are members of three Regional Transmission Organizations (RTO). The AEP system is a 39,000 mile network, integrating power delivery across 11 states. Our network includes over 8,000 miles of extra high voltage (EHV) lines. The core of our EHV system in the eastern United States is a system of 2,100 miles of 765-kilovolt (kV)

transmission lines, clearly the most efficient way to move power over long distances and integrate multiple power generation sources. This system now serves as a backbone of the PJM interconnection, fostering efficient power flow within that region and, through extension, linking our region to neighboring systems in all geographic directions. AEP's transmission system directly or indirectly serves about 10 percent of the electricity demand in the Eastern Interconnection, the interconnected transmission system that covers 38 eastern and central U.S. states and eastern Canada, and approximately 11 percent of the electricity demand in ERCOT, the transmission system that covers much of Texas.

In today's hearing, we have been asked to help review the state of the nation's transmission grid and the effectiveness of EPA2005 in ensuring that the future system is adequate to meet the nation's energy needs going forward. It is our view that while the current system has served the nation well in the past, we face an urgent need for additional investment to create a robust and efficient grid that can integrate multiple new resources, including renewables, and deliver power across a broad geography. EPA2005 is a vital first step toward that end. But if we are to fulfill our emerging national vision of a more secure, environmentally sound electric power supply system, we need a workable and timely federal process that ensures that we can build a transmission system that meets the needs of our energy future. This means that the Federal Energy Regulatory Commission (FERC) should have meaningful authority to site extra high voltage transmission facilities and provide the financial basis, through incentives and broad cost allocation, to ensure that the system is built.

The Nation's Current Transmission System Cannot Keep Up with Future Needs

In our view, the nation's transmission system today is sound, but taxed, and very much in need of new investment. Today's system is, in fact, an interesting paradox: it was designed and built over the middle part of the last century, primarily to link generation resources and customer distribution systems over relatively small geographic areas with the goal of meeting the electricity needs of a particular utility, often within a particular state. Over time, we have seen broader integration of these resources and there are now some more robust systems that integrate resources within larger regions. We have also made huge advances in coordination of these systems to achieve, with some rare though noteworthy exceptions, a very high level of reliability.

Although the transmission asset base has not changed much in recent years, the use of this system has changed a great deal. Of course, demand has grown steadily, and in some areas dramatically. As a nation, we have made public policy decisions to create wholesale power markets that force the system to be used more efficiently and to its maximum capacity in some instances. And, as electricity has become the lifeblood of our digital economy, we have pushed our expectations for reliability higher as the system grows older.

All in all, the system built several decades ago has responded quite well to modern demands. However, there is no question that the existing transmission system is overloaded, with congestion losses increasing and reliability degraded in some locations

during certain times. As an operator, we are seeing the need to replace major equipment. Supply chain lines are long (it can take several years to obtain certain kinds of critical equipment) and we are finding it difficult to take critical facilities out of service just to get the work done. Simply put, there is no question that new investment is needed and this very much has the industry's attention. From 2000 to 2006, electric companies invested more than $37.8 billion in the nation's transmission system. Current estimates are that the utility industry will invest $31.5 billion in transmission facilities in the period of 2007 – 2010. [Edison Electric Institute website, Actual and Planned Transmission Investment by Shareholder-Owned Electric Companies].

A piece of good news is that, even in these difficult financial times, there is a fair amount of capital available for regulated utilities wishing to make this investment. The challenge is that, as it stands today, most of this planned investment is what the industry would call "reliability spend", i.e., investment to make sure the current system works and meets ordinary growth in demand. While this investment is critical, it is also incremental. It won't be sufficient to meet the needs of our country's energy future.

The job of our industry is to run the current system as reliably and efficiently as possible AND to build the system that meets the needs of our energy future -- a future that meets growing demand for electricity while addressing the challenges of climate change and the need for greater energy independence. I expect that this Committee will find itself deep in debate over the coming months about how to meet those challenges. But whether the policy choices favor renewables, nuclear, advanced coal, natural gas or

all of the above, we need a transmission system that integrates and interconnects these new, better power sources as efficiently as possible. In our view, this means that we must overlay our current transmission system with an extensive system of EHV transmission facilities. Such a system would be designed to bridge geographic distances (sometimes very long distances) with minimal lines losses so that wind resources, for example, could be made available to support load that is geographically remote. Properly designed, the system should provide maximum flexibility to bring on new sources and meet new load, and should complement and take maximum advantage of the underlying transmission resources already at our disposal.

We believe that our national goal should be the development of an EHV interstate transmission system, along the lines of the interstate highway system that has fired the country's economic growth over the last 50 years. This system would build upon the EHV infrastructure and overlay the existing lower voltage transmission system, relieving major congestion, improving reliability and enabling the development of new resources. But to do this, we will need a firm national policy that supports and facilitates the timely planning and construction of a system that meets these multiple purposes.

EPA2005 is an important step towards to this goal, but it falls short of providing the full scope of federal authority necessary to permit our industry to provide the country with the transmission system it clearly needs. I hope the Committee's review of this Act provides the foundation for strengthened federal authority to ensure that the transmission

system of the future, and therefore the electric power system of the future, can become a reality.

The Transmission System of the Future Must Be Able to Integrate Renewables and Other New Power Supply Sources Efficiently and Reliably

One essential feature of electricity is that it moves at roughly the speed of light and therefore is consumed at almost the same instant it is produced. As a result, transmission of electric power is actually a kind of balancing act – power supply and consumption have to be in balance at all times, which means that the system must be designed and operated to deal instantaneously with changes in one or the other side of the equation. For all the environmental virtues of renewables, they do present some challenges when we seek to integrate them on a broad scale into the supply network. Wind for example, though available in large volumes in the central part of the country, is variable: it blows when it blows, which may or may not be when we need it. That variability challenges the balance of the simultaneous supply-demand equation. While a lot of work is being done to investigate the feasibility of large scale storage to address this issue, the fact is that for the foreseeable future integrating large quantities of wind will require significant additions to the existing network both to transport power over long distances and to provide support for the system as the wind comes and goes.

AEP has studied this issue extensively, and in partnership with the American Wind Energy Association (AWEA), we have developed a conceptual plan to provide

cost-effective connections from areas of high wind potential to major load centers using a 765 kV backbone system. The map below shows the scale of transmission projects necessary to move electricity from our nation's vast wind resource to major load centers.

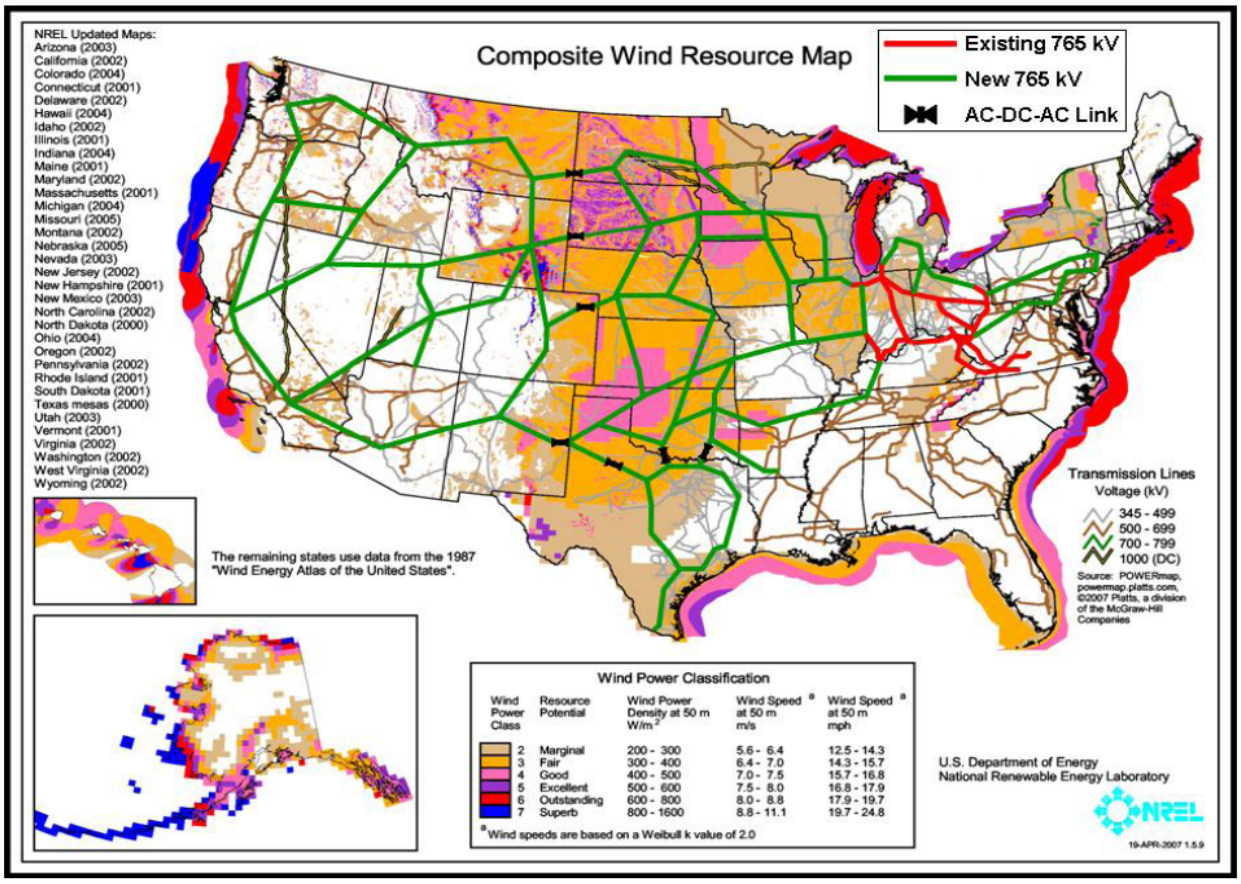

Exhibit 1: Conceptual 765 kV backbone system for wind resource integration (edited by AEP).

In this study, we focused on EHV, primarily 765 kV transmission lines, as the solution of choice for meeting our nation's "superhighway" transmission needs. EHV transmits large quantities of energy vast distances, with reduced loadings on lower voltage transmission and with significantly lower line losses. At the same time, it increases transmission performance and reliability for large geographic regions and across multiple states and regions. By establishing EHV as the backbone of the bulk

power system, we will also enhance operational performance and reduce congestion, while enhancing fuel diversity and ultimately strengthening our energy security. In addition, 765 kV transmission requires significantly less right-of-way than is used to move comparable amounts of power at lower voltages, and it does so on a more cost effective basis.

This conceptual plan is designed to permit wind to supply about 20% of the nation's electricity needs by the year 2030, at a cost of about $60 billion in today's dollars. Obviously, the system that is ultimately developed would move forward over many years, developed by many different transmission providers and guided by vigorous regulatory and planning processes. The costs would probably increase somewhat over time. Even with these uncertainties, however, we believe very strongly in the fundamental premise of this concept: that our nation can have an interstate transmission system that effectively integrates significant new, cleaner resources to meet our national energy policy goals. If it is urgent that we press forward with developing cleaner, more secure sources of power, then it is equally urgent that we build the transmission system that can deliver this power to customers. For that reason, we believe that this Committee should assess the EPA2005 by considering its effectiveness in helping us achieve these goals.

2005 Energy and Policy Transmission Provisions Must Be Strengthened to Encourage Development of a Nationwide EHV Transmission Network

From the perspective of improving the nation's electric transmission grid, EPA2005 breaks some very important policy ground. It acknowledges that our bulk power system had evolved into a vibrant network connecting generation and consumers across many states. For the first time, electric reliability standards are mandatory, with FERC exercising jurisdiction over all users of the bulk power system. The Act is also important in recognizing that a federal approach to siting of new transmission is vital to the economic health of the nation. It gives the Department of Energy (DOE) some authority to identify high priority transmission lines – the "Electric Transmission Corridors" – and gives FERC backstop siting authority to facilitate the development of needed transmission facilities that are not moving forward within the framework of state siting laws. The Act also empowers FERC to ensure cost recovery and provide rate incentives to encourage the development of interstate transmission facilities.

We are now three years from enactment of this historic legislation and the time is right to take stock of where we are today. There are some important items in the success column. DOE has acted to designate some national interest corridors, clearing the way eventually for federally-facilitated siting, if necessary. I would also highlight FERC's critical efforts to ensure transmission construction through incentives designed to compensate for the risk involved in multi-state transmission development and the technological innovation required to develop increasingly efficient delivery systems. As

a result of those incentives, private capital is ready to flow to such projects, if there is a siting process that permits them to go forward.

In those three years, we have also seen many transmission sponsors moving to propose the kind of projects we need to see. AEP is actively pursuing a number of major EHV projects with utility partners where new transmission is critically needed, either to enhance and expand the existing EHV system or to harvest wind resources. However, even as we talk about ever increasing congestion on the current system and the need for rapid deployment of renewables, there is little, if any, steel in the ground. In our view, this has a lot to do with the fact that, not withstanding FERC's backstop authority, we do not yet have a workable federal process for coordinating the development of transmission across regions and for ensuring the timely siting of the extra high voltage multi-state transmission system.

There is such a process in place for natural gas pipelines, under the Natural Gas Act. Indeed, the natural gas pipeline network we have today that moves natural gas from the production areas to the distribution systems around the country was built because a federal process was available to sort through the many important competing local and national public policy issues and ultimately determine reasonable rules under which such facilities could be built. In our view, we need a similar process to facilitate the siting of EHV transmission facilities. We do not expect that such a process would be easy; these are important and difficult decisions and a wide range of issues must be taken into account to address legitimate landowner and environmental concerns. We also recognize

that planning these facilities is complex and will require the coordinated effort of many parties, including state commissions, RTOs, reliability organizations and other affected utilities. However, it is hard to imagine that we will break through the logjam of competing interests if we don't have a federal forum at the FERC to resolve conflicts, with the express goal of ensuring that we can build the transmission we need to meet the nation's long term energy policy objectives.

We also encourage the Committee to look at other issues necessary to ensure the successful build out of the transmission interstate superhighway. For example, it will be important to recognize that there is substantial work already being done across the country by individual utilities, state commissions, RTO's and reliability councils to plan the transmission system of the future. If FERC were empowered to make siting decisions, it could use the product of these collaborative planning efforts as a basis for expedited consideration. Similarly, if we are going to build an interstate transmission system that provides benefits across broad regions, it will be necessary to have in place relatively simple and predictable cost allocation policies that ensure that everyone who benefits from the system shares in the cost of its development. In addition to mitigating the cost per customer, principles that assure broadly defined cost responsibility will reduce the vigorous attempts to shift and re-shift costs among groups of customers that today are the hallmark of rate regulatory proceedings.

The plea in this testimony is quite simple: we urge you and the Congress to recognize that we must take action, possibly very difficult action. This company and, I

am quite confident, our industry as a whole, stand ready to commit the resources and talent necessary to build the interstate transmission system that we need to meet the complex demands of our nation's energy future. We strongly urge you to give us the tools we need to do it.

Again, Chairman Bingaman, thank you for holding these hearings. We look forward to working with you and your Committee to find solutions that address the transmission needs of our country.

I am happy to answer questions.