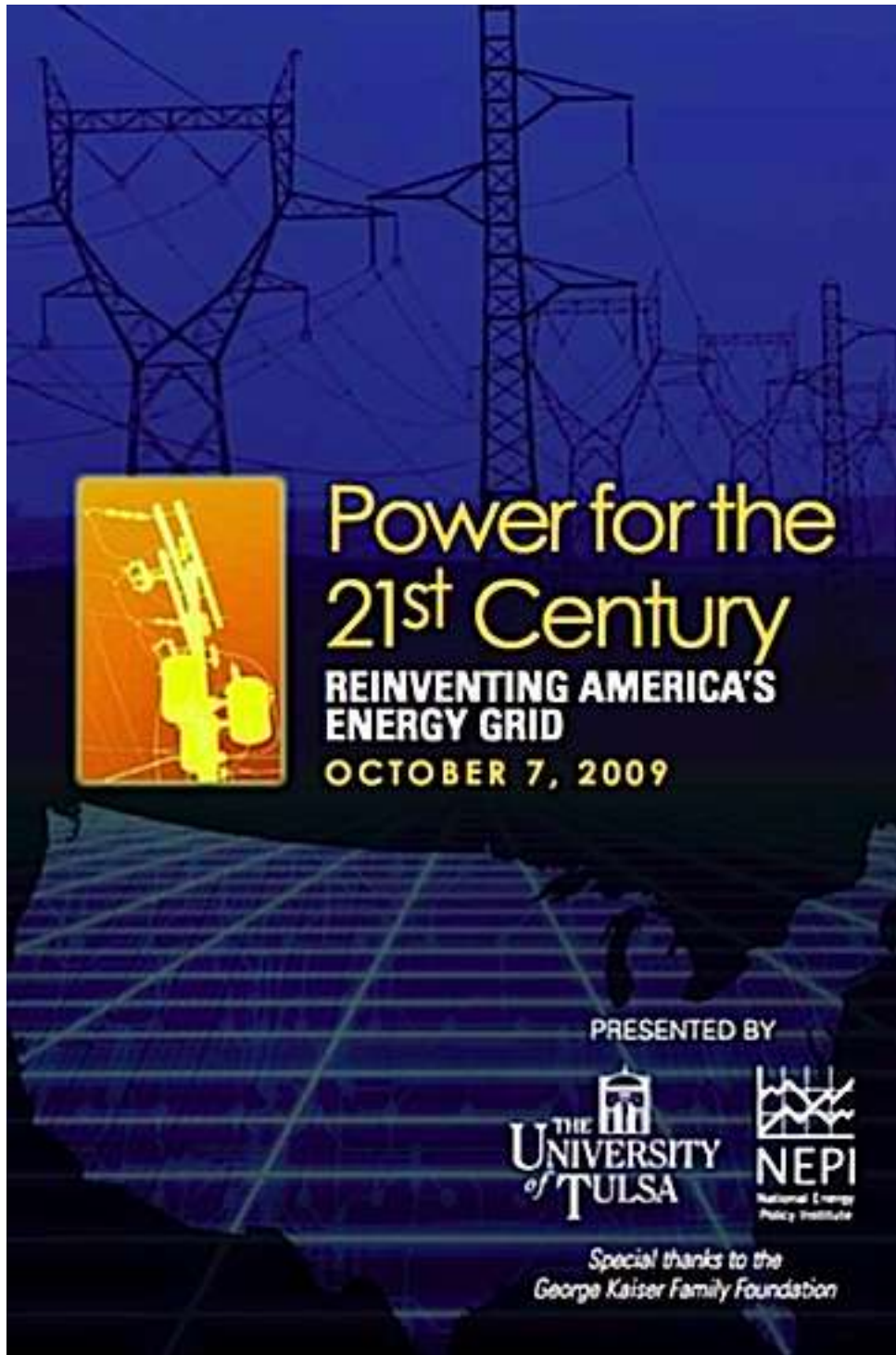


TRANSMISSION PANEL



TRANSMISSION: ENERGY WITHOUT BORDERS – WHO SHOULD PAY FOR IT?

America's transmission system is undergoing historic challenges and is widely considered the largest obstacle to the continued growth of reliable, renewable energy sources in the U.S. This panel addressed ideas about how the nation's future transmission system should be developed, and who should pay for it.



MODERATOR - COMMISSIONER JEFF DAVIS, Missouri Public Service Commission

Jeff Davis was appointed to the Missouri Public Service Commission on April 30, 2004 and was named chairman of the Public Service Commission by Governor Blunt on January 10, 2005. Davis was reappointed to a full six-year term in April 2006. He served as chairman until January 13, 2009. Davis serves as a member of the Homeland Security Advisory Council, the Missouri Universal Service Board, the Financial Research Institute Advisory Board, the Missouri Oil and Gas Council, the National Association of Regulatory Utility Commissioners (NARUC, where he serves on the electric committee), the Advisory Board for the University of Missouri Delta Center for Agricultural Development in Southeast Missouri, vice president of the Mid-America Association of Regulatory Commissioners (MARC), member of the Regional State Committee for Southwest Power Pool and a member of the Board of Directors for the Organization of MISO States (OMS). Davis has served as chair of the Missouri Energy Task Force, chairman of the FRI Advisory Board at the University of Missouri, a member of the FERC Joint Oversight Board for Economic Dispatch for the MISO-PJM region and a member of the NARUC gas committee. Prior to his appointment to the Public Service Commission, Davis served as general counsel and chief of staff for Missouri Senate President Pro Tem Peter Kinder. While in that capacity, Davis provided legal counsel to the Committee on Gubernatorial Appointments and the Senate Administration Committee; managed the President Pro Tem's office; and supervised the President Pro Tem's legislative agenda, which included drafting and helping pass several pieces of legislation including the Senior Care and Protection Act of 2003; the Dram Shop Act of 2002; the Religious Freedom Restoration Act; and legislation authorizing Missouri's first sales tax holiday. From July 1998 until December 2000, Davis was chief of staff and general counsel to Senate Minority Floor Leader Steve Ehlmann. Before that, he was a law clerk for the Honorable Paul J. Simon, Missouri Court of Appeals, E.D. and was a legal intern in Missouri Attorney General Jay Nixon's Labor Division. Davis graduated cum laude with a bachelor of science degree in political science from Southeast Missouri State University in 1994 and received his juris doctorate degree from Washington University in 1997. Admitted to the Missouri Bar in October 1997, he is a member of the Missouri Bar Association and Midwest Energy Bar Association.

PANELISTS



LES DILLAHUNTY, SR VP of Engineering and Regulatory Policy, Southwest Power Pool

Les Dillahunty is the vice president of regulatory policy for Southwest Power Pool (SPP). In this

position, Dillahunty is responsible for managing the Regional Transmission Organization's regulatory, engineering and contract services functions. These roles involve the communication and coordination of both technical and policy information to internal and external audiences. Before joining SPP, Dillahunty held positions within Southwestern Electric Power Company (SPP's parent company), Central and South West Corporation and its merger partner, American Electric Power Company. Dillahunty later provided independent consulting services before joining SPP in September 2003 as the director of regulatory affairs and transmission policy. He holds mechanical engineering degrees from Louisiana Tech University and is a registered professional engineer in Louisiana and Texas.

Presentation Summary

Southwest Power Pool (SPP) is a regional transmission organization, which is FERC regulated. We work with members, stakeholders and regulators to plan a transmission grid for a nine state region. We consider reliability and economics to plan the transmission grid for the future.

With wind, the first step is to find how much wind is out there. Today we have about 3,100 MW of wind in service and about 6,000 MW that have approved generator interconnection agreements. Based upon studies we know there is about 100,000 MW of potential in the SPP footprint, which is often referred to as the Saudi Arabia of wind.

All wind isn't equal. If we choose the best wind we can get by with 50% less turbines that if we choose the next best wind. That impacts transmission as well.

At SPP we think we can absorb 20 to 30% of our peak load from wind because of the intermittency. It is likely that SPP will be exporting wind on a national standard, but today it is a state standard. Cost and benefits are being studied now. They show it does make sense to fund expensive transmission and high voltage. The benefit to cost ratio is one or greater for the recommended projects. We have 7 projects and 700 million dollars recommended in the Balanced Portfolio.

If we don't build transmission we will be more dependent on generation and cost from local utilities. Building transmission will give us access to a greater number of resources, at the lowest costs. Our job is to convince regulators, stockholders and members that going ahead with this project is the appropriate thing to do.

We should not believe that we don't need both traditional and renewable generation to meet our needs. As we deal with these markets we are trying to do it at the lowest costs. SPP prices are down 47%, primarily because of gas price decreases, but we've also seen a 4.5% decrease in energy consumption because of the economic downturn.

Regulators and legislators are key. We should all get involved in the process. I encourage you to write our State Senators. They are the ones who are controlling the purse strings and the future of the transmission grid.



JULIE PARSLEY, Energy Consultant, Former Commissioner, Public Utilities Commission of Texas

Julie Parsley, an Austin, Texas-based attorney and former commissioner with the Public Utility Commission of Texas (PUCT), specializes in energy-related consulting and legal services

focused on wholesale markets and transmission issues in the Electric Reliability Council of Texas and the Southwest Power Pool. Parsley served with the PUCT from November 2002 through September 2008 upon appointment by Governor Rick Perry and subsequent confirmation by the Texas Senate. Prior to her appointment to the PUCT, Parsley served as deputy solicitor general and then solicitor general of Texas. She is licensed to practice law in Texas and before the Supreme Court of the United States, as well as the U.S. Court of Appeals for the Fifth Circuit, and the U.S. District Courts for the Western, Eastern, and Northern Districts of Texas. Parsley has served on Southwest Power Pool's Regional State Committee as president, vice president, and secretary-treasurer, as well as the Texas Energy Planning Council as Infrastructure Committee co chair and the National Association of Regulatory Utility Commissioners as a member of the Broadband over Power Lines Taskforce and Electricity Committees. Parsley received a B.S. degree in industrial distribution from Texas A&M University and earned her law degree from the Texas Tech University School of Law, where she served on the Board of Editors for the school's law review.

Presentation Summary

In 1968, SPP joined 12 other entities to form what became the North American Electric Reliability Corporation (NERC). SPP incorporated as an Arkansas non-profit organization in January 1994. The Federal Energy Regulatory Commission (FERC) approved SPP as a Regional Transmission Organization in 2004 and a Regional Entity in 2007.

In 2004, we had participant funding and there was less than \$500 million in the 10 year Southwest Power Pool expansion plan. It was pretty bare bones.

With the 2009 Step Plan, the FCC approved \$3 billion worth of transmission planning. In five years we have six times the projects on the books since we began. What happened was that we had two FERC approved tariffs that had rolled in rates.

When the Electric Liability Council of Texas energizes the lines with competitive energy zones in 2012 or 2015 they're going to have more than \$10 billion worth of transmission projects on the books.

The one reason I believe this actually happened is that we came together with Southwest Power Pool, we came up with two great tariffs, and everyone understood that this could actually work.

Now we're introducing a region wide tariff that's going to be a highway, byway tariff. And the question is not will it have a postage stamp component, but rather how much is going to be postage stamped.



**RICHARD LORDAN, Technical Director of Power Delivery and Markets,
Electric Power Research Institute**

Richard Lordan is technology director in the Power Delivery and Utilization Sector. His current research activities focus on grid operations and planning and renewable integration. Lordan joined EPRI in 1993 as a project manager in transmission and magnetic field management. Before joining EPRI, he worked at Florida Power and Light. Lordan worked in various capacities including Engineering Service Center Operation, Service Planning, and Marketing. In his engineering capacity, Lordan designed overhead and underground distribution and transmission systems. Lordan holds a BS degree in mechanical engineering from Pennsylvania State

University and a master of science degree in electrical engineering from Florida Atlantic University. He is a professional engineer in the state of Florida.

Presentation Summary

The Electric Power Research Institute, Inc. (EPRI) conducts research and development relating to the generation, delivery and use of electricity for the public. 411 billion KWHs a year is required.

Renewables are going to need a lot of transmission to achieve the 20% federal goal. Hydro renewable cannot do it and a lot of AC and DC transmission from wind is needed.

We'll need three times the amount of renewables we have now by the year 2030. Most good hydro spots are already taken, so the growth potential is in biomass, wind and solar.

Wind doesn't blow all the time. Sometimes the wind blows everywhere and sometimes the wind doesn't blow anywhere. Solar also is intermittent. The sun doesn't always shine, when it does there's moisture and dirt in the air. Concentrated solar thermals are not perfectly flat even on a sunny day.

Yet an operator has to balance generation and load exactly every instant. Today the grid doesn't crash because the big rotors in the nuclear and coal plants are spinning to create electricity all the time. PV (Photovoltaic) does not have those rotors, that's why operators get so concerned about solar and wind. Therefore we need access to the controllable elements. We need demand response, we need energy storage and we need transmission. Compressed-air energy storage will be a big technology, along with batteries. Biocars with plug in hybrid electric vehicles will be more widespread. The first 200,000 PH-EV vehicles will be charged just like my computer, so they will be limited. Around 2012, smart charge technology will make a big difference and by 2018 we will have smart charging, discharging, which will really be nice.

Operators need capacity. We need to develop an integration connection requirement that will bring the whole package to the grid. And we need transmission overlay.



CARL HUSLIG, President, ITC Great Plains, Independent Transmission Company

Carl Huslig, a native Kansan, holds responsibility for establishing and implementing the vision to rebuild the electricity transmission infrastructure in Kansas and the Great Plains region in order to improve reliability, reduce congestion and lower the overall cost of delivered energy. Huslig has more than 15 years experience in the utility industry. His career began at Aquila, Inc. in 1991 when he held positions of increasing responsibility primarily within the transmission function. Most recently, Huslig served as vice president of Aquila's Transmission Operations where he was responsible for day-to-day activities such as planning, system operations, capital and maintenance budgets, as well as working with regulatory and legislative affairs on transmission-related matters. Huslig holds a bachelor of science degree in electrical engineering from Kansas State University.

Presentation Summary

ITC Great Plains is in the business of transmitting energy from generating plants to where it is

needed. We are the newest utility in the state of Oklahoma and we just celebrated our one year anniversary last month. ITC is the nation's first and largest independent transmission company.

Our objective is to reduce the cost of delivered energy, by investing in transmission infrastructure to provide a reliable system. Being independent allows ITC to focus on improving transmission, while insuring non-discriminatory access to the transmission grid. We have invested over \$1.2 billion in transmission systems upgrades to make sure we have the lowest cost energy delivered to the end use customer.

A rational national energy policy is one that includes federal renewable portfolio standards and the federal regulation of green house gas emissions. Now we are trying to tackle a 21st century energy challenge with a transmission grid more than 30 years old and operating under an outdated regulatory system. We urgently need to reform how we plan, locate and pay for new transmission.

The current grid has an aging infrastructure with reliability concerns. In 1970 we transmitted electricity at a 5% cost factor, in 2005 that was increased to almost 10%. A lack of capacity has created large interconnection queues. We need a regional transmission grid. Transmission is the facilitator, whether talking about demand response, efficiency, renewable technology, or load. It's going to require transmission.

Huslig said "The national energy policy should cover three things, (1) an independent planning authority that reports to FERC, (2) cost allocation should be harmonized for a highly connected transmission grid and (3) federal siting with FERC having a more significant role and states approving transmission routes."

Transmission is the key to achieving our national energy vision. We should move forward with a regional transmission grid, good for forty years, that provides reliability and provides the choices customers want. Our unlimited renewable resources need to be connected to homes and businesses that want it.



**LISA BARTON, VP of Transmission Strategy and Business Development,
American Electric Power**

Lisa M. Barton is vice president of Transmission Strategy and Business Development for American Electric Power (AEP). She has 20 years of experience in the energy field, holding various positions in engineering, rates and regulatory affairs, marketing, legal and energy consulting. In her current position, Barton is responsible for business planning and analysis, EHV development, business development, and oversight of AEP's interface with its corporate partners. She also serves as president of Electric Transmission America (ETA), a joint venture between AEP and MidAmerican Energy Holding Company. Prior to her current position, she was managing director of Transmission and director of Transmission Planning for AEP. As director of Transmission Planning, Barton managed activities related to assessing and maintaining the adequacy of AEP's 11-state transmission network, which serves more than 5 million people. With transmission assets in three regional reliability regions, her team worked closely with regional transmission organizations and other engineering departments to develop plans to construct new transmission facilities. Barton joined AEP from Northeast Utilities in Berlin, Connecticut, where she was manager of Transmission Regulations and Compliance. Barton earned a bachelor's degree in electric engineering in 1987 from Worcester Polytechnic Institute in Worcester, Massachusetts; a juris doctorate degree in 1993 from Suffolk University Law School in Boston,

Massachusetts; and is a graduate of The Executive Program - Darden School of Business at the University of Virginia. Barton is a member of the New Hampshire and Massachusetts state bar associations. She also serves on the board of managers for Prairie Wind Transmission and Tallgrass Transmission, both joint ventures with ETA and local utilities. In addition, she is on the board of directors for Amethyst, Inc. Barton resides in Westerville, Ohio.

Presentation Summary

Barton began by saying "We have 22 times the land mass of Germany, 7 times the energy consumption and 5 to 6 times the energy potential. In this part of the country that potential is primarily in wind."

Our generation profile is going to shift dramatically over the next 10 to 20 years. We have the challenges associated with interconnecting large renewable resources, while meeting the environmental requirements. Plans to use wind resources need to include a robust regional and interregional approach.

She pointed out that it is important to reflect on the past and on the cost of failure. During the 2003 blackout in Ohio, 50 million people were left in the dark. RTOs need to ensure their systems are robust, efficient and capable of meeting their long term energy needs.

Barton said she feels beneficiary based models with a line by line cost benefit analysis for EHV are not in keeping with today's needs. If this approach is followed, it will result in a narrow approach to transmission planning and development; delay EHV development; increase congestion; adversely affect system reliability and unduly increase Right of Way (ROW) consumption.

Siting transmission projects is not likely to get any easier in the future. We need to minimize our footprint while maximizing the benefits to the system. Efficient use of ROW's is needed.

A robust grid is critical to ensuring a system that is flexible and adaptable to changes in our generation fleet and consumption. Recognizing the value of transmission is essential. The cost of insufficient transmission can have a devastating impact on the economy.

Q&A

Following the Transmission panel discussion, the questions and answers were about the high cost of transmission and the benefits and beneficiaries of the system. There were skeptical comments from the questioners about the high cost and the inability to identify beneficiaries. Panel members defended the necessity and value of building a transmission system and stated that since the system would be in use over 30 years the beneficiaries would change over time.

Q. If we're going to really talk about spending all this money, I suggest we proceed with caution. What's this going to do to ratepayer's bills? If you're going to commit to spend \$3 billion dollars, get involved, hire consultants, hold proceedings because this will impact the customers.

A. We spent a lot of time looking at these transition projects and for every \$1 of transmission we got \$1.86 of benefits. I encourage everyone to get involved as well. The transmission needs to be built.

A. Cost allocation burden is assigned to SPP regional state committee. That's their responsibility and we support them in that area. The committee has been meeting at least quarterly since 2004 and people on the regulatory staff are meeting monthly. It's been a very open process and we've come a long way together since 2004.

A. We're so focused on the cost of transmission that the NRC refused to restart the Murphy's nuclear facility because the lack of transmission in that state caused tremendous stress on the transmission lines. When that was coupled with the open market the cost of electricity in Connecticut went through the roof.

A. If you're looking at moving low cost around the footprint, you have to have transmission. You can't just look that the transmission is expensive.

A.. I am a commissioner on a regional state committee and I am deeply concerned about the cost.

Q. The discussion near the end about calculating the cost lacked an identification of who benefits and who loses in that process. I don't understand the simultaneous statement that says we can't identify the beneficiary, but we are very good at calculating the benefits. How can that be true?

A. I think what you're asking is a line by line approach. Regardless of the modeling and how detailed the modeling it is never really going to be exact, but rather an essence of predictions. She cites the 765 and 500 groups in New England that basically have socialized transmission.

A. The network and beneficiaries are going to change over time, as these systems will be up for over 30 years.

A. You can calculate the benefits, but the beneficiaries will change over time.