



1000 Center St.

Little Rock, AR 72201

**Southwest Power Pool
REGIONAL STATE COMMITTEE
May 9, 2007
Teleconference**

• M I N U T E S •

Administrative Items:

Members in attendance or represented by proxy were:

- Julie Parsley, Public Utility Commission of Texas (PUCT)
- Sandra Hochstetter, Arkansas Public Service Commission (APSC)

Others in attendance:

- Tom DeBaun, Kansas Corporation Commission
- Larry Holloway, Kansas Corporation Commission
- Jason Gray, Kansas Corporation Commission
- Adrienne Brandt, Public Utility Commission of Texas
- Mike Proctor, Missouri Public Service Commission
- Greg Meyer, Missouri Public Service Commission
- Sam Loudenslager, Arkansas Public Service Commission
- Harry Skilton, SPP Director
- Quentin Jackson, SPP Director
- Josh Martin, SPP Director
- David Fliescher, Secretary of Energy (Oklahoma)
- David Kays, OG&E
- Phil Crissup, OG&E
- Richard Spring, Kansas City Power and Light
- Steve Owens, Entergy
- Terri Gallup, AEP
- Tom Stuchlik, Westar
- Bary Warren, Empire
- Les Dillahunty, Southwest Power Pool, Inc.
- Nick Brown, Southwest Power Pool.
- Keith Tynes, Southwest Power Pool
- Cheryl Robertson, Southwest Power Pool

President Julie Parsley called the meeting to order at 9:05 a.m. Introductions were made and a quorum was declared.

Business Meeting:

Dr. Mike Proctor provided a report from the Cost Allocation Working Group (CAWG) meeting on April 25-26, 2007 (CAWG Report – Attachment 1). Topics included were:

- Wind Coalition's Perspectives on Cost Allocation and Transmission service in SPP
Dr. Proctor referred to a Wind Coalition presentation and asked that it be distributed via email to the exploders (Wind Coalition Presentation – Attachment 2). The Wind Coalition is a non-profit association formed to encourage the development of the vast wind energy resources of the south

Regional State Committee
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central United States. Richard Walker (Sustainable Energy Strategies, Inc.) led a discussion regarding Wind Energy issues:

- o Current and proposed wind development in SPP
 - o How national political and environmental issues will affect the demand for wind energy
 - o Issues with current transmission cost allocation protocols
 - o Issues with the current aggregate study process
 - o Transmission services that can facilitate wind development
- Economic Portfolio Follow-Up
Keith Tynes and Charles Cates (SPP Staff) led a discussion regarding the current mitigation of flowgates by the 2006-2016 SPP Transmission Expansion Plan (STEP), how SPP would handle Enhanced Regional Planning (ERP) with respect to STEP, how Carbon Tax will affect the current production cost modeling method, and the conservative nature of SPP models. Transmission planning models will be more complete as SPP gains information from the Energy Imbalance Services Market and combines this with the ERP and the Extra High Voltage (EHV) over-lay in a joint effort.
 - Allocations of Benefits from Transmission Upgrades to Zones
Dr. Proctor stated that the reason for measuring zonal benefits is that costs allocated to any zone (entity) should not exceed the benefits that entity is expected to receive. In the November 1, 2006 meeting CAWG agreed on the Adjusted Production Cost metric as an appropriate measure of benefits from economic transmission upgrades. CAWG has asked SPP to report to the group on the ability of the model to calculate revenue from sales and expenses for purchases.

Scheduling of Next Regular Meeting, Special Meetings or Events:

The next regularly scheduled RSC meeting is in Kansas City on July 23, 2007. The CAWG will provide another report to the RSC via teleconference following the group's May 23 meeting. Other meetings of interest:

May 10	Order 890 Planning Principles Strawman Net Conference
May 15	2007 SPP Transmission Expansion Planning Spring Summit, Dallas
May 23	CAWG Meeting, Dallas
June 7	FERC Technical Conference, Little Rock

With no further business, the meeting was adjourned.

Respectfully Submitted,

Les Dillahunty

Southwest Power Pool Regional State Committee

May 9, 2007

9:00 a.m. – 10:00 a.m. CDT

TELECONFERENCE MEETING

AGENDA

- 1. CALL TO ORDER**
- 2. DECLARATION OF A QUORUM**
- 3. BUSINESS MEETING**
 - a. CAWG update regarding economic transmission upgrade cost allocation approaches**
 - b. Other**
- 4. ADJOURN**

CAWG April 25-26 Meeting Summary

1. Wind Coalition's Perspectives on Cost allocation and Transmission Service in SPP

Discussions lead by Richard Walker; Sustainable Energy Strategies, Inc.

- *Information about The Wind Coalition.* The Wind Coalition is a non-profit association formed to encourage the development of the vast wind energy resources of the south central United States.
- *Current and proposed wind development in the SPP.*
 - **Current purchases in SPP – 1,563 MW;**
 - **Requests in interconnect queue – 11,457 MW**
 - **Great wind potential in Texas (North), Oklahoma and Kansas.**
- *How national political and environmental issues will affect the demand for wind energy*
 - Proposed federal legislation – Renewables 10% by 2020
 - Implemented state legislation – 30,000 MW in renewables for Eastern Interconnection by 2020
- *Issues with current transmission cost allocation protocols*
 - SPP stakeholder process heavily weighted toward traditional utilities - no renewable energy companies, environmental advocates or ratepayer advocates have a vote.
 - Primary emphasis on reliability and transmission costs, with only secondary emphasis on overall energy price, and very little on environmental or economic development issues.
 - Transmission planning process often takes years to go from identified need to actual construction.
 - Wind capacity accreditation value – one of the lowest in the country, if not the lowest.
 - **No conditional firm service tariff available in SPP.**
- *Issues with current aggregate study process*
 - Long process generally incompatible with wind development business cycle (contract negotiations, turbine procurement, PTC cycles)
 - Forces identification of customer and point of delivery several years in advance
 - Expensive to participate in
 - Used by too many parties for screening the all-in cost of new generation
 - **Results somewhat meaningless and potentially misleading until the last stages**
- *Transmission services that can facilitate wind development*
 - **Base funding for a portfolio of economic transmission projects providing benefits across the SPP region.**
 - Cost recovery assurance for builders/owners of a strong, EHV transmission network.
 - **Regional resource planning that considers the combined cost of generation and transmission**
 - Full implementation of LMP market with day ahead settlement and real time settlement
 - Transmission planning reflecting the 40 to 50 year life of these assets and the long-lead time required for routing, permitting, ROW acquisition, and construction.

2. Economic Portfolio Follow-up; Discussion led by Keith Tynes & Charles Cates SPP Staff.
 - What current flowgates are being mitigated by the 2006-2016 SPP Transmission Expansion Plan (STEP)?
 - 7 of the top 15 flowgates are relieved by the 2006-2016 STEP
 - How would Demand Side Management (DSM) affect the current reliability plan?
 - Oklahoma City – 7 Projects with potential impact around OK City
 - Kansas City – 20 Projects with potential impact around KC
 - Tulsa – 6 Projects with potential impact around Tulsa
 - How would SPP handle Enhanced Regional Planning (ERP) in respect to the STEP?
 - SPP to potentially consider ERP as a solution to reliability problems identified in the STEP. For example,
 - o Initially, Staff to consider ERP as a solution for areas with total project install cost over a predetermined threshold
 - o Staff would consider the benefit of a ~500MW plant for initial screens, then use the ERP checklist to determine feasibility
 - Load Forecast Sensitivity
 - o SPP load forecasting for the last 5 years has been between 3 to 6.5% under actual peak demand
 - o A forecast deviation of 3% may advance or delay the need for a project by as much as a year in the STEP
 - o SPP staff to consider using load level forecast sensitivities in economic planning
 - High Load Forecast
 - Nominal Load Forecast
 - Low Load Forecast
 - How would a Carbon Tax affect the current production cost modeling method?
 - A typical coal fired plant will see around \$20-30 / MWh added to the operation costs due to carbon tax (as much as doubling the operating cost)
 - The implementation of carbon tax will have a huge impact on economic modeling in SPP
 - Renewables and Nuclear Powered plants will be far more cost effective and beneficial to production cost savings
 - SPP to model Carbon Tax as a sensitivity to its current modeling methods
 - Conservative Nature of SPP Models
 - SPP models utilize a hurdle rate (per MWh) for commitment and dispatch of units
 - SPP Control Area: \$4-5 commit, \$2 dispatch
 - Non-SPP Control Area: \$6-8 commit, \$2-5 dispatch
 - Control Areas required to cover, at a minimum, 80% of the area's internal firm demand
 - Load benefits are not currently being considered as a benefit allocation metric
 - Currently models are not considering benefit from unit recommitment, only redispatch
 - Interchange limits between areas presently are hard coded. Major transmission upgrades typically see large impacts on export/import ability. This is not currently being captured.

3. Allocations of Benefits from Transmission Upgrades to Zones; Discussion led by Mike Proctor.
 - **Reason for measuring zonal benefits: Costs allocated to any zone (entity) should not exceed the benefits that entity is expected to receive.** There was agreement on this principle, but some skepticism about being able to apply it.
 - **Previously (Nov 1, 2006) CAWG had agreed on the Adjusted Production Cost metric as an appropriate measure of benefits from economic transmission upgrades.**

$$\begin{aligned} \Delta \text{APC} = & - \Delta \text{ Variable Production Costs} \\ & + \Delta \text{ Revenues from Sales} \\ & - \Delta \text{ Expenses from Purchases} \end{aligned}$$

- Straight forward calculations of Adjusted Production Costs include “inter-zonal congestion charges” as the difference between what an exporting zone receives for sales and what an importing zones pays for purchased power.
 - This difference results from congestion between zones (i.e., inter-zonal congestion); where the seller (upstream from the congestion) receives a lower price than what the buyer (downstream from the congestion) pays.
 - SPP does not keep this difference, but instead distributes this difference back to market participants via tariff formula.
 - Changes in Inter-Zonal Congestion Charges from transmission upgrades are therefore offset by the allocation of these charges in revenues to market participants and should be excluded in a calculation of zonal benefits.
 - √ **Ask SPP to come back to CAWG to report on the ability of the model to calculate revenue from sales and expenses for purchases**
- Conclusions on Intra-Zonal Congestion
 - Intra-Zonal Congestion is not a direct output from the models because it only relates to differences between scheduled and actual loads.
 - It is not clear that changes in intra-zonal congestion charges will account for any significant changes in benefits as purchasing zones will incur these charges and for selling zones, the difference between load and generation LIPs is not likely to be significant unless upgrades included reduce internal redispatch.
 - It may make sense to document upgrades that reduce internal redispatch and make separate benefit calculations for these upgrades.



The Wind Coalition's Perspectives On Transmission Services and Cost Allocation In The Southwest Power Pool Region

April 25, 2007

**By: Rick Walker
Sustainable Energy Strategies, Inc.
On behalf of The Wind Coalition**



Wind Energy Development in the SPP

- *Information about The Wind Coalition.*
- *Current and proposed wind development in the SPP.*
- *How national political and environmental issues will affect the demand for wind energy*
- *Issues with current transmission cost allocation protocols*
- *Issues with current aggregate study process*
- *Transmission services that can facilitate wind development*



Information About The Wind Coalition

- *The Wind Coalition is a non-profit association formed to encourage the development of the vast wind energy resources of the south central United States.*
- *The Wind Coalition is active in ERCOT and the SPP.*
- *Members include wind developers, wind turbine manufacturers, tower manufacturers, and consumer & industry interest groups.*

AES SeaWest

American Wind Energy Association

BP Alternative Energy

D.H. Blattner

Eurus

GE Wind Energy

Horizon Wind Energy

Public Citizen – Texas Office

Shell Wind Energy

Trinity Structural Towers

Texas Renewable Energy Industries Association

Airtricity

Babcock & Brown

Clipper Windpower

Environmental Defense Fund

Gamesa Energy

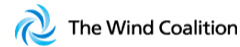
Great Plains Windpower

PPM Energy

Renewable Energy Systems

Siemens Wind Energy

Vestas



Federal Legislative & Regulatory Overview

- *The U.S. Senate included RPS provisions in the 2005 version of the Energy Bill that they passed (prior to the Conference Committee) calling for 10% of electricity to come from renewable energy by 2020.*
- *The Senate has passed a similar bill twice since 2002*
- *Today, a 20% RPS is currently proposed in the House and a 15% RPS is expected to be proposed in the Senate.*
- *A 20% national RPS could equate to approximately 180,000 MW of renewable energy by 2020, with much of this in the Eastern U.S. electric grid that the SPP is part of.*

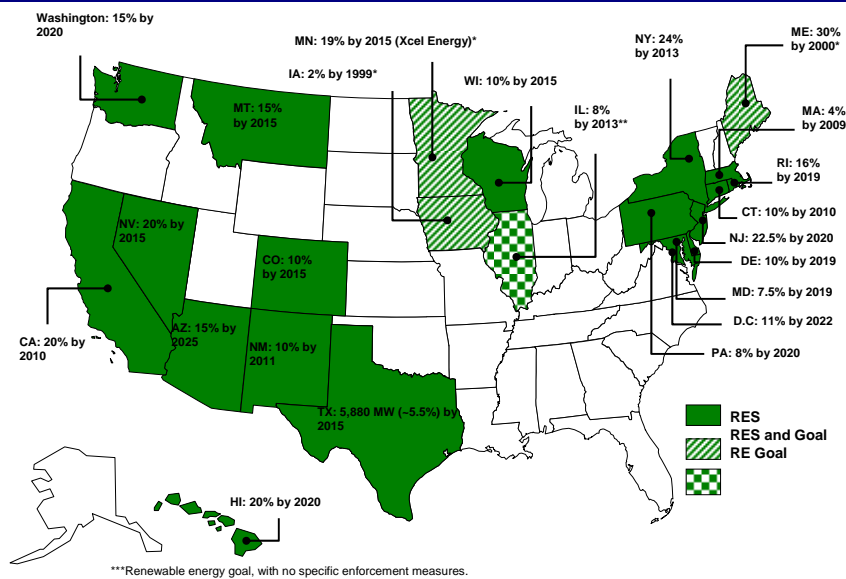


State Regulatory & Legislative Overview

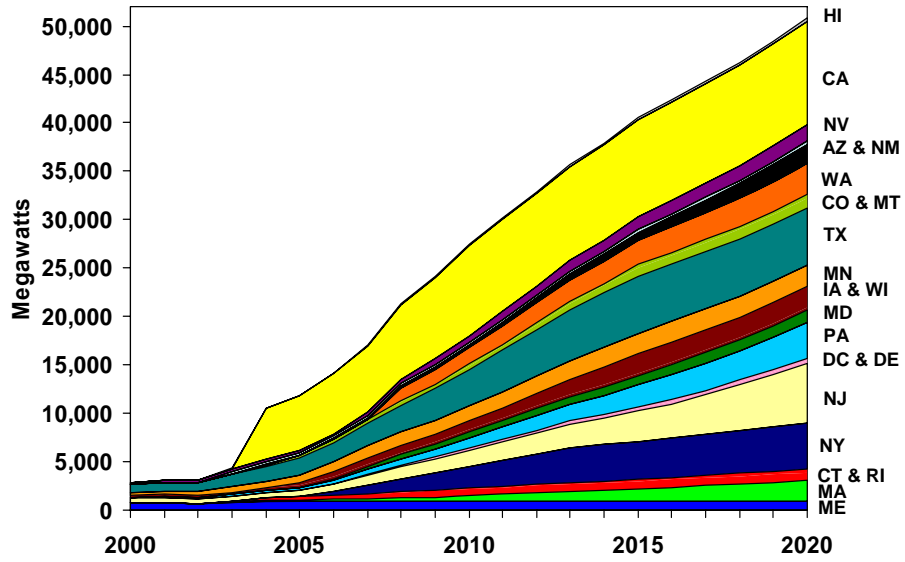
- 21 States and the District of Columbia currently have RPS's or other types of renewable energy mandates, plus two others have state goals.
- Approximately 50,000 MW renewable energy resources would be required by 2020 to meet these goals.
- 15 of these states including part of Texas are in the Eastern U.S. electric grid that the SPP is part of.
- RPS requirements in those 15 states will require about 30,000 MW of renewable generation by 2020.
- Since wind generation in the SPP region has some of the lowest busbar costs in the country, much of the demand in the Eastern U.S. electric grid could be generated in the SPP, provided transmission were available and wheeling prices were not prohibitive.



State Renewable Energy Standards



Renewables Needed to Meet State Standards



The Wind Coalition

Wind Energy Development in the SPP

**EXISTING
AND
PROPOSED
WIND
ENERGY
PROJECTS**



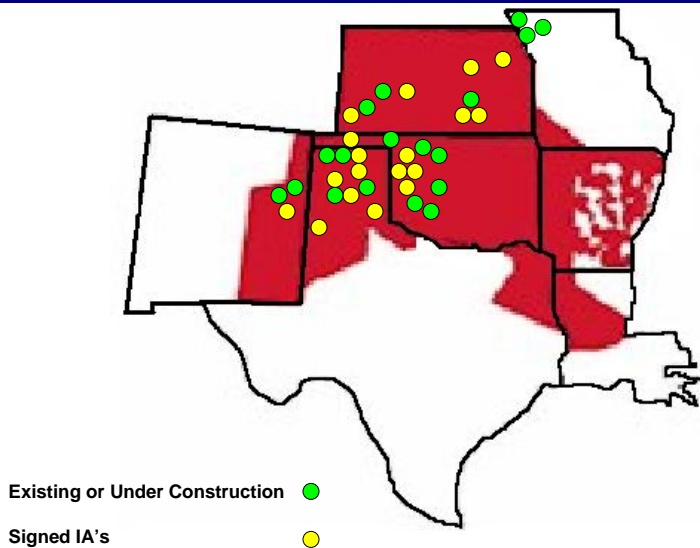
The Wind Coalition

Wind Energy Purchases in SPP

• OG&E from Woodward, OK	51 MW
• OG&E from Centennial, OK	120 MW
• OMPA from Woodward, OK	51 MW
• AEP/PSO from Weatherford, OK	147 MW
• AEP/PSO from Blue Canyon II, OK	151 MW
• WFEC from Blue Canyon I, OK	74 MW
• Aquila from Montezuma, KS	112 MW
• KCP&L from Spearville, KS	100 MW
• Empire District from Elk River, KS	150 MW
• SPS from Quay County, NM	80 MW
• SPS/Xcel from San Juan Mesa, NM	120 MW
• SPS from White Deer, TX	80 MW
• SPS/Xcel from Wildorado, TX	160 MW
• SPS/Xcel from John Deere, TX	160 MW
• Miscellaneous	7 MW
• Total	1,563 MW
• Associated Electric / Mo. Projects	150 MW



Wind Project Locations in the SPP



More transmission in Western SPP grid or it may approach the limit of wind power it can support as soon as this year.



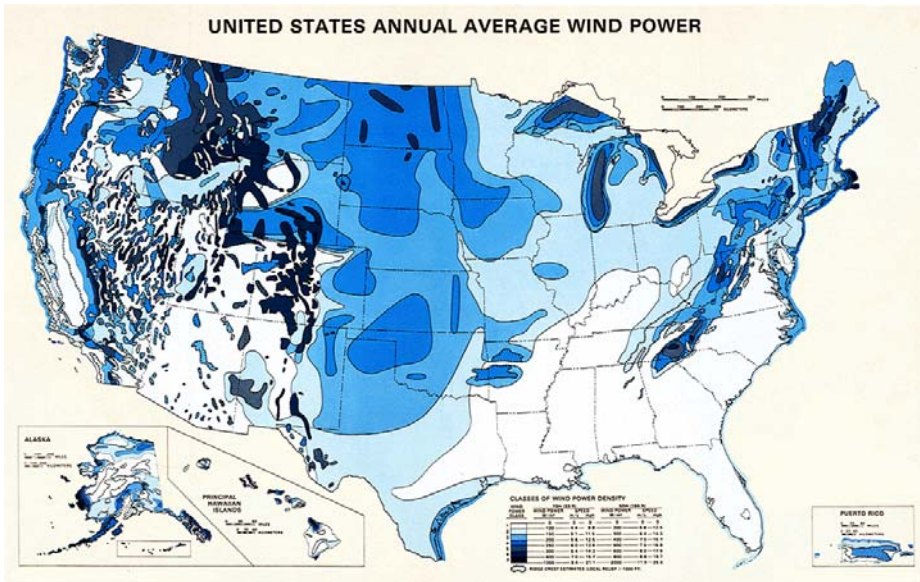
Wind Energy Development in the SPP

WIND ENERGY DEVELOPMENT POTENTIAL OF THE SPP



 The Wind Coalition

Future Wind Development Potential in the SPP



 The Wind Coalition

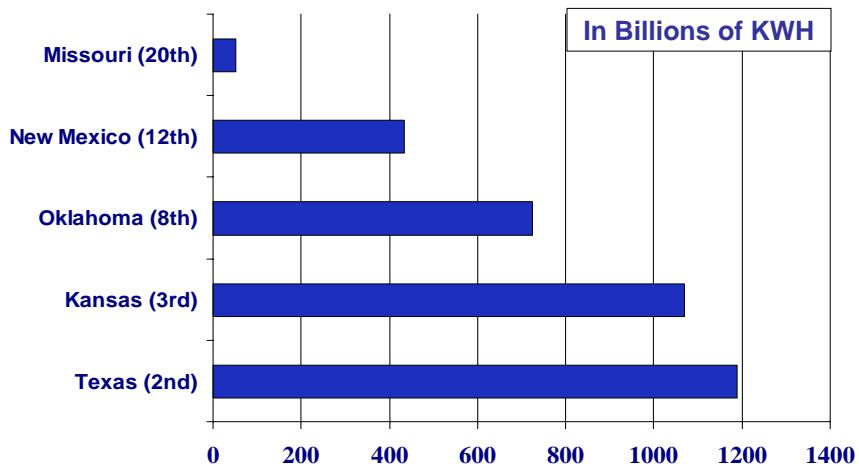
Potential Wind Projects in SPP

Current SPP interconnection queue of projects not in operation includes 11,457 MW of wind projects and 8,376 MW of fossil-fueled projects.

	<i>Existing or w/ PPA</i>	<i>Requests In Queue</i>
<i>Texas Panhandle</i>	<i>404 MW</i>	<i>4,120 MW</i>
<i>Oklahoma</i>	<i>595 MW</i>	<i>1,654 MW</i>
<i>New Mexico</i>	<i>200 MW</i>	<i>410 MW</i>
<i>Missouri</i>	<i>0 MW</i>	<i>700 MW</i>
<i>Kansas</i>	<i>364 MW</i>	<i>4,572 MW</i>
<i>Total</i>	<i>1,563 MW</i>	<i>11,457 MW</i>



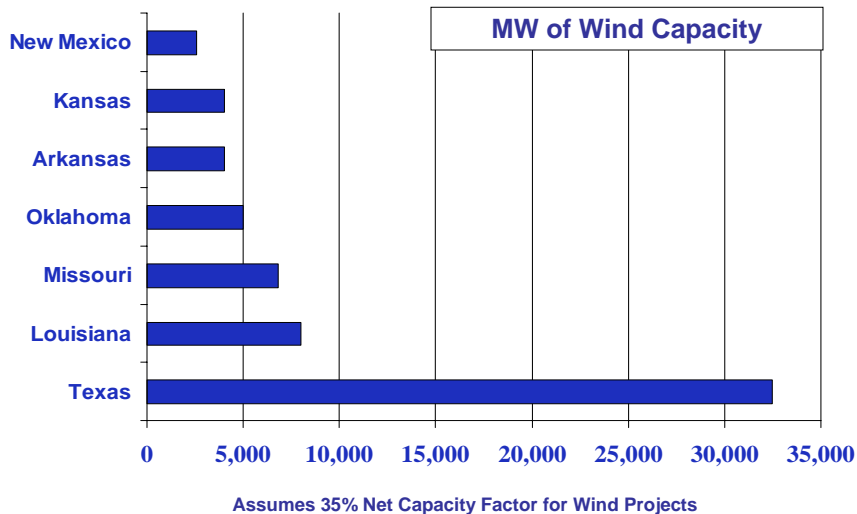
Estimated Annual Wind Energy Potential in SPP States



Source: An Assessment of the Available Windy Land Area and Wind Energy Potential in the Contiguous United States, Pacific Northwest Laboratory, August 1991. PNL-7789



Estimated Wind Capacity Needed to Meet 10% of Electricity Usage in 2050

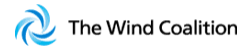


Benefits of Adding Economic Transmission Projects

- *Improved transmission reduces constraints and facilitates efficient delivery of most economic resources, reducing cost to end user.*
- *Projects needed for future reliability reasons constructed prior to critical need, resulting in improved current reliability*
- *Improves choices of municipal & cooperative utilities who depend on transmission for access to the most economic energy choices*
- *Facilitates development of region's wind resources – a local resource, not imported – in many areas desperate for economic development*
- *Long-term price stability*
 - *Increased wind in portfolio with long-term pricing*
 - *Reduction of congested flowgates*
 - *Reduced demand on natural gas = lower prices and less volatility*
- *Environmental benefits of wind and most efficient generators.*
- *Positions utilities in the region well in event of national RPS, carbon caps, carbon taxes or other emissions trading markets.*

Recent Quotes from FERC About Cost Allocation

- *Commissioner Kelly in MISO cost allocation order, ER06-18-004: “My personal feeling, based primarily on the fact that transmission facilities are the medium that permits adequate competition in generation, was that a higher level of socialization was probably desirable because of the public interest in healthy competition in generation. In other words, it is better to spend a little more on transmission if it will spawn larger savings in generation...society will be best served by building enough transmission to ensure adequate competition in generation.”*
- *Commissioner Wellinghoff in MISO cost allocation order, ER06-18-004: “It is important to recognize that the development of transmission facilities may benefit a wide range of customers, and that many types of benefits may warrant consideration in evaluating a project’s impact. Where a project has widespread benefits, it is appropriate for costs associated with that project to be allocated broadly, as well.”*



Favorable Trends or Concepts Considered in SPP

- *Implementation of energy imbalance market and move towards full LMP market*
- *Regional resource planning that considers the combined cost of generation and transmission*
- *Base-funding treatment for a portfolio of economic transmission projects*
- *Real-time transmission conductor rating*
- *Potential use of redispatch protocols allowing interconnection while line upgrades being made*
- *Growing support for construction of Kansas/Panhandle or “X-Plan”*
- *Support of SPP Board Members and Strategic Planning Committee for more favorable treatment of economic transmission projects*



Impediments to Economic Transmission Projects in the SPP

- *Substantial disagreement on assumptions used to estimate benefits and costs*
- *Very little assurance of cost recovery offered via Attachment Z*
- *High potential for free-rider effect*
- *Working through SPP Committee structure can be long, drawn out process*
- *Aggregate study process cycle difficult for generation developers to adapt to and expensive to participate in*



Impediments to Wind Growth in the SPP

- *SPP stakeholder process heavily weighted toward traditional utilities - no renewable energy companies, environmental advocates or ratepayer advocates have a vote*
- *Diversity of state objectives*
- *Primary emphasis on reliability and transmission costs, with only secondary emphasis on overall energy price, and very little on environmental or economic development issues*
- *Transmission planning process often takes years to go from identified need to actual construction*
- *Wind capacity accreditation value – one of the lowest in the country, if not the lowest.*
- *No conditional firm service tariff available in SPP.*



Impediments to Wind Growth in the SPP

- *Problems with existing aggregate study process*
 - *Long process generally incompatible with wind development business cycle (contract negotiations, turbine procurement, PTC cycles)*
 - *Forces identification of customer and point of delivery several years in advance*
 - *Expensive to participate in*
 - *Used by too many parties for screening the all-in cost of new generation*
 - *Results somewhat meaningless and potentially misleading until the last stages*



What Can Facilitate Wind Development in SPP?

- *Base funding for a portfolio of economic transmission projects providing benefits across the SPP region.*
- *Cost recovery assurance for builders/owners of a strong, EHV transmission network.*
- *Regional resource planning that considers the combined cost of generation and transmission*
- *Full implementation of LMP market with day ahead settlement and real time settlement*
- *Transmission planning reflecting the 40 to 50 year life of these assets and the long-lead time required for routing, permitting, ROW acquisition, and construction.*



What Can Facilitate Wind Development in SPP?

- *Timely transmission additions & upgrades necessary to support large-scale wind development in SPP region.*
- *Speedy approval of a conditional firm service tariff with at specified cap on curtailment levels for at least five-years.*
- *Wind integration study for SPP region to prove that cost of large scale wind integration is small compared to large benefits of low cost, stable price, regional economic development and environmental friendliness.*
- *Wind capacity accreditation values consistent with other regions of the country.*



Summary

- *Wind energy is the most rapidly growing type of generation resource in the SPP.*
- *The SPP region has some of the greatest and most abundant wind resources in the United States.*
- *The current cost recovery protocols for economic transmission projects in the SPP has resulted in construction of very few projects.*
- *Lack of transmission capacity and uncertain cost recovery for transmission additions are the largest barriers to future wind development in the region.*
- *The wind industry supports the concept of base funding for a portfolio of economic transmission projects.*
- *Assurance of cost recovery for transmission owners is necessary for construction of a reliable and efficient transmission grid.*

