

K A N S A S   B A R   A S S O C I A T I O N

# *Wind Energy Law: The Whirlwind Tour*

4.5 hours CLE credit

May 13, 2008 - Garden City  
Best Western Wheatlands Hotel

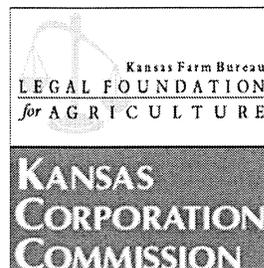
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## Wind Energy Law: The Whirlwind Tour

- 8:00 a.m.**      **Registration and Continental Breakfast**
- 8:30 a.m.**      **Wind Energy Law: an overview of engineering, regulations and economics and the legal implications of each arena**  
*Bob Glass, Acting Chief Economist, Kansas Corporation Commission, Topeka*  
*Krista J. Gordon, Project Manager, Hays Wind Project, Iberdrola Renewable Energies USA, Hays*  
*W. Thomas Stratton, Jr., Chief Litigation Counsel, Kansas Corporation Commission, Topeka*
- 9:20 a.m.**      **Wind Farm Industry Agreements: leasor/leasee relationship - the industry from an inside perspective. What do attorneys for each party need to be certain is in a contract?**  
*Krista J. Gordon, Project Manager, Hays Wind Project, Iberdrola Renewable Energies USA, Hays*  
*Melvin J. Sauer, Jr., Attorney, Dreiling Bieker & Hoffman, Hays*
- 10:10 a.m.**      **Break**
- 10:25 a.m.**      **Case Law Update**  
*Prof. Roger A. McEowen, Leonard Dolezal Professor in Agricultural Law; Director of the ISU Center for Agricultural Law and Taxation, Iowa State University, Ames, IA*
- 11:40 a.m.**      **Best Practices Panel**  
*Bob Glass, Acting Chief Economist, Kansas Corporation Commission, Topeka*  
*Krista J. Gordon, Project Manager, Hays Wind Project, Iberdrola, Hays*  
*Stuart S. Lowry, Executive Vice President/General Counsel, Kansas Electric Cooperatives, Inc., Topeka*  
*Prof. Roger A. McEowen, Leonard Dolezal Professor in Agricultural Law; Director of the ISU Center for Agricultural Law and Taxation, Iowa State University, Ames, IA*  
*Melvin J. Sauer, Jr., Attorney, Dreiling Bieker & Hoffman, Hays*  
*W. Thomas Stratton, Jr., Chief Litigation Counsel, Kansas Corporation Commission, Topeka*
- 12:30 p.m.**      **Adjourn**



**Bob Glass, Acting Chief Economist, Kansas Corporation Commission, Topeka**

Glass has an M.A. and Ph.D. in economics from the University of Kansas where he worked for twenty-two years doing economic research before joining the KCC.

**Krista J. Gordon, Project Manager, Hays Wind Project, Iberdrola Renewable Energies USA, Hays**

Krista is a wind project developer with 5 years in the wind industry. She is a Kansas native and holds a B.S.E.E. from Wichita State.

**Stuart S. Lowry, Executive Vice President/General Counsel, Kansas Electric Cooperatives, Inc, Topeka**

As the executive vice-president and general counsel at Kansas Electric Cooperatives, Inc., the statewide association of electric cooperatives, Lowry serves as the electric cooperative representative to the Kansas Energy Council, a state policy making board addressing a wide range of energy issues. Prior to assuming the statewide managers position in July 2004, he was a partner in the law firm of Lowry & Johnson in Valley Falls, Kansas, where he served as corporate counsel to the statewide and six distribution electric cooperatives and as special counsel to others on the many legal issues facing electric cooperatives in Kansas, including corporation commission proceedings, bylaw revisions and development of service rules and regulations for deregulated cooperatives.

Lowry is a native of Valley Falls and is a graduate of the University of Kansas and Washburn University School of Law

**Prof. Roger A. McEowen, Leonard Dolezal Professor in Agricultural Law; Director of the ISU Center for Agricultural Law and Taxation, Iowa State University, Ames, IA**

McEowen has published scholarly articles in numerous legal and tax journals, is the lead author of a 1,300-page textbook/casebook on agricultural law and is the lead author or co-author of several Bureau of National Affairs (BNA) Tax Management Portfolios.

**Melvin J. Sauer, Jr., Dreiling, Bieker & Hoffman LLP, Hays**

Sauer has practiced law for 17 years with Dreiling, Bieker & Hoffman LLP, whose clients include Midwest Energy, Inc., and Iberdrola Renewable Energies USA. He graduated with a B.A. in Political Science from the University of Kansas in 1987, and received his law degree from Washburn University in 1990. Sauer is a member of the American Bar Association, Kansas Bar Association, and is Past President of Kansas Legal Services, Inc.

**W. Thomas Stratton, Jr., Chief Litigation Counsel, Kansas Corporation Commission, Topeka**

Stratton coordinates representation of the Commission's Staff in dockets at the Commission and representation of the Commission in dockets at the Federal Energy Regulatory Commission. He also assists with administrative and legislative issues.



# UPCOMING CLE SEMINARS

## MAY

-  **14 – Representing Parents in CINC & TPR Cases/Immigration & Domestic Violence Issues**  
Erna Loomis  
Telephone CLE  
1.0 hour CLE credit
-  **21 – So, You're Going to Trial...Criminal Law**  
James E. Rumsey  
Telephone CLE  
1.0 hour CLE credit
-  **28 – Immigration: State & Federal Legislative Updates**  
Angela Ferguson  
Telephone CLE  
1.0 hour CLE credit

## JUNE

- 13 – Legislative & Case Law Institute Video Debut**  
Multiple sites: Lenexa, Wichita, Topeka  
\*8.0 hours CLE credit, including 2.0 hours professional responsibility credit
- 19 - 21 – 126<sup>th</sup> KBA Annual Meeting**  
Capitol Plaza, Topeka  
13.5 hours CLE credit, including 5.0 hours professional responsibility credit
- 24 – Brown Bag Ethics Video Replay (morning and afternoon)**  
Topeka  
\*2.0 hours CLE credit, including 2.0 hours professional responsibility credit
- 25 – Brown Bag Ethics Video Replay (morning)**  
Multiple sites: Dodge City, Lenexa, Wichita, Topeka  
2.0 hours CLE credit, including 2.0 hours professional responsibility credit
- 25 – Environmental Video Replay (afternoon)**  
Multiple sites: Lenexa, Wichita, Topeka  
\*4.0 hours CLE credit
- 26 – Environmental Video Replay (morning)**  
Multiple sites: Lenexa, Wichita, Topeka  
\*4.0 hours CLE credit
- 26 – Brown Bag Ethics Video Replay (afternoon)**  
Multiple sites: Phillipsburg, Lenexa, Wichita, Topeka  
2.0 hours CLE credit, including 2.0 hours professional responsibility credit

**27 – Brown Bag Ethics Video Replay (morning and afternoon)**

Topeka

\*2.0 hours CLE credit, including 2.0 hours professional responsibility credit

**28 – Legislative & Case Law Institute Video Replay**

Multiple sites statewide & Washington, D.C. (19)

\*8.0 hours CLE credit, including 2.0 hours professional responsibility credit

**30 - Legislative & Case Law Institute Video Replay**

Topeka

\*8.0 hours CLE credit, including 2.0 hours professional responsibility credit

**JULY**

**10 – Legislative & Case Law Institute Video Replay**

Topeka & Shawnee Co. Public Library, Topeka

\*8.0 hours CLE credit, including 2.0 hours professional responsibility credit

**16 – Environmental Video Replay (morning)**

Topeka & Shawnee Co. Public Library, Topeka

\*4.0 hours CLE credit

**17 – Brown Bag Ethics Video Replay (morning and afternoon)**

Topeka & Shawnee Co. Public Library, Topeka

\*2.0 hours CLE credit, including 2.0 hours professional responsibility credit

**24 – Brown Bag Ethics Video Replay (morning)**

Topeka & Shawnee Co. Public Library, Topeka

\*2.0 hours CLE credit, including 2.0 hours professional responsibility credit

**24 – Environmental Video Replay (afternoon)**

Topeka & Shawnee Co. Public Library, Topeka

\*4.0 hours CLE credit

**AUGUST**

**6 – Legislative & Case Law Institute Video Replay**

Topeka & Shawnee Co. Public Library, Topeka

\*8.0 hours CLE credit, including 2.0 hours professional responsibility credit

**13 – Brown Bag Ethics Video Replay (morning and afternoon)**

Topeka & Shawnee Co. Public Library, Topeka

\*2.0 hours CLE credit, including 2.0 hours professional responsibility credit

**22 – Brown Bag Ethics Video Replay (morning)**

Topeka & Shawnee Co. Public Library, Topeka

\*2.0 hours CLE credit, including 2.0 hours professional responsibility credit

**22 – Environmental Video Replay (afternoon)**

Topeka & Shawnee Co. Public Library, Topeka

\*4.0 hours CLE credit

\*The KBA has applied for continuing legal education (CLE) credit for this seminar. To confirm CLE credit approval prior to the seminar date, please visit our website.

**For further information & updates, please visit our website at [www.ksbar.org](http://www.ksbar.org)**

# Wind Energy Law: The Whirlwind Tour

May 13-16, 2008

Garden City, Hays, Wichita, Salina

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### Special Thanks to:

Mike Irvin of the Kansas Farm Bureau Legal Foundation for Agriculture and Bruce Kent of the Kansas State University Foundation for their enthusiasm and interest in initiating this innovative program and their support in the planning and presentation it. Thanks also to Tom Wright of the Kansas Corporation Commission and Don Hoffman, Dreiling Bieker & Hoffman, Hays, for their participation in the brainstorming and the support of the program.

### Additional thanks to:



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KANSAS STATE UNIVERSITY  
FOUNDATION



## Section 1

Wind Energy and the Law: an overview of  
engineering, regulations and economics and  
the legal implications of each arena

**Bob Glass**

*Kansas Corporation Commission  
Topeka, KS*

**Krista J. Gordon**

*Iberdrola Renewable Energies USA  
Hays, KS*

**W. Thomas Stratton, Jr.**

*Kansas Corporation Commission  
Topeka, KS*



# Wind Energy Law: A Whirlwind Overview of Engineering, Regulations and Economics and the Legal Implications of Each Arena

Krista J. Gordon  
IBERDROLA RENEWABLES  
May, 2008

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## Transmission / Interconnection

- Kansas is part of the Southwest Power Pool
- Interconnection service request process involves 3 studies, usually taking a year or more
- Deposits total \$160,000+
- All new generators (gas, nuclear, coal, etc.) go through the same process
- Transmission service request is separate



(Image from www.SPP.org)

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## Permitting requirements

- Kansas has taken a “hands off” approach in permitting wind projects. Local governments have control.
- No state permitting requirements.
- Flint Hills is a *voluntary* exclusion zone.



(Image from www.kcc.state.ks.us)

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## Existing Wind Projects

- Montezuma – Gray County is zoned, but no regs for wind.
  - Elk River – Butler County is zoned, and there are regs for wind.
  - Spearville – Ford County is zoned, but no regs for wind.
  - Smoky Hills – Lincoln County is not zoned, and no regs for wind.
- Ellsworth County is not zoned, and no regs for wind.




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## Property taxes

Kansas has exempted wind projects from property taxes. However, voluntary payments in lieu of taxes (PILOTs) to counties are common.

- Gray County, 112MW at \$305,000 (escalating with CPI) for 10 years
- Butler County, 150MW at \$150,000 for 15 years
- Ford County, 100MW at \$221,628 (escalating at 2.5%) for 30 years
- Ellsworth / Lincoln Counties, 100MW at \$300,000 (1<sup>st</sup> phase)

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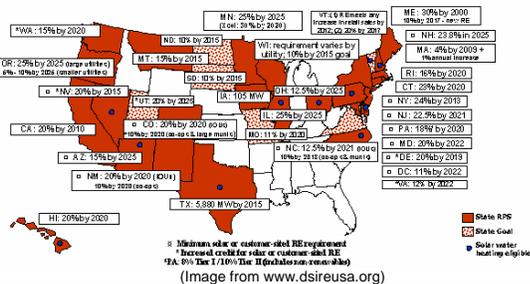
## State renewable energy goals

Kansas: 10% by 2010 and 20% by 2020

DSIRE: [www.dsireusa.org](http://www.dsireusa.org)

May 2008

### Renewables Portfolio Standards




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## ***Breezing through Kansas Wind Energy Law***

**Tom Stratton**

**K.B.A. “Wind Energy Law: The Whirlwind Tour” May 13-16, 2008.**

If enough people think of a thing and work hard enough at it, I guess it's pretty nearly bound to happen, wind and weather permitting.....Laura I. Wilder

The wind is a very difficult sound to get. It's always changing....Don Van Vliet

### **Disclaimer**

Neither the text of this presentation nor anything said or gestured in the course of it is a statement being made by me on behalf of the Kansas Corporation Commission.

### **Introduction**

There are many points of disagreement concerning energy these days. Because the issues surrounding wind energy are so contentious, it is most valuable to focus on areas where consensus is most likely, then building on that consensus. Wind energy brings together many positive aspects of generation. In Kansas the wind is bountiful, there is no fuel cost once the infrastructure is in place, its impact on the environment is comparatively benign, and some even contend that the generators look impressive once they are up and running. It appears possible that there will be 1,000 megawatts (MW) of wind on line in Kansas by the end of 2008, with estimates for the maximum potential in Kansas exceeding 5,000 MW. To optimize the potential for wind generation in Kansas, a clear understanding of the controlling laws is necessary. The KCC plays a pivotal role in the administration of many of these laws.

### **KCC Mission Statement**

The mission of the KCC is to protect the public interest through impartial and efficient resolution of all jurisdictional issues. The agency shall regulate rates, service and safety of public utilities, common carriers, and motor carriers. The agency shall also regulate oil and gas production to protect correlative rights and environmental resources.

### **KCC Structure & Organization**

The three-member Commission is appointed by the Governor with the approval of the Senate. Members serve staggered four-year terms. The law provides that no more than two of the three commissioners may belong to the same political party.

Commissioners elect one of their colleagues as Chairman. The Chairman acts as agency head with input and ratification from the other members. The Commission is presently comprised of Chairman Thomas E. Wright, Commissioners Michael C. Moffet and Joseph F. Harkins. The Commission acts independently as a quasi-judicial branch of the government with authority to render judgments and decisions on jurisdictional issues.

### **KCC's Regulatory Authority, Electricity**

The authority of the KCC is derived from K.S.A. 74-601 to 74-631.

The Commission's regulatory authority is found in the Kansas Public Utilities Act, K.S.A. 66-101 *et. seq.* The KCC has the responsibility of ensuring that electricity providers provide safe, adequate and reliable services at reasonable rates.

In the absence of competition, the KCC regulates investor-owned electric utilities. The KCC has jurisdiction over all investor-owned and some cooperative<sup>1</sup> transmission, generation and distribution electric public utilities. The Commission also has jurisdiction over municipal electric utilities with customers more than three miles outside the corporate limits of the municipality, so long as no more than 40% of the customers are located beyond the three-mile zone and the rates charged to those customers are the same as the rates charged to customers within the corporate limits.<sup>2</sup> The KCC's regulation extends to such areas as rates, fees, charges, services, acts, practices, rules and regulations.

### **Relevant Kansas Statutes**

A selection of Kansas Statutes that are important to issues of wind generation or transmission are as follows:

K.S.A. 66-104: This statute defines a "public utility" subject to the Commission's jurisdiction. Subsection (e) is significant, in the sense that it gives the *option* to be governed by the KCC to otherwise jurisdictional entities engaged in generation, marketing and sale of electricity generated by an electric generation facility or an addition to such a facility which is newly constructed and placed in service after January 1, 2001 and is not in the rate base of a currently regulated electric public utility,

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<sup>1</sup> Rural electric cooperatives with fewer than 15,000 customers may be exempt from KCC regulation over rates and services upon appropriate petition to the co-op board and vote of the members. K.S.A. 66-104d.

<sup>2</sup> Prior to the 2007 legislative session, the KCC regulated municipal utilities to the extent they had customers more than three miles outside the corporate limits. The further limitations on the KCC's jurisdiction, described herein, resulted from the enactment of House Bill 2032, effective July 1, 2007.

cooperative or municipally owned and operated electric utility. One wind farm elected to submit to KCC jurisdiction under this statute, based on the benefits of having that status that it received in connection with the siting process.

K.S.A. 66-128: For rate-making purposes, an electric generation facility that converts wind is deemed to be used and required to be used in the public utility's service to the public, and therefore may be valued as construction work in progress, even if it has not been completed.

K.S.A. 66-1,184: The Kansas Parallel Electric Generation Services Act, which passed in 2001, authorizes interconnection of wind generation with a capacity of 25 kW or less for individuals, 200 kW or less for commercial customers and 1.5 MW or less for either of two community colleges, with a commensurate obligation on the part of the electric utility to pay no less than 150% of the utility's monthly system average cost of energy per kWh to customers with excess energy to sell. The KCC is given authority to set terms for interconnection if the parties cannot agree.

K.S.A. 66-1,184a: Authorizes KCC to allow an electric public utility to retain a percentage of off-system sales of wind generation.

K.S.A. 66-1243: Authorizes interconnection for those constructing electric generation facilities of 100 kW or more, after January 1, 2004.

K.S.A. 66-1244: Authorizes KCC to review and approve sale of transmission to or contracts for operation of transmission by approved companies and operators.

K.S.A. 66-1247: Allows recovery of all costs from all benefiting utilities when electric transmission lines are constructed or upgraded.

K.S.A. 12-895: Allows for creation of Municipal Energy Agencies.

K.S.A. 58-2272: Designates information required to be included in conveyances of interests involving wind resources and technologies.

From *Kansas Energy Plan 2007*, Kansas Energy Council:

...Kansas Property Tax Exemption is available for "all property actually and regularly used predominantly to produce and generate electricity utilizing renewable energy resources or technologies." (Definition includes wind) [K.S.A. 79-201, *Eleventh*].

Kansas Sales Tax Exemption [K.S.A. 79-3606(cc)] provides sales tax exemptions on certain sales of tangible personal property or services. An exemption certificate must be acquired from the state.

Kansas Job Creation Tax Credit [K.S.A. 79-32,160a] provides income tax credits under specific circumstances for projects that create at least five new jobs.

A group of Kansas laws were amended in 2003 to allow the formation of renewable energy co-ops consisting of five or more persons that produce at least 100 kilowatts (kW) of energy (includes many but not all of the following: K.S.A. 17-4655 through 17-4681).

From *Wind Energy Siting Handbook: Guideline Options for Kansas Cities and Counties*, Kansas Energy Council:

... The authority to regulate land use in Kansas is under the purview of local governments through the state's planning and zoning statutes. (K.S.A. 12-741 et seq.)

#### **Relevant Commission Dockets**

The following dockets may be found at <http://kcc.ks.gov/docket/docket.htm>.

04-GIME-080-GIE: In the Matter of a General Investigation to Establish Standard Procedures and Agreements for Interconnection Between Electric Public Utilities and Parallel Generation Facilities.

This docket addresses various interconnection standards which were implemented in accordance with K.S.A. 66-1238. Many utilities filed interconnection tariffs for approval in this docket. The docket was eventually closed, in deference to the following docket.

07-GIME-104-GIV: In the Matter of the General Investigation Initiated for the Purpose of Complying with Section 1254 of the Energy Policy Act of 2005 Related to Interconnection of Customer Generation.

The Commission initiated an investigation to consider the interconnection requirements as directed by the Energy Policy Act of 2005, (EPACT 2005). EPACT 2005 mandated Commission evaluation of three standards: mandatory interconnection; the standard for which to technically evaluate an interconnection request; and uniform and non-discriminatory provision of interconnection services. In considering these three

standards, the Commission required all jurisdictional utilities to submit comments regarding the above-quoted interconnection standard and four particular questions posed in the Order. The final order contains the Commission's resolution of these questions.

08-WSEE-309-PRE: In the Matter of the Petition of Westar Energy, Inc. and Kansas Gas and Electric Company (Collectively "Westar") for Determination of the Ratemaking Principles and Treatment that Will Apply to the Recovery in Rates of the Cost to be Incurred by Westar for Certain Electric Generation Facilities and Power Purchase Agreements Under K.S.A. 2003 Supp. 66-1239.

On October 1, 2007, Westar filed its Application pursuant to K.S.A. 2006 Supp. 66-1239 seeking a predetermination of ratemaking principles and treatment to be applied to Westar's proposed investment in 295 MW of wind generation. In its Application, Westar proposed to purchase and own approximately 149 MW of wind generation and to purchase approximately 146 MW of electricity from wind through power purchase agreements (PPAs) to be in operation by the end of 2008. The Commission issued its order on December 27, 2007.

**Federal Energy Regulatory Commission and Southwest Power Pool**

Note: This part was appropriated in significant part from Jason Gray, a recently departed KCC Litigation Counsel who went on to his reward, a FERC practice with a D.C. firm. Larry Holloway, KCC's Chief of Energy Operations was also a major contributor.

The FERC has many roles, such as gas pipeline regulation, liquid natural gas siting, hydroelectric regulation and regulation of wholesale electricity markets, which the KCC actively participates in regulating through filings at FERC and through participation at the Southwest Power Pool (SPP).

In response to various efforts to open wholesale competition, specific provisions of the Energy Policy Act (EPACT) of 1992 encouraged competition in the wholesale electricity industry. In response to EPACT's objectives, the FERC issued Order Nos. 888 and 889 on April 26, 1996, to "remove impediments to competition in wholesale trade and to bring more efficient, lower cost power to the Nation's electricity customers." These were part of FERC's open access initiative that included other orders, Order 2000 (1999) and Order 890 (2007). Following are the important provisions included in these orders.

Order 888: This landmark 1996 order opened private transmission systems by prohibiting discriminatory practices. The Commission's goal was to remove impediments to competition in the wholesale bulk power marketplace and to bring more efficient, lower cost power to the Nation's electricity consumers. FERC Order 888 mandated the unbundling of electrical services and the separation of marketing functions for these newly-disaggregated services, required utilities to provide open access to their energy rate schedules (tariffs), and gave existing utilities who may have made substantial investments based on older regulations the right to recover their stranded costs from energy customers.

FERC Order 889 established standards regarding the information utilities must make available to the marketplace and established an Open Access Same Time Information System (OASIS), which allows energy customers on the wholesale market to schedule and reserve capacity on regional energy grids. This enables customers to insure that energy can be delivered without competitive interference. FERC order 889 also prohibits utilities from sharing market information in any way that prevents access to this information by potential competitors, and requires all such information to be posted on OASIS.

Independent System Operators (ISOs) and Regional Transmission Organizations (RTOs) emerged under the new framework. What is the difference? To the extent that entities both plan regionally, there is no difference. In fact, many of the first ISOs are now RTOs, too. However, ISOs generally are focused more narrowly, i.e. California ISO serves only California whereas our RTO, the SPP, serves Kansas, Oklahoma, Arkansas, Missouri, Texas, Louisiana, and New Mexico.

FERC Order 2000 (1999) encouraged utilities to join RTOs. The Commission's goal is to promote *efficiency* in wholesale electricity markets and to ensure consumers pay the lowest possible price for *reliable* service. The FERC articulated what characteristics an entity must show to be a Regional Transmission Operator. An Operator: must be independent from market participants; must serve a region of sufficient size to permit the RTO to be effective; will be responsible for "operational

control” of the region’s transmission system; and will be responsible for maintaining the short-term reliability of the grid.

Most Kansas utilities, with the KCC’s approval, have turned over operational control of their transmission systems to SPP, as the RTO that serves Kansas. The KCC has also approved SPP’s application to act as a public utility for the limited purpose of managing and coordinating certain transmission facilities in Kansas. Commissioner Moffet actively serves on SPP’s Regional State Committee (RSC), which is made up of one commissioner from each SPP state and advises the SPP board. Pursuant to K.S.A. 74-633, Commissioner Moffet is authorized to participate fully in SPP decision-making, whether the decisions are advisory or binding on SPP. This participation does not limit the KCC’s regulatory jurisdiction or authority to appeal any SPP decision to the FERC. Further, this participation doesn’t relieve the KCC of its obligation and authority to ensure electric public utilities provide efficient and sufficient service. All SPP states, except Louisiana, are actively involved in the SPP RSC. Louisiana monitors, but does not participate.

Like other ISO/RTOs, SPP has a long history dating to before the formal rise of RTOs. As part of the war effort, SPP was formed in 1941 to coordinate electric reserves for area utilities supplying electricity to a critical aluminum plant in Arkansas. Coordinating electric reserves is the key concept because it allowed interconnected utilities to provide reliable service without a large amount of redundant electric generation facilities. SPP also acted as the transmission reliability council for Kansas prior to becoming an RTO.

RTO’s allow for reserve sharing. Without reserve sharing and the ability to back up interconnected utilities, SPP estimates utilities would need to 50% more generation capacity than their maximum demand (i.e. 50% more than their peak load). With reserve sharing, SPP utilities only need to have 12% more generation capacity than their peak load for the same system reliability. This equals massive cost savings.

FERC Order 890 brought together these changes in federal regulatory policy to promote wholesale competition and regional transmission planning and coordination. Like FERC Orders 888 and 889, Order 890 was designed to strengthen prevention efforts

regarding undue discrimination and preference in transmission service. Building on the foundation established in FERC Order 888, this 2007 order reformed the open access transmission regulatory framework. FERC Order 890 provided a template Open Access Transmission Tariff (OATT) for utilities to use [actually, 888 provided the first OATT template, based on a market based tariff filed by KCPL in 1995]. SPP and some Kansas utilities use formula transmission rates consistent with this order.

FERC Order 890-A, the Order on Rehearing of Order 890, became effective March 17, 2008. It made revisions to Order 890, in furtherance of its goal of preventing undue discrimination and preference in transmission service. It seeks to accomplish this by: (1) strengthening the pro forma OATT to ensure that it achieves its original purpose of remedying undue discrimination; (2) providing greater specificity to reduce opportunities for undue discrimination and facilitate the Commission's enforcement; and (3) increasing transparency in the rules applicable to planning and use of the transmission system. See FERC Order 890-A, Open Access Transmission Tariff:

What is the next step under this framework? Transmission infrastructure must be built to utilize renewable resources that cannot be located near the load, such as wind. This construction is intended to resolve congestion problems by allowing optimum economic dispatch of generation units, lowering production costs, decreasing line losses; and increasing reliability by creating redundancies, thus avoiding the otherwise possibly decimating effects on our power supply of system disruptions, ice storms, tornadoes, etc.

SPP's planning includes short-term and long-term regional transmission planning. SPP models the impact of planned generation resources, the need to replace old lines, lowering generation production costs, assuring that load has access to generation and that generation reserves may be shared throughout the region. Of course the primary objective of all of these efforts is to keep the lights on. Much like SPP, the other ISO/RTOs conduct regional planning.

When considering these efforts, it is important to note that there will nearly always be transmission congestion. Transmission congestion occurs when transmission paths are constrained, which may limit power transactions because of insufficient capacity. Congestion may be relieved by increasing generation or reducing load.

Congestion will always be present because the market will dispatch the cheapest generation until the transmission capacity is fully used. The key is economics. It is important that less expensive transmission capacity is built to save more expensive generation fuel costs due to uneconomic dispatch. Beyond that, you want to make sure that generation can access load, or customer demand. That is to say, a load's generation, say Westar's Oklahoma combustion turbines, should be available—through transmission—to get to the point of customer demand, thus providing generation capacity.

SPP states that its RTO Expansion Planning is an open and transparent effort to assess regional transmission network improvement needs from both reliability and economic perspectives. Its Transmission Expansion Plan 2008-2017 identifies approximately \$2.2 billion of transmission network upgrades for the years 2008 through 2017. A summary of these network upgrades by type is provided by SPP. These are provided by SPP in two documents, reproduced in their entirety on its web site. The document that is board-approved may not be reproduced without permission, due to security reasons, even though it appears in its entirety on the web site. The other bears no such admonition, so it seems safe to tell you that in its report summary SPP states the planned upgrades are required due to transmission service requests and generation interconnections with executed service agreements, Transmission Owner planned network upgrades, economic upgrades with executed service agreements, and upgrades identified by SPP needed to meet SPP reliability criteria and NERC reliability standards. The expansion plan is located at:

[http://www.spp.org/publications/2007%20SPP%20Transmission%20Expansion%20Plan%2020080131\\_BOD\\_Public.pdf](http://www.spp.org/publications/2007%20SPP%20Transmission%20Expansion%20Plan%2020080131_BOD_Public.pdf)

SPP's "Open Access Transmission Tariff for Service Offered by Southwest Power Pool" is 137 pages long, but with schedules and attachments is 1294 pages long. It is located at: [http://www.spp.org/publications/SPP\\_Tariff.pdf](http://www.spp.org/publications/SPP_Tariff.pdf)

The Department of Energy also conducted a congestion study (pursuant to EPAct 2005) to identify "congestion corridors." Congestion corridors are areas where new transmission must be built to address a national concern. DOE identified two corridors, in the Mid-Atlantic and Southwest. The corridors are significant because Congress gave

FERC backstop siting authority to site the location for these lines if states deny certificates or refuse to act. There are currently appeals based on principles of federalism.

In summary, Congress enabled FERC to regulate wholesale electricity markets. It did this through Orders 888, 889, 2000, and 890, which serve as a continuum creating the regulatory framework. Following these orders, the States and RTOs plan transmission, subject to the ability of FERC to act where it deems states to have failed.

### **Interconnection to the transmission system**

There are some important details that you should be familiar with, pertaining to interconnection of wind generators with the electric system. First, for very small wind generators that are connected to the utilities distribution system, the Commission has required all jurisdictional utilities in Kansas to have approved interconnection procedures. Additionally, even utilities the Commission does not regulate, such as many of the rural electric cooperatives and municipal utilities, are required to connect customer owned wind generation per K.S.A. 66-1,184, the parallel generation act.

The FERC has addressed larger wind generators connected to the transmission system. However it is important to understand that interconnection, as defined by the FERC and the SPP, is not the same as transmission service. When a wind farm requests an interconnection study at SPP, the amount of transmission facilities and upgrades necessary to allow the wind farm to generate to the transmission system, *if all other generation is ramped down* is calculated. Generally speaking, this only includes breakers and other substation equipment necessary to “plug in.” However, if the wind farm wishes to be able to deliver its electric output to a specific customer or customers, a transmission service request is also needed. This is where the more expensive transmission upgrades occur. A policy regarding how these “network upgrades” are funded for wind farms is currently being reviewed at SPP. For now, however, most of the network upgrades costs associated with an actual wind farm purchase power agreement would be the responsibility of the customer or the wind farm, depending on the nature of the contract. For example a wind PPA that requires the wind farm to deliver the power to a specific customer would require the wind farm to pay for the associated network upgrade costs.

On the other hand if the customer has to obtain the transmission service the customer must pay the costs. Either way this affects the value of the contract.

### **Conclusion**

I hope you have found this overview helpful. Following are a few FERC news releases and additional sources that may be of assistance.

### **APPENDIX A: FERC Order No. 661 News Release:**

#### **Commission finalizes grid-interconnection rule for large wind-power facilities**

In the latest of a series of actions designed to accommodate the growth in development of wind energy, the Federal Energy Regulatory Commission today finalized a rule addressing the interconnection requirements for wind power facilities larger than 20 megawatts.

The rule requires transmission providers to append new provisions to the standard agreement and procedures for interconnecting large generating facilities, which are required under their open-access transmission tariffs, in order to address technical requirements and procedures for integrating large wind power facilities into their transmission systems.

"These standard technical requirements and procedures provide just and reasonable terms for the interconnection of wind plants," the order states. "The rule recognizes the technical differences in the design and operational characteristics of wind generating technology, and benefits customers by removing unnecessary obstacles to further development of wind generating resources while ensuring that reliability is protected."

The rule addresses concerns of wind turbine manufacturers and wind power developers who sought standardized interconnection requirements. Having to meet widely varying standards across the country contributes to increased manufacturing costs for wind generators and serves as a barrier to development of this renewable resource.

The final rule provides that wind generators must meet the following conditions, if the transmission service provider demonstrates they are needed. First, if needed, a large wind generating facility must remain operational during voltage disturbances on the grid. Second, large wind plants must, if needed, meet the same technical criteria for providing reactive power to the grid as required of conventional large generating facilities. Third, the final rule provides for supervisory control and data acquisition (SCADA), if needed, to ensure appropriate real-time communications and data exchanges between the wind power producer and the grid operator.

These three requirements will apply only to interconnection agreements signed, filed with the Commission in unexecuted form, or filed as nonconforming agreements, on or after January 1, 2006, or the date six months after publication of the Final Rule in the Federal Register, whichever is later. After these three new requirements take effect, a large wind power plant will have to meet the low voltage ride-through and reactive power standards, but only if the transmission system operator demonstrates they are needed to safely and reliably connect each wind facility to its system.

Other requirements apply immediately when the rule takes effect 60 days after its publication in the Federal Register. Among these other provisions, the Commission allows the wind developer to provide a simplified electrical representation of its large wind farm to the transmission service provider when initially applying to connect with the grid. The wind developer may initially represent the facility, which would be made up of many small induction wind turbines, as a single large equivalent generator. The wind developer has six months from the date of its application to submit completed detailed electric design specifications.

Today's action fleshes out Appendix G of Order No. 2003-A, the Commission's order on rehearing of the final rule standardizing interconnection procedures for large generating facilities. In that order on rehearing about a year and a half ago, the Commission recognized that nonsynchronous large wind generating plants required separate treatment from traditional synchronous generating facilities, and provided for a blank Appendix G to the standard interconnection agreement. Today's final rule spells out the terms of that placeholder Appendix G in the standard large generator interconnection agreement and procedures.

The rule is among a series of actions and technical conferences the Commission has taken to help eliminate barriers to market entry for wind power and to modify Commission requirements to meet the unique characteristics of wind power and other intermittent power production. The Commission initiated an April 13, 2005, rulemaking to make changes necessary to accommodate wind power in the open-access transmission tariffs the Commission provided for in Order No. 888. Wind production has grown by an annual average rate of 20 percent since Order No. 888 was finalized in 1996. Earlier this month, the Commission finalized a small generator interconnection rule for projects less than 20 megawatts, which will help wind and all other smaller generation sources.

## **APPENDIX B: FERC Order No. 2006 News Release**

### **Commission Issues Standard Rule For Small Generator Interconnection; Action Will Facilitate Needed Infrastructure Development**

The Federal Energy Regulatory Commission today issued standard procedures for

the interconnection of generators no larger than 20 megawatts - a move that removes barriers to the development of needed infrastructure by reducing interconnection uncertainty, time and costs. In light of the importance of the rulemaking, the Commission has designated it as Order No. 2006.

Today's rule will help preserve grid reliability, increase energy supply, and lower wholesale electric costs for customers by increasing the number and types of new generators available in the electric market, including development of non-polluting alternative energy resources, the Commission said.

The rule reflects input from a broad-based group of utilities, small generators, state commission representatives, and other interested entities who came together to recommend a unified approach to small generator interconnection. This rule reflects many of these consensus positions as well as those of the National Association of Regulatory Utility Commissioners (NARUC). The rule harmonizes state and federal practices by adopting many of the best interconnection practices recommended by NARUC. It should help promote consistent, nationwide interconnection rules for small generators, the Commission said.

FERC Chairman Pat Wood, III said: "Today's rule takes us a step closer to truly non-discriminatory, competitive bulk power markets. Advances in technology have led to a growing industry of small power plants that offer economic and environmental benefits. Standardization of interconnection practices across the nation will lower costs for small generators, help ensure reliability, and help ensure reasonably-priced electric service for the nation's wholesale power customers."

The rule directs public utilities to amend their Order No. 888 open access transmission tariffs to offer non-discriminatory, standardized interconnection service for small generators. The amendments should include a Small Generator Interconnection Procedures (SGIP) document and a Small Generator Interconnection Agreement (SGIA).

The SGIP contains the technical procedures that the small generator and utility must follow in the course of connecting the generator with the utility's lines. The SGIA contains the contractual provisions for the interconnection and spells out who pays for improvements to the utility's electric system, if needed to complete the interconnection.

The rule applies only to interconnections with facilities already subject to the jurisdiction of the Commission; the Commission emphasized that it does not apply to local distribution facilities.

In July 2003, the Commission issued a final rule for facilities larger than 20 megawatts (Order No. 2003). At that time, the Commission proposed the rule for small generators. Approximately 70 entities commented on the proposed rule;

they generally supported the Commission's efforts to remove barriers to the development of small generators.

The final rule, *Standardization of Small Generator Interconnection Agreements and Procedures*, is effective 60 days after its publication in the *Federal Register*. Regional transmission organizations (RTOs) and independent system operators (ISOs) have an additional 90 days to comply.

See also FERC's Small Generator Interconnection Procedures (SGIP), For Generating Facilities No Larger Than 20 MW that accompanied Order No. 2006.

### **APPENDIX C: Some Helpful Resources**

*Kansas Energy Plan 2007*, Kansas Energy Council, January 2007.  
[http://www.kec.kansas.gov/energy\\_plan/energy\\_plan.pdf](http://www.kec.kansas.gov/energy_plan/energy_plan.pdf)

Wind Energy Siting Handbook: Guideline Options for Kansas Cities and Counties, Kansas Energy Council, April, 2005.  
[http://www.kec.kansas.gov/reports/wind\\_siting\\_handbook.pdf](http://www.kec.kansas.gov/reports/wind_siting_handbook.pdf)

*Wind and Prairie Task Force Final Report*, (Kansas Geological Survey Open-file Report 2004-29) June 7, 2004. See in particular Appendix 6—Wind and Prairie Task Force Guidelines for Kansas Landowners in Creating and Negotiating Equitable Wind Energy Leases.  
<http://kec.kansas.gov/wptf/WPTFFinalReport.pdf>

*Community Wind Financing: A Handbook by the Environmental Law & Policy Center*, Kubert, Charles, et. al. (2004). "This guidebook was created by Charles Kubert for the Environmental Law and Policy Center in 2004. It talks about business models, sources of equity, grant and loan programs, incentives, and power purchase agreements for community wind projects." (windustry.org)  
<http://www.elpc.org/documents/WindHandbook2004.pdf>

*The Law of Wind: A Guide to Business and Legal Issues*, Stoel Rives LLP, Third Edition (2007)  
[http://www.stoel.com/webfiles/LawOfWind\\_WEB\\_05\\_07.pdf](http://www.stoel.com/webfiles/LawOfWind_WEB_05_07.pdf)

*Wind Power: A Lawyer's Guide to Representing Landowners*, Ostrander, Mustafa P., Business Law Today, Vol 16, No. 6 (July/August 2007)  
By Mustafa P. Ostrander  
<http://www.abanet.org/buslaw/blt/2007-07-08/ostrander.shtml>

*Wind Power: Generating Electricity and Lawsuits*, Brown, Brit T. and Escobar, Benjamin A., Energy Bar Journal, Vol 28, No. 2 (2007).  
[http://www.eba-net.org/docs/elj282/Wind\\_Power.pdf](http://www.eba-net.org/docs/elj282/Wind_Power.pdf)

Sample Wind Farm Lease Option Agreement:

<http://www.horizonwind.com/projects/whatweredoing/topcrop/documents/27LivingstonSUPAppendix9LandOwnersandOA.pdf>

The Energy Programs Division's wind section on the KCC's website contains many helpful links: <http://www.kcc.state.ks.us/energy/wind.htm>









If you want to learn more about wind energy in Kansas, go to the Kansas Corporation Commission web page:

<http://kcc.ks.gov/>

And click on

[A Benefit Cost Study of the 2015 Wind Challenge](#)

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### I'm an Economist. What do I have to offer Lawyers?

- ➔ Not much – just ask Senator Hillary Clinton
- ➔ I do think I can help with one aspect of leasing land for the development of wind energy:
- ➔ **The payoffs for some land leases are based on the performance of the wind turbines, usually as measured by capacity factor.**

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### Capacity Factor

- ➔ The **capacity factor** is a measure of the amount of electricity generated as a percentage of the nameplate capacity for a generator.

$$\text{Capacity Factor} = \frac{\text{Total Generation}}{\text{Nameplate Capacity} \times \text{Period of Generation}}$$

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## Examples

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>Lake Benton I (Zond 0.75)</b>	Minnesota	107.25	1999	23.6%
			2000	29.2%
			2001	32.4%
			2002	34.6%
			2003	29.9%
			2004	23.8%
			2005	27.1%
			2006	29.6%
			2007	28.4%

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## Stable

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>Storm Lake 1 (Zond 0.75)</b>	Iowa	112.5	2000	29.1%
			2001	28.6%
			2002	28.8%
			2003	28.8%
			2004	28.9%
			2005	27.7%
			2006	29.2%

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## Not So Stable

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>Colorado Green Holdings LLC (GE 1.5)</b>	Colorado	162.0	2005	44.6%
			2006	34.7%
			2007	24.2%

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>Hancock County Wind Energy Center (Vestas 0.66)</b>	Iowa	98.0	2003	30.3%
			2004	31.5%
			2005	18.0%
			2006	29.9%
			2007	29.7%

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### Good Start Means ...

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>Ainsworth Wind (Vestas 1.65)</b>	Nebraska	59.4	2006	42.9%
			2007	34.9%

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>South Dakota Wind Energy Center (GE 1.5)</b>	South Dakota	40.5	2004	43.0%
			2005	42.9%
			2006	40.4%
			2007	40.8%

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### Kansas Wind Farm Performance

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>Gray County Wind Farm (Vestas 0.66)</b>	Kansas	112.2	2002	41.3%
			2003	37.1%
			2004	36.2%
			2005	35.6%
			2006	36.5%
			2007	35.8%

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### Newer Wind Farms in Kansas

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>Elk River (GE 1.5)</b>	Kansas	150	2006	40.1%
			2007	37.7%

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>Spearville (GE 1.5)</b>	Kansas	100.5	2007	34.6%

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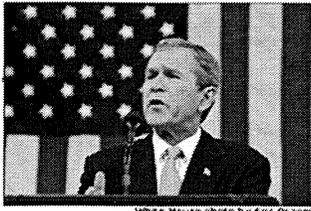
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# A Little Wind Farm Economics

Presented by

Bob Glass  
Kansas Corporation Commission  
Economist

## A New Vision *For Wind Energy in the U.S.*

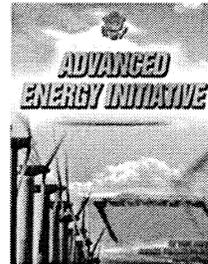


### ***State of the Union Address***

“...We will invest more in ...  
revolutionary and...wind  
technologies”

### ***Advanced Energy Initiative***

“Areas with good wind resources  
have the potential to supply up to  
**20%** of the electricity consumption  
of the United States.”



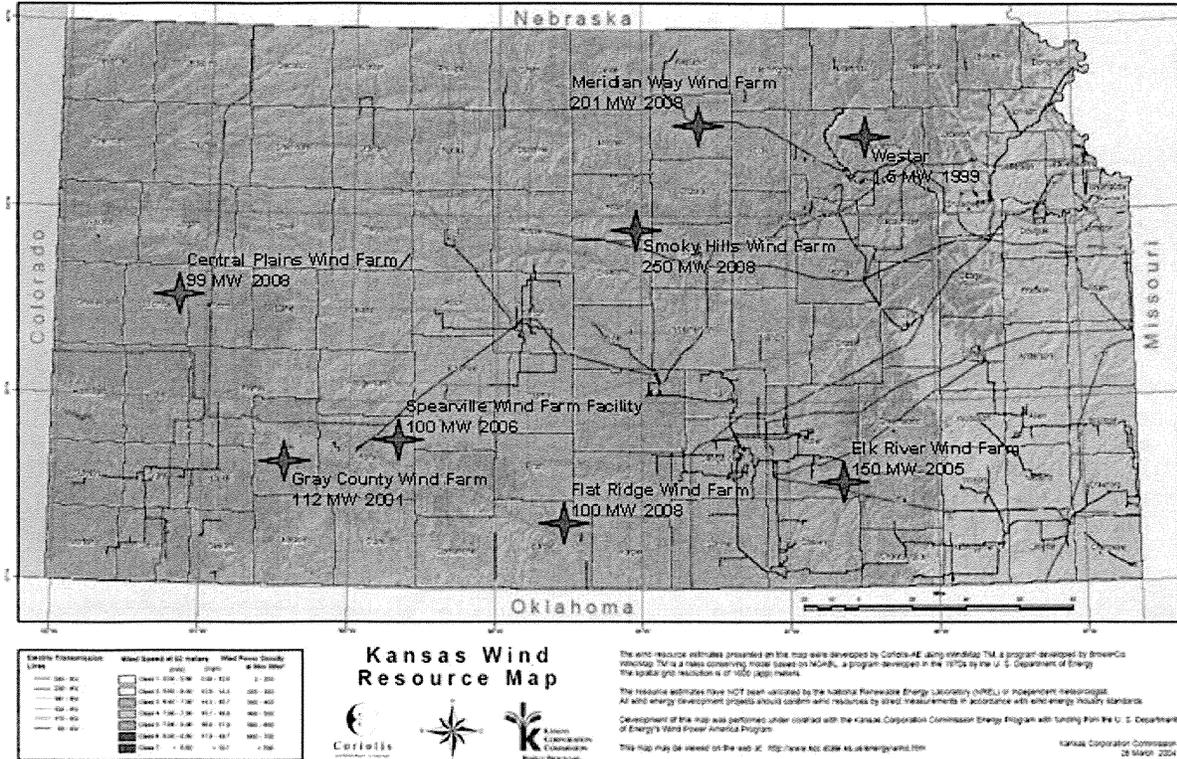
If the United States is going to generate 20% of its electricity using wind energy, then states like Kansas will have to increase their wind capacity well beyond 20%.

The map below shows Kansas wind resources and where wind farms are located in Kansas.

The two best areas for Kansas wind development are in the Flint Hills and in Western Kansas.

- ➡ The Flint Hills have special value which will prevent much more development for awhile.
- ➡ Western Kansas is away from the population areas – the load demand areas – and requires significant transmission upgrades in some cases.

# KANSAS WIND WORKING GROUP



## Kansas Commercial Wind Projects

*In operation and announced*

WIND PROJECT (County)	DEVELOPER	UTILITY	SIZE	YEAR
Jeffery Energy Center (Pottawatomie Co.)	Westar	Westar	1.5 MW	1999
Gray County Wind Farm (Gray Co.)	FPL Energy	Aquila	112.2 MW	2001
Elk River Wind Facility (Butler Co.)	PPM Energy	Empire	150 MW	2005
Spearville Wind Energy Facility (Ford Co.)	enXco	KCP&L	100.4 MW	2006
TOTAL INSTALLED AT END OF 2007			364.1 MW	
Smoky Hills Wind Farm (Lincoln/Ellsworth Cos.)	Tradewind	Sunflower	50.4 MW	2008 (1 <sup>st</sup> Qtr)
<i>Phase I</i>		KC BPU	25.2 MW	2008 (1 <sup>st</sup> Qtr)
<i>Phase II</i>		Midwest	25.2 MW	2008 (1 <sup>st</sup> Qtr)
Smoky Hills Wind Farm (Lincoln/Ellsworth Cos.)	Tradewind	Sunflower	24 MW	2008 (4 <sup>th</sup> Qtr)
<i>Phase II</i>		Midwest	24 MW	2008 (4 <sup>th</sup> Qtr)
<i>Phase III</i>		TBD	100.5 MW	2008 (4 <sup>th</sup> Qtr)
Meridian Wind Farm (Cloud Co.)	Horizon	Empire	105 MW	2008 (4 <sup>th</sup> Qtr)
<i>Phase I</i>		Westar	96 MW	2008 (4 <sup>th</sup> Qtr)
Flat Ridge Wind Farm (Barber Co.)	BP Alternative Energy	Westar	100 MW	2008 (4 <sup>th</sup> Qtr)
Central Plains Wind Farm (Wichita Co.)	RES America Dev, Inc	Westar	99 MW	2008 (4 <sup>th</sup> Qtr)
TOTAL PROJECTED TO BE INSTALLED BY END OF 2008			1013.4 MW	

Updated by KCC Energy Programs (Mar 2008)

Lt. Governor Parkinson has mentioned in several presentations that wind development in Kansas has the potential of 7158 MW of generation capacity. He did not make this number up. It came from National Renewable Energy Laboratory and specifically it came from the WindDS model developed primarily by Walter Short.

This model does take into account transmission constraints but assumes that some transmission improvements will take place.

The slide below outlines the potential economic impact of developing 7158 MW of wind generation capacity. These estimates are based on either the JEDI or JEDI II model. At the heart of these models is an input-output model known as IMPLAN. When economists start talking about economic impact and multipliers, put your hands over your pockets and be skeptical.

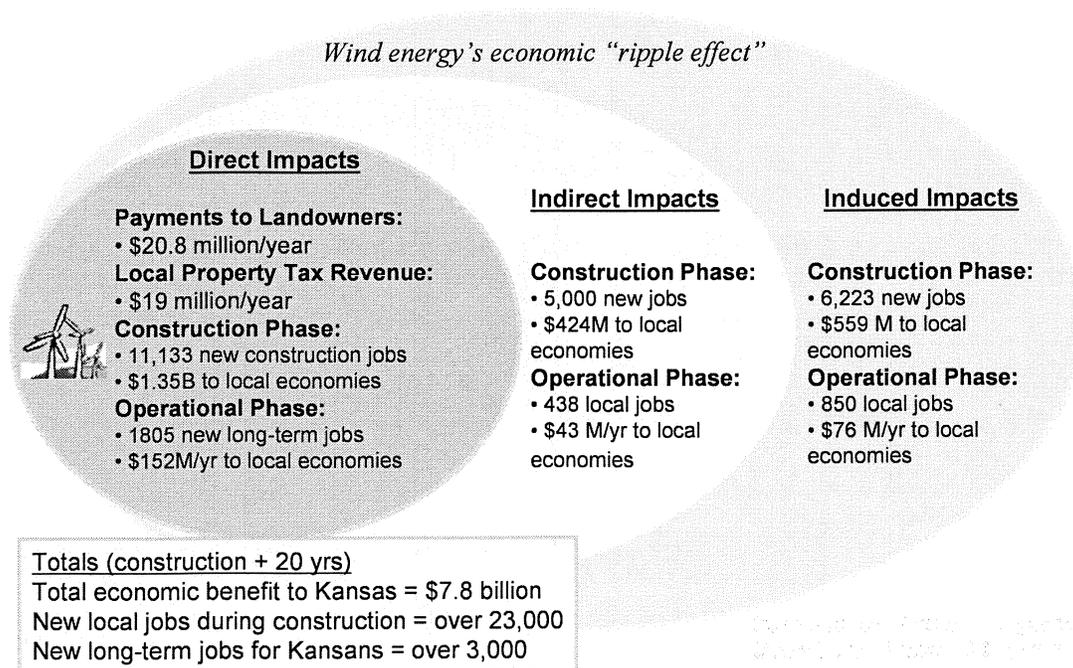
- An economic impact study is not the same as a benefit/cost study.
- Making decisions based on economic impact is generally flawed. For example, the economic impact of education is based on the inputs to education, teaching salaries, books, buildings, etc. The economic value of education is the output – did the kids learn something – not how much was spent trying to teach them.
- A proper economic impact study must also include a counter-factual – what would have been done with the money if it had not been spent on wind generation.

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## Economic Impacts to Kansas

from 7158 MW of new wind development by 2030

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With all of these benefits from wind energy development and all the great potential of wind generation in Kansas: **Why doesn't Kansas have more wind farms?**

**Electricity is Cheap in most of Kansas and Wind Generated Electricity is not Cheap.**

The table below illustrates why wind generation is cost effective in Texas and California but not in Kansas.

<b>Percentage of Natural Gas Generation</b>				
	<b>CALIFORNIA</b>	<b>KANSAS</b>	<b>TEXAS</b>	<b>U.S. TOTAL</b>
1990	44.7%	7.3%	48.4%	12.3%
1991	46.6%	10.0%	47.7%	12.4%
1992	50.1%	4.3%	46.4%	13.1%
1993	42.6%	5.3%	49.1%	13.0%
1994	50.7%	6.7%	47.0%	14.2%
1995	40.0%	6.2%	46.3%	14.8%
1996	36.8%	4.6%	45.0%	13.2%
1997	41.1%	5.6%	45.0%	13.7%
1998	39.6%	7.3%	48.4%	14.7%
1999	45.2%	7.0%	47.9%	15.1%
2000	49.6%	6.3%	50.0%	15.8%
2001	56.4%	4.4%	51.0%	17.1%
2002	48.7%	3.8%	50.9%	17.9%
2003	47.4%	2.6%	48.8%	16.7%
2004	51.6%	1.8%	47.9%	17.9%
2005	46.7%	2.5%	49.4%	18.7%
2006	48.8%	4.0%	49.0%	20.0%
2007	54.7%	4.1%	49.1%	21.5%
<b>AVG</b>	<b>46.7%</b>	<b>5.2%</b>	<b>48.2%</b>	<b>15.7%</b>

The most expensive fossil fuel that is used for significant amounts of generation is natural gas. Note that both California and Texas use much more natural gas to produce electricity and that Kansas is well below the national average. In the Westar and KCPL service areas, electricity rates are well below the national averages and about half of the averages for California and Texas.

A major reason that wind generation has a hard time competing in Kansas is that it does not substitute for natural gas generation – the avoid cost of wind generation is much lower in Kansas than in either California or Texas.

**Why is Wind Generation Expensive?**

Wind is free. Why should wind generation be so expensive?

Wind is free but trying to use the wind to generate electricity is expensive. A developer of a wind farm needs land, equipment, and continuous O&M work after the wind farm is built. This is only the beginning of the cost problem for wind energy.

- Installation costs are currently over \$2 million per MW.
- Wind generation performance is less than fossil fuels generation and much less dependable.
  - ⇒ Capacity factors for wind generation occasionally reach 40%; a base load coal plant like Jeffreys Energy Center will usually have a capacity factor between 70% and 80%.
  - ⇒ The intermittent nature of wind adds an additional cost to the dispatch of the system.
- A significant amount of wind generation on the grid creates dispatch inefficiency.
- Attaching a wind farm to the grid usually entails transmission upgrades which are not cheap.
  - ⇒ This is a problem today in Kansas.
  - ⇒ Transmission constraints are a major problem in Texas.

## **Why Wind Generation?**

If wind generation is expensive, then why has so much wind generation been developed in the past few years and why is so much planned for the immediate future?

**The push for wind generation is not Economically Driven**

**The push for wind throughout the United States is Policy Driven**

**The advantages of wind generation:**

- **Production Tax Credit,**
- **Renewable Portfolio Standards, and**
- **Potential CO2 Legislation**

The subsidies and other policy tools used to encourage wind generation have had the dominant impact. Without these policies, very little wind generation would be constructed.

Remember that other forms of energy have their own subsidies: coal, oil, natural gas, and nuclear all have subsidies.

United States energy policy can either be described as multi-directional or confused.

If you want to learn more about wind energy in Kansas, go to the Kansas Corporation Commission web page:

<http://kcc.ks.gov/>

And click on [A Benefit Cost Study of the 2015 Wind Challenge](#)

I have attached two summaries of the Wind Study: one is by Liz Brosius and John Cita, the editor and author of the study and the second is mine. These summaries say about the same thing, but they view the wind study from different perspectives. Liz and John describe the wind study in terms of a decision problem: is the net present value positive and if not what needs to be done to make it positive. I provide a brief summary of the methodology, the benefit/cost results, and a risk analysis. Liz and John's summary is user friendly; my summary is more technical.

### **I'm an Economist. What do I have to offer Lawyers?**

I know little about the legal aspects of property rights and contracts. I have done research on water markets and using rules of thumb to make the transfer of water rights easier by lowering transaction costs. But I was concerned with easier transference of water rights – not with the nitty gritty of actually getting something done.

I do think I can help with one aspect of leasing land for the development of wind energy: **The payoffs for some land leases are based on the performance of the wind turbines, usually as measured by capacity factor.**

The capacity factor is a measure of the amount of electricity generated as a percentage of the nameplate capacity for a generator. The equation for capacity factor is:

$$\text{Capacity Factor} = \frac{\text{Total Generation}}{\text{Nameplate Capacity} \times \text{Period of Generation}}$$

What I have to offer is a warning that wind turbine performance is variable and the mean is not necessarily constant. Like all mechanical devices, wind turbines wear out and their performance will probably decline before they expire. Life expectancy of the wind turbines and their performance while they are working might be less than promoted.

### **Life Expectancy of Wind Turbines**

No one knows what will happen with the new turbines. Most of the turbines being installed now have been available for less than 10 years. The turbine manufactures promote the turbines as lasting 20 years but who knows what their life expectancy is. The old turbines did not last 20 years. In Nebraska they just retired two demonstration wind turbines that lasted only 10 years. O&M costs were skyrocketing while production had declined markedly.

One reason for the 10 year milestone for wind turbines is that the Production Tax Credit which is 2.1¢ per kWh runs out after 10 years. As the turbines get older, the normal expectation would be that O&M costs would increase and production performance would gradually decline. Then

subtract 2.1¢ a kWh from the revenue stream produced by the turbines and it is not hard to see that economic inefficiency could strike well before the turbines completely fall apart.

### **Wind Turbine Capacity Factors**

When wind farms are planned, a wind study is done and usually a consulting firm is brought in to estimate the expected capacity factor based on the turbine design and turbine availability combined with the expected wind force.

I know of only one wind farm where the expected capacity factor was met: Ainsworth Wind Farm in Nebraska. The developer promised 42% to 44% capacity factor on average and the first year, 2006, they came in with a 42.9% capacity factor. In 2007, the capacity factor fell to 34.9%: a more than 20% drop in productivity.

I have attached the capacity factors for some of the wind farms in the middle part of the country including three wind farms in Kansas. The capacity factor data comes from the Energy Information Administration which is part of the Department of Energy. The data is the best that is publicly available.



## Benefit Cost Analysis of the Governor's 2015 Wind Challenge: 1,000 MW by 2015

(Voluntary \$1.63 Billion Wind Investment Project)

### Is meeting the Challenge a good deal for Kansas?

- The simple answer is that it depends ...
- **For average Kansans concerned only with the size of their electric bill, the answer is likely to be “no.”** That’s because, under most forecast scenarios, wind-based electricity is more costly, on average, than electricity from other sources. Therefore, acquisition of wind energy is likely to result in higher rates for electricity and, thus, higher electric bills.<sup>1</sup>
  - How much higher are rates likely to be?
    - At a minimum, the average residential rate is likely to increase by \$0.46/MWh, on average, resulting in an annual bill that is higher by \$5.06, on average, over the life of the Project.<sup>2</sup> In other words, over time, the typical residential customer, on average, is likely to pay \$147 extra due to the acquisition of wind energy.<sup>3</sup>
    - At a maximum, the average residential rate is likely to increase by \$3.48/MWh, on average, over the term of the Project. For the average residential customer, that means an annual bill that is higher by \$38.28, on average. In this case, the typical residential customer, on average, is likely to pay \$1,110 extra due to the acquisition of wind energy.<sup>4</sup>
- **For average Kansans concerned about the health and environmental costs of combusting fossil fuels, the answer is “maybe.”**
  - It depends on whether the average Kansan is willing and able to pay extra for wind energy. If the average ratepayer is willing and able to pay the wind premium (that is, the extra cost of wind energy), then meeting the Challenge could be beneficial overall.<sup>5</sup>
  - It also depends on the value of potential *external cost savings* resulting from wind energy displacing conventional electric generation, about which very little good data exist. All pollution-related expenses that can be avoided as a consequence of relying on wind rather than conventional energy contribute to the net, social value of wind energy. **If the external cost savings among Kansans are large enough—that is, if they more than offset the higher utility bills—then the Challenge would be a good deal for Kansas.**
- Investment in wind capacity/energy may yield other sources of additional value, such as:

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<sup>1</sup> Not only are utility rates likely to increase, but, under most forecast scenarios, the average forecast NPV of the Challenge is negative, which provides a clear indication that the Challenge is unlikely to be cost effective.

<sup>2</sup> The Project term is 29 years, running from 2006 through 2034. The dollar amounts referred to in this and the next bullet point are non-discounted.

<sup>3</sup> This result is based on jurisdictional utilities entering purchase power agreements (PPAs) with wind developers that have directly invested in wind-based generating capacity. It also assumes the extra cost of wind PPAs is allocated uniformly among all customer classes. Updated forecasts based on information available in January 2007 show the average retail rate would increase by \$0.70/MWh and the average annual residential bill by \$7.70.

<sup>4</sup> This result is based on jurisdictional utilities directly investing in and ratebasing their own wind-based generating capacity (as opposed to entering wind PPAs). It is also based on the extra cost of utilities acquiring wind capacity being allocated entirely to residential customers.

<sup>5</sup> For a point of reference, the average forecast wind premium can range between \$13 and \$31 per MWh (or \$17 and \$68 per MWh based on updated forecasts).

- revenue from the sale of RECs (renewable energy credits);
- actual (or expected) cost savings if federal carbon regulation is implemented; and
- significant productivity improvements in wind-energy technologies that result in lower installation costs and improved reliability in field-applications.

### Overall, what are the basic empirical findings from the Benefit Cost Study?

- If (1) the current federal PTC stays in place, (2) utilities purchase wind energy rather than invest in wind capacity, and (3) external cost savings plus other additional sources of value attributable to wind energy add up to approximately \$13 per MWh (\$20 per MWh under the updated forecast), then meeting the 2015 Wind Challenge is likely to be cost effective for the state of Kansas.
  - More precisely, under these conditions the probability of the Challenge being cost effective rises to just fifty-fifty.<sup>6</sup>
- **Nonetheless, regardless of whether wind energy is cost effective overall, it is almost certain that meeting the Challenge will result in higher electric rates.**

### Some General Results and Observations

1. In almost all forecast scenarios, it is less costly for regulated utilities to purchase wind energy through PPAs with wind developers than to ratebase (and, thus, own) wind capacity. **In short, it is usually less costly for the regulated utilities to buy wind energy than build wind capacity.**
2. Provided the Challenge is met by utilities entering PPAs with wind developers, utility acquisition of wind energy (per MWh) is likely to be cost effective for Kansas if:

Item 1: Estimated internal cost savings (mainly utility fuel savings)

*plus*

Item 2: Estimated external cost savings (both health- and environment-related)

*plus*

Item 3: Possible sources of additional value attributable to the utility's purchase of wind energy (consumer willingness to pay extra, REC revenue, avoided carbon control costs)

*exceeds or equals*

Item 4: Utility's estimated total cost of acquiring wind energy (purchase price plus integration cost).

*Note:* Our forecast of the typical utility's internal cost/fuel savings due to its acquisition of wind energy is approximately \$25/MWh. The resultant external cost savings are probably positive, but very difficult to quantify. The same is probably true for "sources of additional value." For example, if wind energy can be purchased through a PPA for \$48/MWh and subjects the utility to integration costs of \$5/MWh, then for the PPA to be a good deal for Kansans overall, the estimated external

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<sup>6</sup> These are the conditions identified through the benefit cost analysis which establish an average forecast NPV to equal zero (0).

cost savings and sources of additional value per MWh of wind energy must equal or exceed \$28. [Item 1+ (Items 2 and 3) = Item 4; numerically, \$25 + \$28 = (\$48 + \$5), respectively.]

3. All of the numerical results presented in the study are, on balance, slightly biased in favor of wind development.
4. **Meeting the 2015 Wind Challenge is risky because future wind installation costs are largely unknown.** In the past six years, wind installation costs have nearly doubled. Continuation of that trend—which seems likely—suggests considerable upside risk to ratepayers. Moreover, once installed, the operating reliability of wind equipment is far from guaranteed. At this time, there appears to be a significant risk of major components (namely, gearboxes) failing.<sup>7</sup> Absent major technological advancement, this risk is unlikely to be diminished any time soon.
5. Given all of the uncertainty associated with both the costs and benefits of wind energy development, any economic analysis of that development should be routinely updated. The high degree of uncertainty also suggests a measured, steady policy approach may be reasonable. Going slowly may be advantageous to the state.

## Secondary Observations and Findings

- **Overall Employment:** The statewide net employment implications of the 2015 Wind Challenge appear minimal and just as likely to be negative as positive.<sup>8</sup>
- **Rural Boost:** The rural economies located near wind facilities are likely to experience some economic stimulus in the form of local lease and rental payments and payments in lieu of taxes. Again, since the statewide net employment gain from wind development is likely to be small, if rural economies grow as a result, it is likely to be at the expense of the more urban areas of the state (due to higher utility bills and possible loss of healthcare sector jobs in those areas). Moreover, depending on the long-term durability of wind equipment, local employment gains may be largely temporary.
- **Federal PTC:** Without the financial life-support provided by the federal PTC, the prospects for Kansas wind-energy development being economically viable appear remote.

## What's Needed?

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<sup>7</sup> This risk is embedded in (actual or forecast) wind O&M expenses, the cost of equipment warranties and service agreements, etc.

<sup>8</sup> Since wind development is likely to result in higher utility bills, more disposable income is likely to be spent in that sector, implying less spent in other sectors – suggesting a possible employment gain in the utility sector and an employment reduction in the non-utility sectors. Moreover, since wind equipment is unlikely to be manufactured in Kansas, the installation of that equipment in Kansas would likely decrease the state's net exports. However, since wind energy production would likely reduce the state's coal burn and since almost all coal burned in Kansas is imported, this displacement of fuel would increase the state's net exports. Overall, meeting the Challenge is unlikely to significantly alter the state's net export position, unless *markets* for Kansas wind energy (or RECs) can be found beyond the state's boundaries.

1. More research on the possible magnitude of external costs borne by Kansans as a consequence of conventional power plant emissions.
2. A requirement that all Kansas wind-energy development be augmented by the possible sale of RECs. (The KCC expects to open a generic docket on this issue at the time this report is submitted to the Governor.)
3. Having federal (and perhaps global) carbon regulation may increase the incentives for wind investment. However, new carbon regulation could lead to a greater demand for wind equipment (and, thus, higher prices), which would mitigate the net savings from investing in that equipment.
4. Possibly greater competition among wind-equipment suppliers.
5. A clearer understanding of the necessary regulatory safeguards. This may require a continual effort to monitor the risks associated with ongoing wind investment in Kansas and the need to implement public policies that are *flexible* enough to assist managing those risks.

# SUMMARY OF THE WIND CHALLENGE REPORT

## Organization of Analysis

### Purpose of the Report:

- Estimate the economic viability of additional wind generational investment in Kansas.

### Basic Assumptions about the Wind Investment Problem:

1. Assume a *statewide*, Kansas Corporation Commission jurisdictional utility that will deliver the energy to all Kansas ratepayers.
2. *Investigate the economic efficiency* of four statewide utilities with different cost structures. Three utilities represent three categories of Kansas utilities based on their cost of generation – high, medium, and low cost utilities. The last utility is an average of Kansas utilities weighted by their annual generation. *Each of these utilities can also be thought of as a generator mix expansion path.*
3. *The evaluation criterion of the wind investment:* does the wind farm have a positive or negative impact on Kansas consumers.
4. Estimating the *impact on consumers* requires a quantitative analysis.

### Modeling Strategy:

- *Cost/Benefit Models* are used to investigate the economic efficiency of wind investment.
- *Cost of Service* is used to identify costs and benefits of the wind investment.
- *Net Present Value* (NPV) is the criterion used to determine whether consumers are hurt or helped by a wind investment. If the NPV is positive, the consumers are better off, if the NPV is negative, consumers are worse off.
- *Two different Business Structures* of the wind investment are examined:
  - “Build” – Utility owns and operates the wind farm.
  - “Buy” – Utility buys the wind energy using a Purchase Power Contract with a developer who owns and operates the wind farm.

### Risk Analysis (risk is defined as exposure to uncertainty):

- *Monte Carlo Analysis* is used to quantify the effect of uncertainty. Seven of the cost/benefit variables are treated as random. The seven variables are:
  - Installation Costs
  - Capacity Factor
  - Capacity Factor Degradation
  - Operations and Maintenance (O&M)
  - Fuel Mix
  - Natural Gas Prices
  - Rate of Return (RoR)
- *Sensitivity Analysis* (using ratios of the coefficient of variation) is used to quantify the impact on NPV of each cost/benefit variable.

## Results of the Cost/Benefit Analysis

### Results of the Monte Carlo Analysis:

- **From a ratepayer's point of view, the best business structure is the buy option:** the utility purchases power from a developer.
  - The buy option is 0.5¢ to 2.0¢ per kWh cheaper for the customer.
  - The buy option shifts most of the risks of wind generation from the regulated utility (and the utility's customers) to the developer.
- **The only scenario where wind energy is viable is the buy option with high cost (and high natural gas use) utility if pollution externalities are ignored.** This is similar to the situations of the Gray County and Elk River wind farms.
- **The consideration of pollution externalities makes wind energy more viable.** However, identifying avoided pollution externalities because of wind energy is difficult and the value of the externalities can only be grossly estimated.

### Results of the Sensitivity Analysis:

1. **Installation costs and capacity factor have the most powerful effect** on NPV with installation costs the most important.
2. **O&M costs and capacity factor degradation have a moderate effect** on NPV: however, large changes in these variables have significant effects on NPV.
3. **Fuel mix and natural gas price only have a moderate impact on NPV in the case of high cost utility**, and even then their impact is less than O&M costs.
4. RoR has a small and an ambiguous impact because it is also the discount rate for the utility.

## Results of the Risk Analysis

### Risks created by wind:

- **O&M cost risk** – good data does not exist for O&M costs after the first few years, but these costs could be substantially higher than we have assumed.
- **Availability risk** – this combines the intermittency of wind (making wind generation non-dispatchable), capacity factor uncertainty (especially its degradation over time), and the reliability and durability of the equipment.

### Risks that wind energy can diminish:

- **Regulatory risk** – changes in laws or rules governing the regulation of utilities.
  - Risk of a carbon or carbon dioxide tax
  - Risk of more stringent pollution standards for conventional generation
- **Investment risk** – wind investment can be modular and gradual unlike coal and nuclear plants which need to be large in order to capture returns to scale.

### Wind energy is a real asset – not a financial asset:

- **Wind energy is not a financial instrument:** it is not the most effective hedge against fossil fuel price volatility.
- **Wind energy is not a riskless financial security:** adding wind energy to a generation portfolio adds risk as well as reducing risk.

### Capacity Factors for Various Wind Farms

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>Colorado Green Holdings LLC (GE 1.5)</b>	Colorado	162.0	2005	44.6%
			2006	34.7%
			2007	24.2%

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>Flying Cloud Power Partners LL (GE 1.5)</b>	Iowa	43.5	2004	25.7%
			2005	39.5%
			2006	39.8%
			2007	37.6%

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>Hancock County Wind Energy Center (Vestas 0.66)</b>	Iowa	98.0	2003	30.3%
			2004	31.5%
			2005	18.0%
			2006	29.9%
			2007	29.7%

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>Storm Lake 1 (Zond 0.75)</b>	Iowa	112.5	2000	29.1%
			2001	28.6%
			2002	28.8%
			2003	28.8%
			2004	28.9%
			2005	27.7%
			2006	29.2%
			2007	29.7%

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>Lake Benton I (Zond 0.75)</b>	Minnesota	107.25	1999	23.6%
			2000	29.2%
			2001	32.4%
			2002	34.6%
			2003	29.9%
			2004	23.8%
			2005	27.1%
			2006	29.6%
			2007	28.4%

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>Lake Benton II (Zond 0.75)</b>	Minnesota	103.5	2000	32.7%
			2001	36.9%
			2002	32.1%
			2003	35.9%
			2004	26.7%
			2005	30.7%
			2006	33.2%
			2007	34.4%

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>Ainsworth Wind (Vestas 1.65)</b>	Nebraska	59.4	2006	42.9%
			2007	34.9%

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>New Mexico Wind Energy LLC (GE 1.5)</b>	New Mexico	204.0	2004	28.7%
			2005	28.7%
			2006	29.6%
			2007	25.8%

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>FPL Energy North Dakota Wind I (GE 1.5)</b>	North Dakota	61.5	2004	38.7%
			2005	39.6%
			2006	34.6%
			2007	34.0%

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>Oklahoma Wind LLC (GE 1.5)</b>	Oklahoma	102.0	2004	34.5%
			2005	35.1%
			2006	35.6%
			2007	34.4%

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>South Dakota Wind Energy Center (GE 1.5)</b>	South Dakota	40.5	2004	43.0%
			2005	42.9%
			2006	40.4%
			2007	40.8%

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>Trent Wind Farm (Enron 1.5)</b>	Texas	150.0	2002	32.9%
			2003	35.2%
			2004	38.8%
			2005	37.5%
			2006	38.7%
			2007	33.1%

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>King Mountain Wind Ranch (Bonus 1.3)</b>	Texas	278.2	2004	23.8%
			2005	26.6%
			2006	28.3%
			2007	26.5%

### Kansas Wind Farms

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>Gray County Wind Farm (Vestes 0.66)</b>	Kansas	112.2	2002	41.3%
			2003	37.1%
			2004	36.2%
			2005	35.6%
			2006	36.5%
			2007	35.8%

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>Elk River (GE 1.5)</b>	Kansas	150	2006	40.1%
			2007	37.7%

Facility Name (Type of Generator)	State	Nameplate Capacity (MW)	Year	Capacity Factor
<b>Spearville (GE 1.5)</b>	Kansas	100.5	2007	34.6%

## Section 2

# Engineering and Legal Considerations Regarding Development of Wind Projects in Kansas

**Melvin J. Sauer, Jr.**

*Dreiling Bieker & Hoffman  
Hays, KS*

**Krista J. Gordon**

*Iberdrola Renewable Energies USA  
Hays, KS*



# Engineering and Legal Considerations Regarding Development of Wind Projects in Kansas

Melvin J. Sauer, Dreiling Bieker & Hoffman  
Krista J. Gordon, Iberdrola Renewable Energies USA

May, 2008

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## Common Lease Provisions

- Royalty / payment
  - Percentage of revenue
  - Fixed fee per acre under lease
  - Fixed fee per wind turbine or MW
  - Fixed fee per MWh generated
- Definite term of agreement
- Site access
- Exclusivity
- Decommissioning

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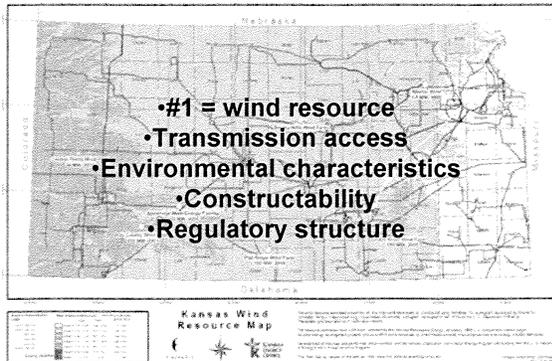
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## Project Siting



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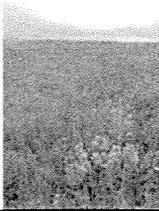
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## Common Landowner Questions

Can I continue to farm / graze?



What if my land is in CRP?

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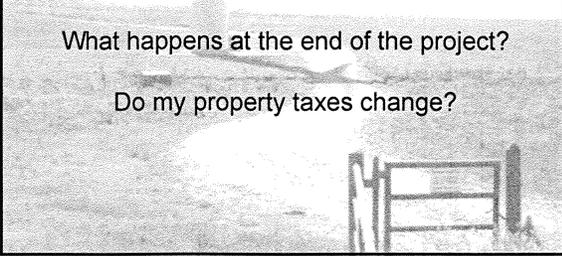
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## Common Landowner Questions

Can wind turbines coexist with oil / gas?

What happens at the end of the project?

Do my property taxes change?



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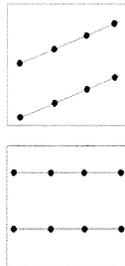
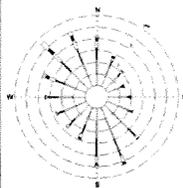
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## How much land is needed for each wind turbine?



(Fictional example)

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### Construction Process

- Access roads
- Turbine foundations
- Collection system
- Turbine installation
- Substation / O&M building
- Site restoration

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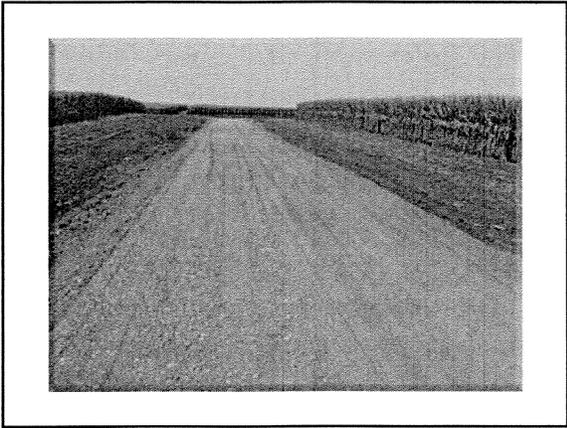
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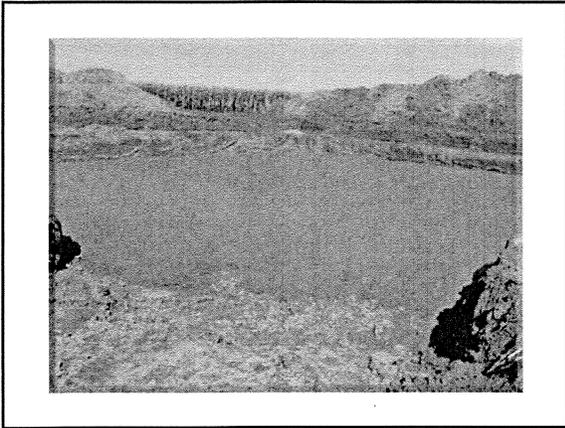
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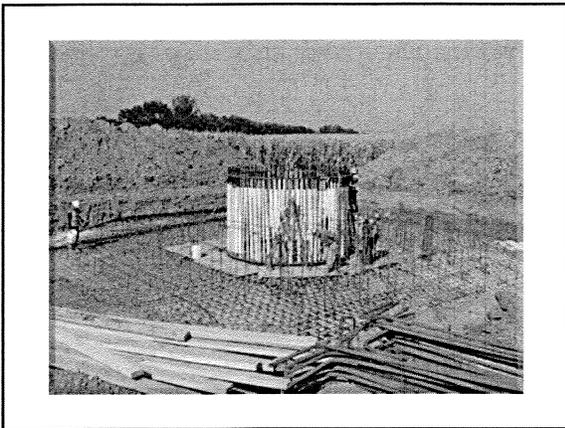
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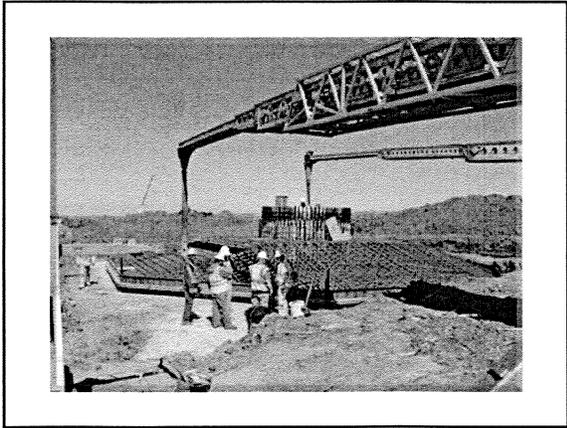
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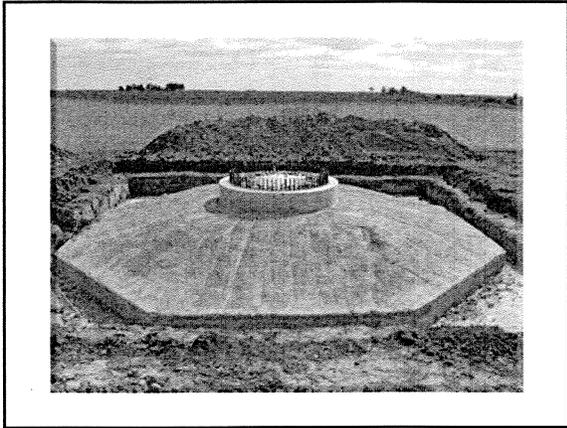
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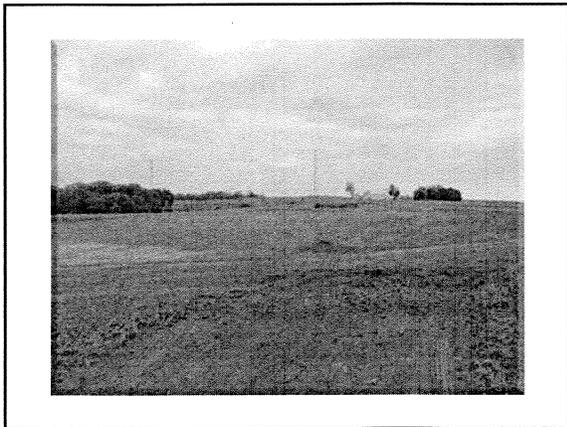
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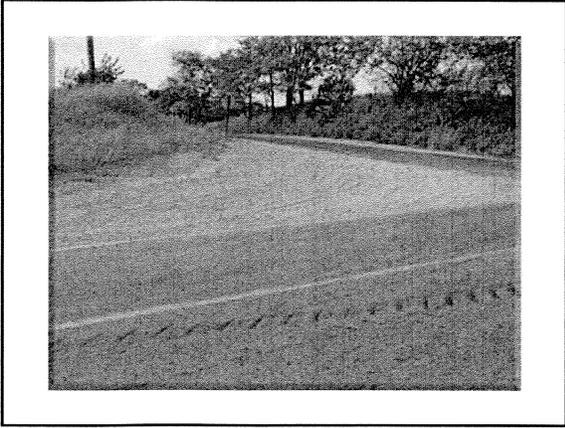
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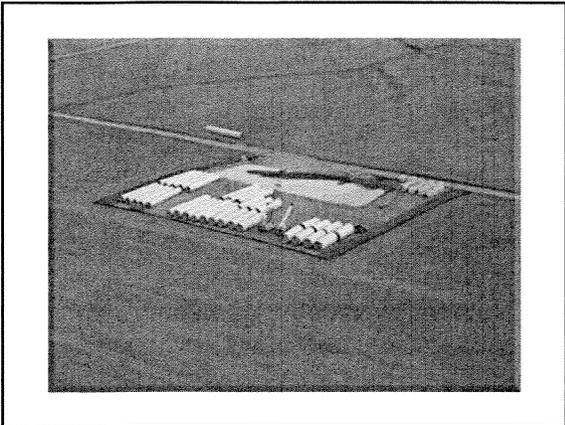
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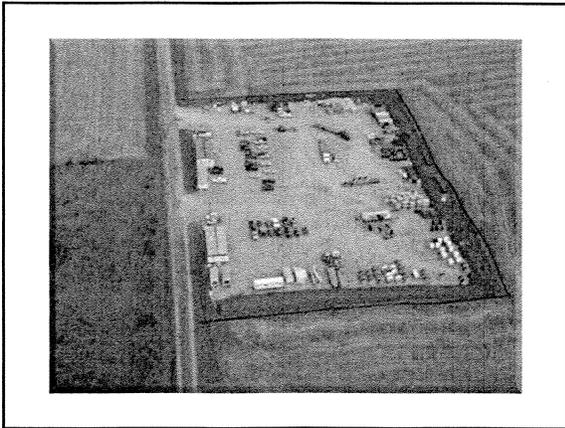
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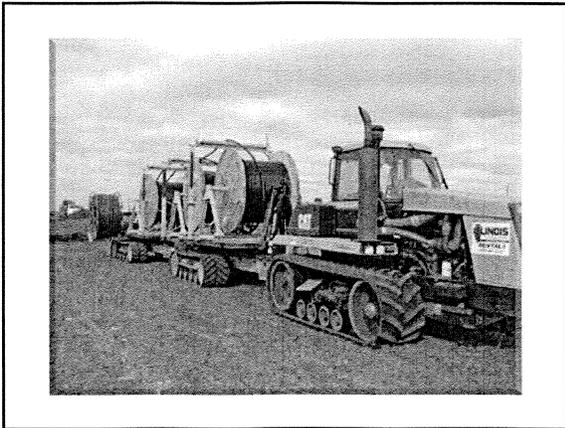
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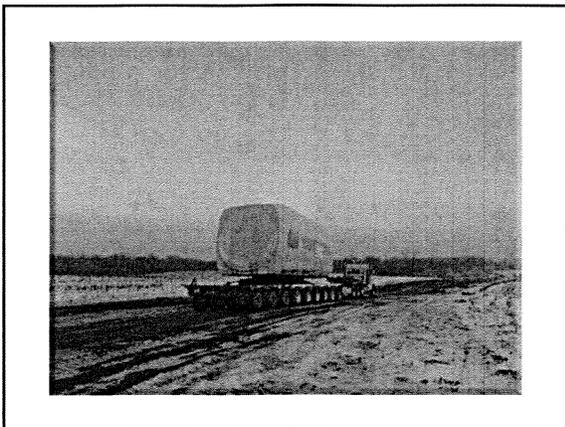
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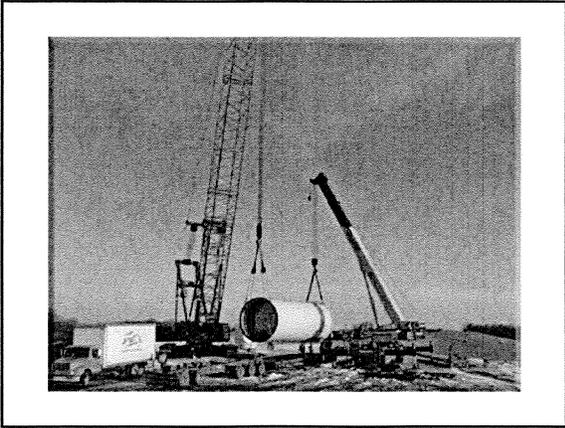
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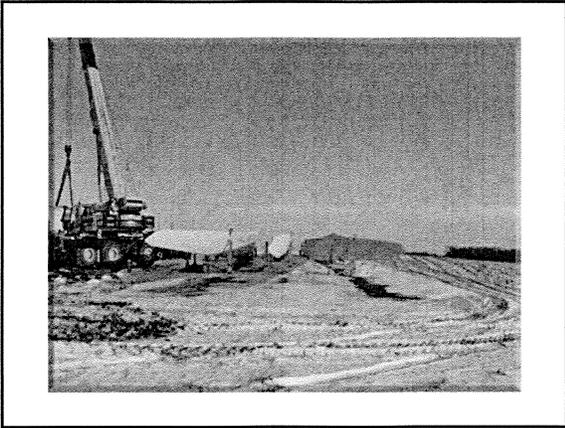
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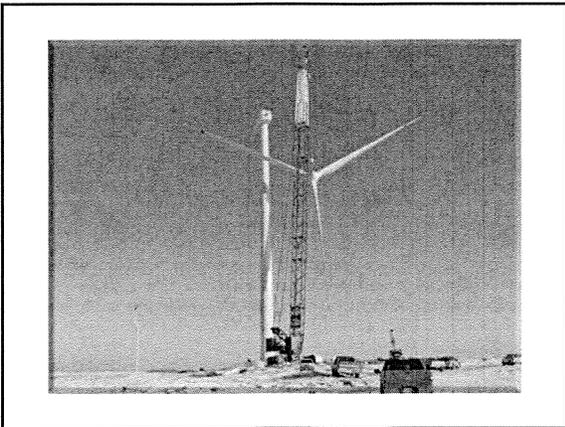
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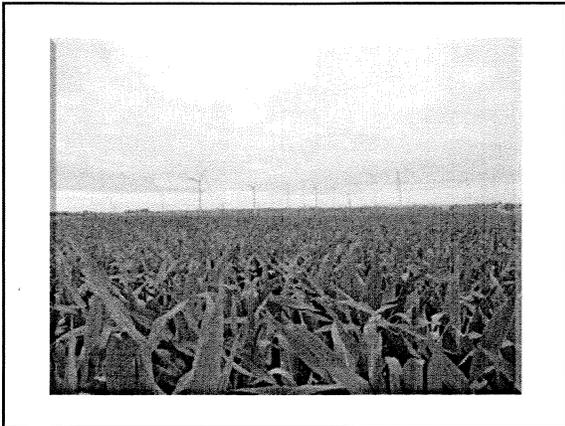
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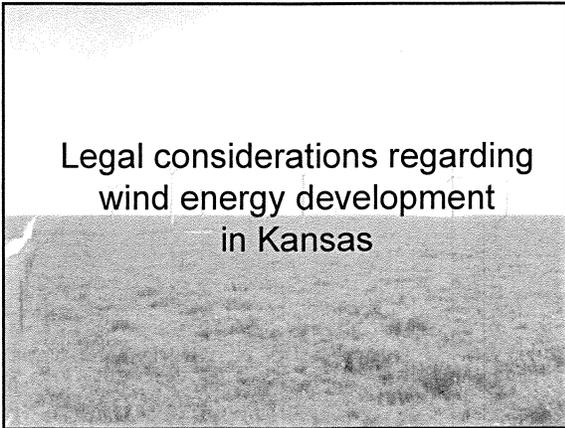
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**Prospective clients with wind energy concerns in Kansas**

- Landowners approached by wind energy developers (potential lessees) (Note: Perhaps the most likely potential client for Kansas practitioners.)
- Wind energy developers seeking Kansas counsel. (Note: Such developers may not have previous experience with wind energy development.)
- Municipalities whose regular attorneys will not provide representation for wind energy issues. (Note: In smaller communities, it may be difficult to find local attorneys without a conflict of interest.)
- Residents in the vicinity of proposed wind energy projects.
- Holders of existing easements upon land already leased for wind development.

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**Kansas statutes specifically addressing wind energy leases/easements.**

- K.S.A. 58-2221. Essentially, recordation requirements for conveyance of wind energy interests are the same as for conveyance of real estate and oil and gas lease interests.
- K.S.A. 58-2272. Instruments that convey interests created by wind energy leases/easements must include, among other things a "description of the vertical and horizontal angles, expressed in degrees and distances from the site of the wind power system in which an obstruction to the wind is prohibited or limited; . . ."  
(Note: If such information is excluded, enforceability of non-obstruction covenants may be jeopardized.)

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**Counties with county-wide zoning**

Counties with county-wide zoning:

- It almost goes without saying counsel must be familiar with zoning regulations applicable to such counties.
  - Ellis County Zoning Regulations, Article 27 (conditional uses enumerated)
  - Id., Article 20 (development plan requirements)
  - Id., Article 32 (conditional use permit applications; procedural requirements)

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**Counties with county-wide zoning (cont.)**

- In making zoning decisions, local zoning authorities function in a "quasi-judicial" rather than a legislative capacity. Such a process requires a weighing of the evidence, a balancing of the equities, an application of rules, regulations and ordinances to facts, and a resolution of specific issues. Golden v. City of Overland Park, 224 Kan. 591, 597, 584 P2d 130 (1978). For the first time, the Kansas Supreme Court enunciated relevant factors, as addressed by the evidence presented through the public hearing process, governing bodies must consider in reaching zoning decisions. Such factors, often referred to as the "Golden Rule" or "Golden Factors" are as follows:
  - Character of the neighborhood;
  - Zoning and uses of properties nearby;
  - Suitability of the subject property for the uses to which it has been restricted;
  - Extent to which removal of those restrictions will detrimentally affect nearby property;
  - The length of time the subject property has remained vacant as zoned;
  - Relative gain to the public health, safety and welfare by the destruction of the value of plaintiff's property as compared to the hardship imposed upon the individual landowner;
  - Conformance of the proposed change to the adopted or recognized master plan being utilized; and
  - Recommendations of permanent or professional staff. (Id., at 598).

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### Counties with county-wide zoning (cont.)

- The reasonableness of a governing body's decision does not rest upon whether or not a majority of the Golden factors go in one direction or another; some factors may in a particular situation be more significant than other factors.
- A zoning decision is not unreasonable merely because the record does not reflect a point-by-point analysis of each of the Golden factors. (See Landau v. City Council of Overland Park, 244 Kan. 257, 767 P.2d 1290 (1989)).
- Generalized complaints speculating upon adverse effects of rezoning (e.g., increased noise, traffic and litter) are not typically an appropriate consideration. Taco Bell v City of Mission, KS, 234 Kan. 879,887, 678 P.2d 133 (1984).
- Zoning is not to be based upon a plebiscite of the neighbors, and although their wishes are to be considered, the final ruling is to be governed by consideration of the benefit or harm involved to the community at large. Arkenberg v. City of Topeka, 197 Kan. 731, 421 P.2d 213 (1966).

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### Counties with county-wide zoning (cont.)

- K.S.A. 12-747 (a) provides that cities and counties are "authorized to make or cause to be made a comprehensive plan". Thus, it can be argued comprehensive plans are not required in Kansas. In areas where such plans have been adopted, municipalities are not bound by the same. Namely, while a comprehensive plan "should not be overlooked when changes in zoning are under consideration" (Golden, at 598) they are "not unalterably bound by a comprehensive land use plan" since it is "inherent in the purpose and philosophy behind zoning regulations that the governing body remain free to act in the best interest of the community at large." Coughlin v City of Topeka, 206 Kan. 552, 557, 480 P.2d 91 (1971)
- Ultimately, and regardless of the planning commission's recommendations, the outcome of the conditional use permit application may be based upon "reasonable conditions" imposed by a majority of the governing body for issuance of a conditional use permit. (This underscores the importance of negotiations between wind project developers and governing bodies.) (Note: See Ellis County Zoning Regulations §27-102.)

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### Appeal of a governing body's decision

- K.S.A. 12-760(a) states:  
"Within 30 days of the final decision of the city or county, any person aggrieved thereby may maintain an action in the district court of the county to determine the reasonableness of such final decision."
- Furthermore, K.S.A. 60-2101(b) states:  
"A judgment rendered or final order made by a political or taxing subdivision, or any agency thereof, exercising judicial or quasi-judicial functions may be reversed, vacated or modified by the district court on appeal. If no other means for perfecting such appeal is provided by law, it shall be sufficient for an aggrieved party to file a notice that such party is appealing from such judgment or order with such subdivision or agency within 30 days of its entry, and then causing true copies of all pertinent proceedings before such subdivision or agency to be prepared and filed with the clerk of the district court in the county in which such judgment or order was entered. The clerk shall thereupon docket the same as an action in the district court, which court shall then proceed to review the same, either with or without additional pleadings and evidence, and enter such order or judgment as justice shall require. A docket fee shall be required by the clerk of the district court as in the filing of an original action."

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### Appeal of a governing body's decision (cont.)

- With the aforementioned statutes in mind, an aggrieved party would have up to 30 days following the governing body's decision within which to file a notice of appeal with the district court clerk.
- An expedited termination on appeal is contemplated, as the district court can decide additional pleadings and evidence are not required.
- There exists a legal presumption that the governing body acted reasonably; the burden is on the challenger to prove by a preponderance of the evidence that the governing body acted unreasonably. *Johnson County Water District No. 1 v. City of Kansas City*, 255 Kan. 183, 871 P.2d 1256 (1994). An action is unreasonable "when it is so arbitrary that it can be said it was taken without regard to the benefit or harm involved to the community at large, including all interested parties, and was so wide of the mark that its unreasonableness lies outside the realm of fair debate." (Id.)
- The court will not substitute its judgment for that of the zoning authority, and it should not declare that action unreasonable unless clearly compelled to do so by the existence.

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### Counties without county-wide zoning

- Familiarization with governing Kansas zoning statutes, and K.S.A. 12-757 in particular, is recommended.
  - Kansas statutes do not specifically prescribe notice or procedural requirements applicable to conditional use permits, but local zoning ordinances may utilize many, if not all, of the rezoning notice requirements contained in K.S.A. 12-757.
  - Local zoning regulations may prescribe additional notice and procedural requirements (e.g., posting of signage, additional distance requirements.). However, such regulations cannot be less expansive than the Kansas statutory requirements.
- Development periods in wind energy leases may span five years or more. This may allow counties more than adequate time to enact county-wide zoning before a developer decides to proceed with construction.

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### Payments in lieu of taxes (PILOT)

- PILOT constitutes a substantial wind development issue in light of K.S.A. 79-201, as all property actually and regularly used predominantly to produce and generate electricity utilizing renewable energy resources or technologies, including wind resources or wind technologies, is exempt from all property or ad valorem taxes levied under the laws of Kansas.)
- Despite recent concerns in Kansas regarding propriety of PILOT negotiations, K.S.A. 12-147 empowers every taxing subdivision Kansas to enter into "contracts for the payment of service charges in lieu of taxes, with the owner or owners of property which is exempt from the payment of ad valorem taxes under the laws of the state of Kansas . . ."
- K.S.A. 12-148 provides PILOT contracts shall provide for such payments to the county treasurers and further directs the manner in which county treasurers apportion such payments.

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## Decommissioning

- Extent of decommissioning security can vary substantially from project to project.
  - Letter of credit.
  - Commercial surety bond
  - Decommissioning security agreement with cash collateral.
- Uniform decommissioning and site restoration standards have not been implemented in Kansas. (Note: The absence of such requirements underscores the importance of a comprehensive decommissioning plan.)

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## Effect of wind energy easements upon pre-existing easements, and vice versa.

- Once an easement is created, the landowner is the servient tenant and the easement holder is the dominant tenant. The servient landowner may continue to use the land provided such use does not interfere with the exercise of the easement granted.
- Easement holders generally are entitled to "reasonable enjoyment" of their easements.
- With respect to encroachment, it must be shown by a preponderance of the evidence that such encroachment was of a "material character" to constitute an unreasonable interference with the easement.
- *Southern Star Central Gas Pipeline, Inc., v. Cunning*, 37 Kan. App. 2d 807, 157 P.3d 1120 (2007) reflects an updated summary of landowner and easement holder rights in Kansas.
- Given the proliferation of easement holders on given tracts of land, non-interference/non-disturbance agreements are becoming increasingly common. (Note: Such agreements typically involve covenants of non-disturbance and indemnification.)

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## Conclusion

Given Kansas' "laissez-faire" philosophy concerning wind energy development, it is up to local governments, the wind energy industry, and even landowners to promote the responsible development of renewable energy sources in Kansas.

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## Section 3

### Case Law Update

**Prof. Roger A. McEowen**

*Iowa State University*

*Ames, IA*



# **Wind Energy Production: Legal Issues and Related Liability Concerns for Landowners in Iowa and Across the Nation\***

- By Roger A. McEowen\*\*

## **Overview**

Farmers have long used wind energy. Beginning in the 1800's, farmers installed several million windmills across the Midwest and Plains to pump water and generate power for lights and radios. Today, farmers, ranchers, and other rural landowners in suitable areas are utilizing wind energy in a different manner. By leasing out or granting easements over a portion of their land to wind energy developers for the installation of high-tech wind turbines, rural landowners hope to diversify overall income and provide additional stability to the variability of farm income. However, wind farming presents numerous legal issues that landowners must carefully consider before entering into an agreement with a wind development company.

## **The Potential for Wind Energy Development Nationally**

Wind farms are clusters of wind turbines that generate electricity. They tend to be located in areas with reliable and favorable wind speeds that are near electric power transmission lines and, in some instances, large cities.<sup>1</sup> Private companies are developing most of the wind farms in the U.S., typically by obtaining easements or leases from private landowners and assigning the rights obtained to power marketers, electric utilities, and, in some instances, directly to specific companies or government agencies. Presently, wind generates only about one percent of the power utilized in the U.S., but it is believed that by 2020, six percent of the nation's power will be generated by wind.<sup>2</sup>

Because wind turbines require large areas of land with strong, steady winds, certain parts of the country have the potential to be a significant player in the future development of wind farming.

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\*Presented at the Kansas Bar Association Wind Energy Law Seminar: The Whirlwind Tour, Garden City, Hays, Wichita, and Salina, KS, May 13-16, 2008.

\*\* Leonard Dolezal Professor in Agricultural Law, Iowa State University, Ames, Iowa, and Director of the ISU Center for Agricultural Law and Taxation, Member of the IA, KS, and NE Bars.

<sup>1</sup> The leading states in wind energy production are California, Texas, Iowa and Minnesota. The top five states for wind energy potential are North Dakota, Texas, Kansas, South Dakota and Montana.

<sup>2</sup> According to the Wind Energy Association, wind could produce over 10 billion kilowatts annually. That is three times the amount of power used presently in the United States. But, keep in mind that electricity represents only 39 percent of energy use in the United States.

## **Iowa's Growing Influence on Wind Energy Development**

Currently, Iowa is the third largest producer of wind energy in the United States, ranking behind only Texas and California.<sup>3</sup> According to Iowa State University's Iowa Energy Center, the potential for wind energy is the highest in northwest and north central Iowa, with average wind speeds of 15.7-17.9 mph.<sup>4</sup> In 1996, the Iowa legislature approved the creation of the Alternative Energy Revolving Loan Program (AERLP), a program designed to promote the development of wind energy production across the state.<sup>5</sup> Since its creation, the AERLP has provided nearly \$10.5 million of financing for renewable energy production, including financing of ten independent owners of wind turbines across Iowa.

Many state-wide producer-supported organizations, such as the Iowa Farm Bureau Federation (IFBF) support wind farming in Iowa. The IFBF estimates that Iowa alone has the potential to produce up to 4.8 times its own annual electrical consumption through wind power.<sup>6</sup> Wind turbine construction facilities in Iowa are being formed and creating jobs for Iowans, including residents in communities such as Newton and Fort Madison.<sup>7</sup> In addition, the Iowa Economic Development Board offers incentives such as forgivable loans and state tax credits and sales tax refunds to those companies seeking to invest in wind energy production in Iowa.<sup>8</sup>

## **Government Incentives for Wind Energy Production**

Both the federal government and numerous states have provided incentives to encourage wind energy development. The federal Renewable Energy Production Tax Credit provides an income tax credit per kilowatt-hour for the production of electricity from a qualified wind energy facility placed in service after December 31, 1993, and before January 1, 2009.<sup>9</sup> The credit is presently 1.9 cents per kilowatt-hour and is adjusted annually for inflation. The credit applies to each kilowatt-hour of electricity produced from wind that is sold to unrelated parties during the first 10 years after a wind energy facility is placed in service. Likewise, the Renewable Energy Production Incentive Program provides financial incentive payments for electricity produced and sold by new qualifying renewable energy generation facilities. For depreciation purposes, renewable energy systems placed in service after 1986 are classified as 5-year property utilizing the double-declining balance method. At the state level, some states exempt renewable energy property from state property tax.<sup>10</sup>

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<sup>3</sup> <http://www.energy.iastate.edu/renewable/wind> (Iowa Energy Center, Renewable Energy and Energy Efficiency).

<sup>4</sup> *Id.*

<sup>5</sup> Iowa Code §476.46. \$5.9 million were funneled toward Iowa's investor-owned utilities to be managed by the Iowa Energy Center.

<sup>6</sup> <http://www.iowafarmbureau.com/windassessments>

<sup>7</sup> <http://domesticfuel.com/2008/02/18/wind-energy-bringing-more-jobs-to-iowa/>

<sup>8</sup> *Id.*

<sup>9</sup> I.R.C. §45.

<sup>10</sup> See, eg., Kan. Stat. Ann. §79-201.

## Iowa Tax Incentives

Wind energy, including electricity generated by wind turbines, qualifies as an alternative and renewable energy source in the state of Iowa for purposes of the Iowa Renewable Energy Tax Credit.<sup>11</sup> To qualify as an eligible wind energy conversion facility for the purpose of taking advantage of the credit, the facility must be located in Iowa, with at least 51% owned by an Iowa resident or authorized farming corporation, limited liability corporation, trust, family farm corporation, family trust, an electric cooperative association, or school district.<sup>12</sup> The credit is 1.0 cent per kilowatt hour for energy sold by eligible wind energy producing facilities.<sup>13</sup> The maximum total to be applied toward personal income tax, business income tax, or a financial institution's tax is for 450 megawatts. To qualify for the credit, the wind-generating facility must be approved by the Iowa Utilities Board.<sup>14</sup>

To further incentivize wind energy development, Iowa offers a special property tax valuation for "wind energy conversion property"- defined as the property with windmills, wind turbines, towers and electrical equipment and substations.<sup>15</sup> To qualify for this special valuation, a city council or county board of supervisors must approve the application by ordinance, to be enacted, not less than 30 days after a public hearing is held.<sup>16</sup> Qualifying wind energy conversion property, first assessed on or after January 1, 1994, shall be valued for property taxes for the first year at zero percent of the net acquisition cost.<sup>17</sup> For subsequent years, the rate increases by five percentage points each year of the net acquisition costs.

The Iowa Department of Revenue has issued a policy letter to explain that the sales price of a crane that is purchased for use in installing wind energy conversion property is exempt from sales and use tax.<sup>18</sup> However, the purchase of equipment used to construct roads for use in the construction of wind energy conversion property is not exempt.<sup>19</sup> The sales price from the sale of wind energy conversion property along with the sale of *materials* used to manufacture, install or construct wind energy conversion property is exempt from sales and use tax.<sup>20</sup> "Wind energy conversion property" means any device, including, but not limited to, a wind charger, windmill, wind turbine, tower and electrical equipment, pad mount transformers, power lines, and

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<sup>11</sup> Iowa Code § 469.31 (2008).

<sup>12</sup> Iowa Code §476C.1(2008) (at least one owner for each two must have one-half megawatts of nameplate generating capacity or the energy production capacity equivalent for hydrogen fuel or heat for a commercial purpose of the otherwise eligible renewable energy facility.)

<sup>13</sup> *Id.*

<sup>14</sup> *Id.*

<sup>15</sup> Iowa Code § 427B.26. The provision is limited by Iowa Code §476B.4, which disallows wind-energy production tax credit for kilowatt-hours of electricity produced on "wind-energy conversion property." In addition, no tax credits are allowed if the electricity is sold to a related person.)

<sup>16</sup> *Id.*

<sup>17</sup> *Id.*

<sup>18</sup> IDOR Policy Letter, 2008-08300008 (Jan. 30, 2008).

<sup>19</sup> *Id.*

<sup>20</sup> IOWA CODE § 423.3(54) (2008).

substation, which converts wind energy to a form of usable energy. So, IDOR has taken the position that a crane used to erect towers and raise nacelles and their contents and rotor blades to a proper height qualifies as “materials” used to install wind energy conversion property. IDOR specifically noted that “materials” commonly refers to “tools or apparatus for a particular task.”<sup>21</sup> However, a road used to get the “materials” to the site does not qualify as “wind energy conversion property.”<sup>22</sup> Thus, the equipment that is purchased for use in constructing these roads does not qualify for the tax exemption.<sup>23</sup>

### **The Mechanics of Wind Turbines**

A wind turbine is a very sophisticated machine with computerized controls that sits atop a tower that typically ranges from 184 to 328 feet high. The blades are approximately 100 long and weigh between 8,000 and 10,000 pounds. The cost to install is approximately \$1 million per megawatt (MW) of installed capacity, with the typical turbine having an installed capacity of 750 kilowatts to 1.5 megawatts. A 1.5 megawatt turbine can generally produce enough energy to power 400-500 homes annually. Approximately 10 MW can be placed on a section of land. Wind turbines are typically placed anywhere from 5-10 rotor diameters apart. Thus, a section of land can house anywhere from six to twelve turbines. Developers usually place the turbines as close together as possible to reduce the costs for wire and roads, but they do not want to create wake losses by placing the turbines too closely together.

A turbine’s generator output increases as wind speed increases, with maximum power typically generated with wind speeds of 30-35 mph. The turbines are usually programmed with cut-out wind speed of between 55 and 65 mph.

### **Liability Concerns- When Will Civil Damages Be Awarded to a Landowner?**

There are several legal liability issues that may arise from the construction, maintenance, and energy production from wind turbines on agricultural land. Typically, a landowner is required to enter into written contractual agreements before a wind turbine is constructed on the land. It is important to keep in mind that tort liability may be assessed in cases where harm results as a result of a party’s negligence with respect to the construction or maintenance of wind turbines. A rural landowner must be careful to specify in any contract that the landowner is not liable for the negligence of others with respect to wind turbines. A farmer may further protect himself from negligence liability by taking reasonable care in the operation of the wind turbines and having liability insurance in place to cover all unexpected claims. Generally, if a farmer is not in charge of the construction, maintenance or operation of a wind turbine, a lower standard of care will

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<sup>21</sup> IDOR Policy Letter, 2008-08300008 (Jan. 30, 2008).

<sup>22</sup> *Id.*

<sup>23</sup> *Id.*

apply. This does not necessarily mean, however, that a farmer or landowner will be immune from liability in a negligence suit.

Nuisance is another common tort in the realm of wind energy production, where a wind farm may interfere with another person's use or enjoyment of his or her property. To be held liable for a private nuisance, the interference must be substantial and unreasonable. Sometimes a private nuisance claim leads to a finding of damages. On the other hand, a public nuisance is an "unreasonable interference with a right that is common to the general public," meaning that it interferes with "public health, safety, comfort, or convenience or is illegal." Public nuisances are rare.

### **Criminal Liability for Fraudulent Conduct**

While most liability disputes relating to wind energy projects are handled in civil court according to contract or property law, criminal violations are possible. For example, in September 2007, the pioneer of Minnesota's wind energy development initiative was charged with participating in fraudulent conduct in the Federal District Court in Minnesota.<sup>24</sup> Allegedly, the wind developer overstated the amount of power being produced by wind generators in operation for 2003 and 2004, amounting to nearly \$388,000 in overcharges assessed to the energy purchasing company.<sup>25</sup> The amount of wind energy produced in the state of Minnesota significantly increased from 25 megawatts in 1994, to almost 900 megawatts in 2007, making Minnesota the fourth largest wind energy producer in the nation.<sup>26</sup> The wind developer, owner of a family-owned company with hundreds of community and private investors across southwestern Minnesota, vehemently denied the criminal charges, stating that the last thing he would want to do is defraud his purchasers.<sup>27</sup> However, a 2005 search warrant uncovered evidence of the overstatement in billing. A contributing factor in the Federal charges was the additional billing of nearly \$176,000, in 2003 and 2004, to the Minnesota Commerce Department for state wind energy incentive payments.<sup>28</sup>

### **Recent National Case Law and Developments**

There has been an increase across the nation in litigation involving the construction and placement of wind farms. In November 2007, a local Vermont Board of Civil Authority (BCA) ruled that a wind turbine reduced the value of adjacent property by 10 percent for real property tax purposes.<sup>29</sup> The evidence showed that the wind turbine was within 300 feet of the petitioner's

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<sup>24</sup> *Wind Energy Pioneer Facing Federal Fraud Charges*, THE BISMARCK TRIBUNE, North Dakota News Section, Sept. 23, 2007, available at <http://www.bismarcktribune.com/articles/2007/09/23/news/state/139817.txt>.

<sup>25</sup> *Id.*

<sup>26</sup> *Id.*

<sup>27</sup> *Id.*

<sup>28</sup> *Id.*

<sup>29</sup> Orleans County Vermont, Town of Derby, Board of Civil Authority Ruling, November 2007.

home, and the petitioner claimed that the turbine's noise, blinking light, glare from the blades, and resulting vibrations decreased the home's value.<sup>30</sup>

More recently, the Supreme Court of New York approved setback requirements for wind turbine placement away from residences, public roads, and properties that did not contain wind turbines.<sup>31</sup> The county agency's approval of minimum setback requirements was not a de facto unconstitutional taking within the scope of the New York Constitution.<sup>32</sup> Since the agency gave reasons for its determination, including environmental concerns, the surrounding property owners were able to distance themselves from the turbine facilities.<sup>33</sup>

In March 2008, a landowner in Missouri sued the county commission which approved the construction of a large-scale wind farm adjacent to his property.<sup>34</sup> The landowner also claimed that he was physically attacked by a county commissioner for his public opposition to the siting of the wind turbines.<sup>35</sup> In addition, the landowner claimed that the wind turbines were a nuisance, because his land was completely surrounded by the turbines, the turbines caused a "powerful strobe light effect," were loud and contributed to the loss of equity and marketability of his home and the loss of view and quiet enjoyment of his property.<sup>36</sup> The case is currently pending in federal district court in Missouri.

In November 2007, a local Vermont Board of Civil Authority (BCA) ruled that a wind turbine reduced the value of adjacent property by 10 percent for real property tax purposes.<sup>37</sup> The evidence showed that the wind turbine was within 300 feet of the petitioner's home, and the petitioner claimed that the turbine's noise, blinking light, glare from the blades, and resulting vibrations decreased the home's value.<sup>38</sup> Before reaching their decision, the BCA sent a committee of three persons to visit the petitioner's property to evaluate the situation.<sup>39</sup> The committee reported back that the turbine produced constant sound and flashing lights from its turning blades, and recommended an eight percent reduction in valuation of the petitioner's property.<sup>40</sup>

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<sup>30</sup> *Id.* Before reaching their decision, the BCA sent a committee of three persons to visit the petitioner's property to evaluate the situation. The committee's report to the Board stated that the turbine produced constant sound and flashing lights from its turning blades, and recommended an eight percent reduction in the valuation of the petitioner's property.

<sup>31</sup> *Advocates for Prattsburgh, Inc., v. Stueben County Industrial Development Agency*, 1496 CA 07-00386, 2008 N.Y. App. Div. LEXIS 804 (N.Y. Ct. App. Feb. 1, 2008).

<sup>32</sup> *Id.*

<sup>33</sup> *Id.*

<sup>34</sup> *Porter v. Gentry County Commission*, Civ. Action No. 08-6029-CV-SJ-SWH (W.D. Mo., Mar. 24, 2008).

<sup>35</sup> *Id.*

<sup>36</sup> *Id.*

<sup>37</sup> Orleans County Vermont, Town of Derby, Board of Civil Authority Ruling, November 2007.

<sup>38</sup> *Id.*

<sup>39</sup> *Id.*

<sup>40</sup> *Id.*

On March 13, 2008, the South Dakota Governor signed H.B. 1320 into law. The legislation exempts power-generating wind farms from most state and local taxes, but subjects them to an alternative annual tax that is based on the number of kilowatts a wind farm can produce. Also, the bill specifies that any company owning or leasing a wind farm is subject to retail sales and service taxes. But, wind energy facilities and energy transmission equipment is exempt for other state, county, municipal and district taxes.

On April 18, 2008, the Federal Aviation Administration (FAA) was ordered to reconsider its decision to allow the construction of a wind farm near the site of the new Las Vegas Airport.<sup>41</sup> The evidence presented indicated that the turbines would interfere with the airport's radar systems. The Federal district court determined that the FAA's determination was arbitrary and capricious.<sup>42</sup>

In a recent New York case, the plaintiff bought the defendant's farm (including the residence) and sought to have the sale contract rescinded based on the seller's alleged fraud and misrepresentations for not disclosing that plans were in the works for the construction of large wind turbines on an adjacent parcel.<sup>43</sup> The plaintiffs submitted the affidavit of a neighbor of the defendant who detailed two conversations with the defendant that occurred months before the defendant put his farm on the market during which the wind farm development was discussed.<sup>44</sup> The defendant, at that time, stated that the presence of commercial wind turbines on the adjacent tract would "force" him to sell his farm.<sup>45</sup> When the plaintiff sought to rescind the contract, the defendant claimed he had no duty to the plaintiff and that the doctrine of caveat emptor ("buyer beware") was a complete defense to the action.<sup>46</sup> The court denied summary judgment for the seller and allowed the case to go to trial.<sup>47</sup>

### **Recent Legal Developments in Iowa With Respect to Wind Energy**

Several school districts in Iowa have taken an interest in wind-energy production. In 2003, when a school district began generating wind power from a donated wind turbine, they claimed to have an agreement with the city to sell the electricity.<sup>48</sup> Relying on the agreement, the school constructed a new wind turbine.<sup>49</sup> The city brought suit, claiming that any contract entered into between the school and the city was void, because the municipality lacked authority to make

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<sup>41</sup> Clark County v. Federal Aviation Administration, No. 06-1377, 2008 U.S. App. LEXIS 8382 (D.C. Cir. Apr. 18, 2008).

<sup>42</sup> *Id.*

<sup>43</sup> Boyle, et al. v. McGlynn, et al., 814 N.Y.S.2d 312 (2006).

<sup>44</sup> *Id.*

<sup>45</sup> *Id.*

<sup>46</sup> *Id.*

<sup>47</sup> *Id.*

<sup>48</sup> City of Akron v. Akron-Westfield Community School District, 659 N.W.2d 223 (Iowa 2003).

<sup>49</sup> *Id.*

such an agreement.<sup>50</sup> The Iowa Supreme Court cautioned that the school was on notice that the city had no authority to enter into an agreement to purchase the electricity generated by its turbines.<sup>51</sup> The school was left without any recourse in this dispute. Presently, several other school districts across the state have become interested in wind-energy production as a possible revenue-raiser. It remains to be seen what the courts will allow.

In 2003, when a utility customer erected a wind turbine on his land and attempted to connect it with the electric service being provided to him by his electric company, the Iowa Supreme Court determined the proper hierarchy of authority in this area.<sup>52</sup> The issue was whether the Iowa Code sections relating to alternative energy providers, such as wind turbines, applied to an electric company, regulated by The Federal Public Utility Regulatory Policies Act (PURPA).<sup>53</sup> The court found that since the electric utility was not subject to the Iowa Code, federal law prevailed here.<sup>54</sup>

In a related context, Iowa Courts have recently addressed the issue of adjacent landowners' rights to input in the construction of cell phone towers. In this case, the plaintiff, a landowner, challenged the construction of a cell phone tower built across the road from his home, on the basis that he was not given adequate notice of the hearing held regarding the issuance of a permit for the tower's construction.<sup>55</sup> The Iowa Court of Appeals ruled that the landowner was only entitled to notice by publication at least seven days before the time set for public hearing.<sup>56</sup>

The court noted that Iowa law requires that notice of a pending application for a conditional use permit must be reasonable under the circumstances.<sup>57</sup> So, rural landowners objecting to the construction of cell towers or wind turbines must be diligent in determining the time and place of public hearings.

### **The Battle Over Net-Metering in Iowa and its Effect on National Regulatory Policy**

The Iowa Court of Appeals has rendered the latest court opinion in a legal battle over net metering that has been going on in Iowa for about 10 years. Iowa's net metering rule was a creation of the Iowa Utilities Board in 1983 and allows customers with alternative energy generation systems to sell electricity to their investor-owned utilities on a netted basis against

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<sup>50</sup> *Id.*

<sup>51</sup> *Id.*

<sup>52</sup> Office of Consumer Advocate v. Iowa Utilities Board, 656 N.W. 2d 101 (Iowa 2003).

<sup>53</sup> *Id.*

<sup>54</sup> *Id.*

<sup>55</sup> McClure v. Verizon Wireless, No. 7-394/06-0244, 2007 Iowa App. LEXIS 1061 (Iowa Ct. App., Oct. 12, 2007).

<sup>56</sup> *Id.*

<sup>57</sup> *Id.*

their metered retail usage.<sup>58</sup> In this case, the plaintiffs bought wind-powered generators from another plaintiff and tried to reduce their energy expenses by producing their own power and selling any excess energy to the defendant- a non-regulated utility. But, the Iowa net metering rules do not apply to electric cooperatives because they are not regulated by the Iowa Utilities Board (IUB). The plaintiffs sued in federal court, but the case was dismissed for lack of subject matter jurisdiction. The plaintiffs then took the matter to the Federal Energy Regulatory Commission (FERC) on the basis that their wind energy system was a qualifying facility (QF) under the Public Utility Regulatory Policies Act (PURPA) and also filed an action in state district court.

In 2005, the Iowa Supreme Court reversed its previous ruling and concluded that net metering was not required by either Iowa or federal law. The court noted that the issue of net metering carried with it great policy concerns, and that FERC was the appropriate tribunal to decide whether net metering fit within the requirements of PURPA. Specifically, the Court held that PURPA did not require net metering by non-regulated utilities. Shortly after the Iowa Supreme Court issued its ruling, FERC found that even though PURPA did not explicitly require net metering, the defendant had to offer net metering to the plaintiffs.

Later in 2005, the President signed into law the Energy Policy Act of 2005 (Act). While the Act does not mandate federal net metering and interconnection standards, it does direct non-regulated utilities to consider whether to adopt net metering within three years of enactment of the Act. In early 2006, upon reconsideration of its 2005 order, FERC reversed itself in light of the Act vesting discretion in the defendant to determine whether net metering should be offered to customers. The plaintiffs sought enforcement of FERC's 2005 ruling, but the trial court refused.

On further review, the Iowa Court of Appeals affirmed. The court held that the trial court's ruling was consistent with the Act which entrusted the decision to offer net metering to the defendant and not FERC.<sup>59</sup>

### **Federal Farm Program Payment Eligibility**

When negotiating a wind energy easement, it is important for rural landowners to understand the impact such an agreement may have on their eligibility for federal farm program payments. Farmers should consult their local Farm Service Agency before entering into these agreements for a more detailed explanation of the program rules and whether they will lose benefits or suffer serious financial penalties.

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<sup>58</sup> The rule (Iowa Admin. Code §199-15.11(5)) applies to all customer classes. There is no mention of a limit on either the size of a net metering system or on total enrollment. The rule requires that utilities purchase customers' net excess generation at avoided cost- the utility's incremental cost for capacity or energy (or both) that, but for the acquisition of energy or capacity from another source, the utility would have to incur.

<sup>59</sup> *Windway Technologies, Inc., et al. v. Midland Power Cooperative*, No. 6-836/06-0276, 2007 Iowa App. LEXIS 284 (Iowa Ct. App. Mar. 14, 2007).

For those farmers considering wind energy easements and participating in the Direct and Counter-cyclical Payment Program, authorized by the 2002 Farm Bill, there is a prohibition on making nonagricultural use of acreage enrolled in the program. Farmers will need to consider if there will be a penalty for withdrawing acreage from the program for the purpose wind energy.

### **Legal Issues for Landowners to Consider in Negotiating Wind Energy Easements**

A wind energy agreement should never be negotiated without first having the agreement reviewed by legal counsel. Wind energy agreements are long-term agreements that will impact the land subject to the agreement for many years, likely beyond the lifetime of the landowner who executes the agreement. The following is a list of questions that landowners should ask when analyzing any wind energy agreement:

Scope questions:

- How much of the land will be subject to the agreement?
- How long will the land subject to the agreement be affected?
- Based on the property rights that are given up, are the proposed payments adequate for the present time and for the life of the agreement? (Note: The answer to this question requires an understanding of the mechanics and economics of wind energy production.)

Payment questions:

- If the agreement offers an up-front lump-sum payment, is the payment representative of a fair amount of the rights involved?
- What are the tax consequences of wind energy payments that will be paid under the agreement? (Note: The answer to this question depends on tax changes at the federal and state levels; the area is in an almost constant state of flux.)
- Are payments under the agreement based on revenues generated by the wind turbines? Can the landowner get information as to how the owner's revenue will be calculated?

What are the developer's rights with respect to the land?

- Does the developer want to develop the land or simply use a portion of the surface for a term of years?
- Does the agreement guarantee that a set number of wind energy turbines will be constructed on the land by a specific date and, if not, is the developer willing to guarantee a minimum amount of payments?

- Is the developer able to sell or transfer without the landowner's consent any of the land use rights obtained under the agreement? If so, will the original developer remain liable if the new developer or holder of the easement right does not pay the landowner or otherwise defaults?
- What events trigger the developer's right to terminate the contract? Can the developer terminate the contract at any time without cause? If so, how are payments due under the agreement to be handled?

What are the landowner's rights?

- What termination rights does the landowner have? How does the landowner exercise those rights?
- If the agreement is terminated, whether by consent of the parties or otherwise, what happens to the wind energy structures and located facilities erected on the property? What is the developer required to remove? How soon must structures be removed? Who pays for their removal?

When a wind energy agreement is being negotiated, certain issues are critical to the creation of an equitable agreement. Unfortunately, a common problem with many wind energy agreements is that once they are proposed and submitted to a landowner, the company wanting to execute an agreement tends to refuse to negotiate changes to the terms of the agreement. The company's ability to refuse to negotiate terms of the proposed agreement will depend largely on whether a landowner has meaningful options and competent legal representation.<sup>60</sup> Key provisions to a wind energy agreement that require careful attention by legal counsel for landowners contemplating a wind farm include the following:

- Is the proposed contract a lease or an easement? If a lease is involved, it should be long enough for the developer to recoup its investment (probably at least 20 years). Does the developer have a right of renewal? If so, does the landowner have the right to renegotiate any of the lease terms? Any lease should not be perpetual- a violation of the rule against perpetuities might be involved (at least in those states that have retained the rule).
- If an easement is involved, does the easement include turbine sites, substations, air space, buffer areas, vegetation restrictions, building restrictions, transmissions, and associated rights of way?

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<sup>60</sup> Of particular concern is a provision in many wind energy agreements under which the landowner agrees to indemnify and reimburse the developer if a third party on the property with the landowner's permission damages the wind farm structures. For example, if a landowner contracts with a custom cutter to harvest crops on the premises that is also subject to a wind energy lease, and the custom cutter's activities set the field on fire, causing damage to the wind farm structures, the landowner, under such an indemnification provision, is liable for the resulting damage. Another concern is that with some wind energy agreements, the landowner executes the contract with a shell corporation created solely for liability purposes.

- Is a sale of the land contemplated? If so, how is the selling price computed? Any sale price should consist of the fair market value of the land plus the wind energy value.
- What is the amount of compensation to be paid? Take care to ensure that the definition of “gross revenue” is done properly. Is it defined as the sale of electrons or the sale of green credits, or is it calculated in some other manner?
- Is the revenue to be a flat amount annually, an annual payment per tower, a percentage of gross proceeds, a payment of a certain amount of kilowatt hours generated annually, or an amount based on the selling price of megawatts per year, whichever amount is greater?
- Is an inflationary factor built into the contract payment provisions? To protect the landowner’s interest, there should be.
- Does the agreement cover land that will not be needed for the wind farm and related structures? From the landowner’s perspective, there shouldn’t be such coverage.
- An up-front lump-sum payment has tax consequences- make sure they are understood.
- What are the intentions of the developer concerning the use of the land? That makes understanding the use provisions of the agreement of primary importance. The construction clause should limit the construction of wind energy structures to not more than 3 or 4 years with adequate compensation paid to the landowner for restricting the use of the land during that time.
- Can the developer assign the agreement? If so, a clause should be inserted that ensures the original developer’s liability if the assignee defaults under the terms of the agreement. (Note: Developers want the ability to assign the agreement and subordination language.)
- Is the landowner willing to consent to a mortgagee of the developer? If so, a clause should be included that limits the landowner’s obligations to the mortgagee.
- Consider including an indemnification clause that indemnifies the landowner for any liability incurred as a result of permissive activities (such as crop tenants, custom harvesters, and subsurface tenants) on the property subject to the wind energy agreement.
- What are the landowner’s rights concerning usage of the property?
- Consider the use of a clause that requires the landowner to be treated as favorably as neighbors (consider how to define “neighbor”) executing similar agreements.
- Include a clause requiring the removal of all improvements the developer makes upon termination (whether voluntary or otherwise) of the agreement. Relatedly, for developments in

the Flint Hills, include a provision specifying which party gets the rock that gets excavated to build the wind energy structures.

- Require the agreement to be recorded (not just a “memorandum of agreement”) to eliminate the necessity of having to locate a copy of the lease in the event of sale or mortgage of the property.
- Never agree to confidentiality clauses concerning the terms and conditions of the agreement.
- Have the contract reviewed by the landowner’s insurance agent for analysis of any additional risks created by the wind energy project.
- Will the agreement violate any USDA land-use restrictions if the subject land is enrolled in a USDA program? If such a possibility exists, consider including in the agreement a clause requiring the developer to indemnify the landowner for any lost government payments or the imposition of any penalties.
- Evaluate the agreement with an eye toward the risk faced by the landowner. This includes environmental concerns, issues that could be raised by neighbors (i.e., nuisance-related concerns), and potential violation of applicable zoning and set-back requirements.

### **Conclusion**

Clearly, wind farming has the potential to provide significant economic benefits for rural landowners. However, substantial peril exists that landowners who don’t carefully evaluate proposed agreements with developers can be taken advantage of significantly. Landowners should have any proposed agreement evaluated by legal counsel and attempt to negotiate any unfavorable terms. Failure to do so could result in many years of dissatisfaction for landowners.



## Section 4

### Best Practices Panel

**Bob Glass**

*Kansas Corporation Commission*

**Krista J. Gordon**

*Iberdrola Renewable Energies USA*

**Stuart S. Lowry**

*Kansas Electric Cooperatives, Inc.*

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**Melvin J. Sauer, Jr.**

*Dreiling Bieker & Hoffman*

**W. Thomas Stratton, Jr.**

*Kansas Corporation Commission*



**Kansas Bar Association  
Wind Energy Law**




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**Kansas Electric Cooperatives**

**29 Distribution Cooperatives**  
**3 Generation and Transmission Cooperatives**

- ◆ KEPCo
- ◆ Sunflower
- ◆ KAMO




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**All-requirements contract**

- ◆ Provides credit support for generation/transmission component of electric cooperative
- ◆ Promotes equity among members
- ◆ Can accommodate wind energy
- ◆ Role of Rural Utilities Service




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### Different types of wind projects

- ◆ Wind Farm, ie Gray County/Smoky Hills
- ◆ Community Wind—smaller than wind farm but closer to utility scale.
- ◆ Customer owned wind generation.




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### Utility role in Wind Farm transaction

- ◆ Utility has legal obligation to focus on:
  - Member/owner of utility
  - Public Utility Consumer
- ◆ Utility has economic development interest in supporting:
  - Investor in community wind project
  - Landowner wanting lease payments




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### Interconnection issues in wind energy transaction

- ◆ Technical and Operational issues
  - Purpose of interconnection
    - Offset localized electric load—simple
    - Place power on grid—more complex
  - Size of interconnected wind facility
    - Larger interconnects more complex
    - Localized system designed for reverse flows?




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## Interconnection issues in wind farm transaction

- ◆ Technical and Operational issues (cont.)
  - Intermittency—Additional costs:
    - Requires load following in real time
    - Requires ancillary services such as load balancing
  - Developer and utility address issues in collaborative process.




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## Price issues in utility scale wind transaction

- ◆ Price/buyback rate
  - Compare apples to apples
    - What cost is offset by wind resource?
      - Gas—more expensive fuel.
        - Less than 5% of all generation in Kansas
      - Coal—less expensive fuel.
        - 80% of generation in Kansas.
    - What is the availability of the wind resource?
      - Typical capacity factor for wind—40%
      - Typical capacity factor for coal—85%




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## Customer-owned generation

- ◆ Various types of distributed generation (DG)—focus on wind.
- ◆ Smaller scale than wind farm or community wind
- ◆ Typical residential/commercial wind interconnection.
  - Residential <25 kw
  - Commercial <200 kw




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**Customer-owned generation**

- ◆ Role of attorney in customer-owned generation transaction.
  - Contract/regulation review
  - Easement
  - Zoning
  - Recommendation for economic analysis




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**Specific issues in DG transaction**

- ◆ Interconnection
  - Operational and Reliability Concerns must be addressed.
- ◆ Price/buyback rate
  - Who can or will purchase energy?
  - What will price be?




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**Specific issues DG transaction**

- ◆ Interconnection
  - Contract between Utility and Wind Generator.
  - Address technical and operational issues




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## Specific issues in DG transaction

- ◆ Technical and Operational issues
  - Safety of utility employees and the public—IEEE 1547. (Institute of Electrical and Electronics Engineers)
  - FERC protocols and procedures—SGIA and SGIP
    - Standardized contracts—collaborative development by all stakeholders
    - Common industry considerations




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## Price issues in small wind transaction

- ◆ Price/buyback rate—what does the utility pay the generator
  - Kansas Law—parallel generation statute—K.S.A. 66-1,184.
    - Applies to limited interconnections—limited size/primary use.
    - 150% of system average cost of energy—more than avoided cost rates under PURPA
  - Avoided cost rates—PURPA
    - The cost of acquiring energy through another source.




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## Price issues in wind transaction

- ◆ Price/buyback rate (cont.)
  - Avoided cost rates—PURPA (cont.)
    - Other source in this case would be cost of purchases or utility owned generation at the same delivery point.
    - Each supplier will have different avoided cost at each delivery point.
    - Intermittency (again). Avoided cost will look at energy portion of cost, not demand.
    - Installation of new wind does not offset need for capacity. Those costs are not avoided.




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## Kansas Parallel Generation

- ♦ K.S.A. 66-1,184
- ♦ Utility customer generates electricity for his or her own use.
- ♦ Excess generation may be sold to utility.
- ♦ Excess generation measured in real time—no banking/storage of energy



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## K.S.A. 66-1,184 (cont.)

- ♦ Eligible interconnections limited in size:
  - Residential customer—25 kw or smaller
  - Commercial customer—200 kw or smaller
  - Cloud County or Dodge City CC—1.5 MW or smaller.
- ♦ Generator must be sized to customer's load.
- ♦ Up to 10 irrigation pumps may be connected.
- ♦ Protective devices required



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## K.S.A. 66-1,184 (cont.)

- ♦ Contracts include provisions for fair and equitable compensation of at least:
  - Residential customer—150% of system average cost of energy per kwh.
  - Commercial customer—150% of system average cost of energy per kwh.
  - Cloud County or Dodge City CC—System average cost of energy
- ♦ Buyback rate—more than avoided cost but less than retail (fully delivered) rate.



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## Parallel Generation

- ◆ K.S.A. 66-1,184 limits parallel generation interconnections to capacity of distribution line to which interconnection is made.
- ◆ Enhanced buyback rate eliminated after interconnections equal 4% of utility peak power requirements.



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## Conclusion

Stuart S. Lowry  
Executive Vice President/General Counsel  
Kansas Electric Cooperatives, Inc.



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KANSAS STATUTES ANNOTATED  
CHAPTER 66.--PUBLIC UTILITIES  
ARTICLE 1.--POWERS OF STATE CORPORATION COMMISSION  
PARALLEL GENERATION SERVICES

**66-1,184. Contracts for parallel generation services between electric utilities and their customers; terms and conditions; duties of customer; renewable generation by certain community colleges, requirements, financing; generation included in state's energy generation by wind power.**

(a) Except as provided in subsection (b), every public utility which provides retail electric services in this state shall enter into a contract for parallel generation service with any person who is a customer of such utility, upon request of such customer, whereby such customer may attach or connect to the utility's delivery and metering system an apparatus or device for the purpose of feeding excess electrical power which is generated by such customer's energy producing system into the utility's system. No such apparatus or device shall either cause damage to the public utility's system or equipment or present an undue hazard to utility personnel. Every such contract shall include, but need not be limited to, provisions relating to fair and equitable compensation on such customer's monthly bill for energy supplied to the utility by such customer.

(b) (1) For purposes of this subsection:

(A) 'Utility' means an electric public utility, as defined by K.S.A. 66- 101a, and amendments thereto, any cooperative, as defined by K.S.A. 17-4603, and amendments thereto, or a nonstock member-owned electric cooperative corporation incorporated in this state, or a municipally owned or operated electric utility;

(B) 'school' means Cloud county community college and Dodge City community college.

(2) Every utility which provides retail electric services in this state shall enter into a contract for parallel generation service with any person who is a customer of such utility, if such customer is a residential customer of the utility and owns a renewable generator with a capacity of 25 kilowatts or less, or is a commercial customer of the utility and owns a renewable generator with a capacity of 200 kilowatts or less or is a school and owns a renewable generator with a capacity of 1.5 megawatts or less. Such generator shall be appropriately sized for such customer's anticipated electric load. A commercial customer who uses the operation of a renewable generator in connection with irrigation pumps shall not request more than 10 irrigation pumps connected to renewable generators be attached or connected to the utility's system. At the customer's delivery point on the customer's side of the retail meter such customer may attach or connect to the utility's delivery and metering system an apparatus or device for the purpose of feeding excess electrical power which is generated by such customer's energy producing system into the utility's system. No such apparatus or device shall either cause damage to the utility's system or equipment or present an undue hazard to utility personnel. Every such contract shall include, but need not be limited to, provisions relating to fair and equitable compensation for energy supplied to the utility by such customer. Such compensation shall be not less than 100% of the utility's monthly system average cost of energy per kilowatt hour except that in the case of renewable generators with a capacity of 200 kilowatts or less, such compensation shall be not less than 150% of the utility's monthly system average cost of energy per kilowatt hour. A utility may credit such compensation to the customer's account or pay such compensation to the customer at least annually or when the total compensation due equals \$25 or more.

(c) The following terms and conditions shall apply to contracts entered into under subsection (a) or (b):

(1) The utility will supply, own, and maintain all necessary meters and associated equipment utilized for billing. In addition, and for the purposes of monitoring customer generation and load, the utility may install at its expense, load research metering. The customer shall supply, at no expense to the utility, a suitable location for meters and associated equipment used for billing and for load research;

(2) for the purposes of insuring the safety and quality of utility system power, the utility shall have the right to require the customer, at certain times and as electrical operating conditions warrant, to limit the production of electrical energy from the generating facility to an amount no greater than the load at the customer's facility of which the generating facility is a part;

(3) the customer shall furnish, install, operate, and maintain in good order and repair and without cost to the utility, such relays, locks and seals, breakers, automatic synchronizer, and other control and protective apparatus as shall be designated by the utility as being required as suitable for the operation of the generator in parallel with the utility's system. In any case where the customer and the utility cannot agree to terms and conditions of any such contract, the state corporation commission shall establish the terms and conditions for such contract. In addition, the utility may install, own, and maintain a disconnecting device located near the electric meter or meters. Interconnection facilities between the customer's and the utility's equipment shall be accessible at all reasonable times to utility personnel. Upon notification by the customer of the customer's intent to construct and install parallel generation, the utility shall provide the customer a written estimate of all costs that will be incurred by the utility and billed to the customer to accommodate the interconnection. The customer may be required to reimburse the utility for any equipment or facilities required as a result of the installation by the customer of generation in parallel with the utility's service. The customer shall notify the utility prior to the initial energizing and start-up testing of the customer-owned generator, and the utility shall have the right to have a representative present at such test;

(4) the utility may require a special agreement for conditions related to technical and safety aspects of parallel generation; and

(5) the utility may limit the number and size of renewable generators to be connected to the utility's system due to the capacity of the distribution line to which such renewable generator would be connected, and in no case shall the utility be obligated to purchase an amount greater than 4% of such utility's peak power requirements.

(d) Service under any contract entered into under subsection (a) or (b) shall be subject to either the utility's rules and regulations on file with the state corporation commission, which shall include a standard interconnection process and requirements for such utility's system, or the current federal energy regulatory commission interconnection procedures and regulations.

(e) In any case where the owner of the renewable generator and the utility cannot agree to terms and conditions of any contract provided for by this section, the state corporation commission shall establish the terms and conditions for such contract.

(f) The governing body of any school desiring to proceed under this section shall, prior to taking any action permitted by this section, make a finding that either: (1) Net energy cost savings will accrue to the school from such renewable generation over a 20-year period; or (2) that such renewable generation is a science project being conducted for educational purposes and that such project may not recoup the expenses of the project through energy cost savings. Any school proceeding under this section may contract or enter into a finance, pledge, loan or lease-purchase agreement with the Kansas development finance authority as a means of financing the cost of such renewable generation.

(g) For the purpose of meeting the governor's stated goal of producing 10% of the state's

electricity by **wind** power by 2010 and 20% by 2020, the parallel **generation** of electricity provided for in this section shall be included as part of the state's energy **generation by wind** power.

**History:** L. 1979, ch. 208, § 1; L. 2001, ch. 196, § 1; L. 2007, ch. 180, § 5; July 1.

<General Materials (GM) - References, Annotations, or Tables>

#### REVISOR'S NOTES

Standard provisions of interconnection agreements, see 65-1238.

#### RESEARCH AND PRACTICE AIDS

Electricity ~~com~~8.4.

C.J.S. Electricity § 15.

#### CASE ANNOTATIONS

1. Where federal law has preempted field in area of cogeneration, KCC cannot require purchase of electricity from cogenerators at greater rates. Kansas City Power & Light Co. v. Kansas Corporation Comm'n, 234 K. 1052, 1054, 1057, 676 P.2d 764 (1984).

2. Statute does not violate taking clause, contracts clause or due process clause of Fifth Amendment. Kansas City Power & Light Co. v. Kansas Corporation Comm'n, 238 K. 842, 715 P.2d 19 (1986).

K. S. A. § 66-1,184, KS ST § 66-1,184

\_\_\_\_\_ELECTRIC COOPERATIVE, INC

**SMALL GENERATOR  
INTERCONNECTION AGREEMENT (SGIA)**

**(For Generating Facilities No Larger Than 20 MW)**

## NOTICE

\_\_\_\_\_ is an electric distribution cooperative operating in the state of Kansas and is exempt from FERC jurisdiction. \_\_\_\_\_ has adopted this standard FERC Small Generator Interconnection Agreement (SGIA) for setting a consistent and equitable set of rules for interconnecting small generation (less than 20 MW) to its system.

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Attachment 1 – Glossary of Terms

Attachment 2 – Description and Costs of the Small Generating Facility, Interconnection Facilities, and Metering Equipment

Attachment 3 – One-line Diagram Depicting the Small Generating Facility, Interconnection Facilities, Metering Equipment, and Upgrades

Attachment 4 – Milestones

Attachment 5 – Additional Operating Requirements for the Transmission Provider's Transmission System and Affected Systems Needed to Support the Interconnection Customer's Needs

Attachment 6 – Transmission Provider's Description of its Upgrades and Best Estimate of Upgrade Costs

This Interconnection Agreement ("Agreement") is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, by \_\_\_\_\_ Electric Cooperative, Inc. ("Cooperative"), and \_\_\_\_\_ ("Interconnection Customer") each hereinafter sometimes referred to individually as "Party" or both referred to collectively as the "Parties."

**Transmission Provider Information**

Cooperative: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

**Interconnection Customer Information**

Interconnection Customer: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Interconnection Customer Application No: \_\_\_\_\_

In consideration of the mutual covenants set forth herein, the Parties agree as follows:

**Article 1. Scope and Limitations of Agreement**

- 1.1 This Agreement shall be used for all Interconnection Requests submitted under the Small Generator Interconnection Procedures (SGIP) except for those submitted under the 10 kW Inverter Process contained in SGIP Attachment 5.
- 1.2 This Agreement governs the terms and conditions under which the Interconnection Customer's Small Generating Facility will interconnect with, and operate in parallel with, the Cooperative or the Cooperative's Transmission Provider's Transmission System.
- 1.3 This Agreement does not constitute an agreement to purchase or deliver the Interconnection Customer's power. The purchase or delivery of power and other services that the Interconnection Customer may require will be covered under separate agreements, if any. The Interconnection Customer will be responsible for separately making all necessary arrangements (including scheduling) for delivery of electricity with the applicable Transmission Provider.
- 1.4 Nothing in this Agreement is intended to affect any other agreement between the Transmission Provider and the Interconnection Customer.

## 1.5 Responsibilities of the Parties

- 1.5.1 The Parties shall perform all obligations of this Agreement in accordance with all Applicable Laws and Regulations, Operating Requirements, and Good Utility Practice.
- 1.5.2 The Interconnection Customer shall construct, interconnect, operate and maintain its Small Generating Facility and construct, operate, and maintain its Interconnection Facilities in accordance with the applicable manufacturer's recommended maintenance schedule, and in accordance with this Agreement, and with Good Utility Practice.
- 1.5.3 The Cooperative shall construct, operate, and maintain its Distribution System and Interconnection Facilities in accordance with this Agreement, and with Good Utility Practice.
- 1.5.4 The Interconnection Customer agrees to construct its facilities or systems in accordance with applicable specifications that meet or exceed those provided by the National Electrical Safety Code, the American National Standards Institute, IEEE, Underwriter's Laboratory, and Operating Requirements in effect at the time of construction and other applicable national and state codes and standards. The Interconnection Customer agrees to design, install, maintain, and operate its Small Generating Facility so as to reasonably minimize the likelihood of a disturbance adversely affecting or impairing the system or equipment of the Cooperative, the Transmission Provider and any Affected Systems.
- 1.5.5 Each Party shall operate, maintain, repair, and inspect, and shall be fully responsible for the facilities that it now or subsequently may own unless otherwise specified in the Attachments to this Agreement. Each Party shall be responsible for the safe installation, maintenance, repair and condition of their respective lines and appurtenances on their respective sides of the point of change of ownership. The Cooperative, Transmission Provider and the Interconnection Customer, as appropriate, shall provide Interconnection Facilities that adequately protect the Cooperative, Transmission Provider's Transmission System, personnel, and other persons from damage and injury. The allocation of responsibility for the design, installation, operation, maintenance and ownership of Interconnection Facilities shall be delineated in the Attachments to this Agreement.
- 1.5.6 The Transmission Provider shall coordinate with all Affected Systems to support the interconnection.

## 1.6 Parallel Operation Obligations

Once the Small Generating Facility has been authorized to commence parallel operation,

the Interconnection Customer shall abide by all rules and procedures pertaining to the parallel operation of the Small Generating Facility in the applicable control area, including, but not limited to; 1) the rules and procedures concerning the operation of generation set forth in the Tariff or by the applicable system operator(s) for the Cooperative, Transmission Provider's Transmission System and; 2) the Operating Requirements set forth in Attachment 5 of this Agreement.

1.7 Metering

The Interconnection Customer shall be responsible for the Cooperative's reasonable and necessary cost for the purchase, installation, operation, maintenance, testing, repair, and replacement of metering and data acquisition equipment specified in Attachments 2 and 3 of this Agreement. The Interconnection Customer's metering (and data acquisition, as required) equipment shall conform to applicable industry rules and Operating Requirements.

1.8 Reactive Power

1.8.1 The Interconnection Customer shall design its Small Generating Facility to maintain a composite power delivery at continuous rated power output at the Point of Interconnection at a power factor within the range of 0.95 leading to 0.95 lagging, unless the Cooperative has established different requirements that apply to all similarly situated generators in the control area on a comparable basis. The requirements of this paragraph shall not apply to wind generators.

1.8.2 The Transmission Provider is required to pay the Interconnection Customer for reactive power that the Interconnection Customer provides or absorbs from the Small Generating Facility when the Transmission Provider requests the Interconnection Customer to operate its Small Generating Facility outside the range specified in article 1.8.1. In addition, if the Transmission Provider pays its own or affiliated generators for reactive power service within the specified range, it must also pay the Interconnection Customer.

1.8.3 Payments shall be in accordance with the Interconnection Customer's applicable rate schedule then in effect unless the provision of such service(s) is subject to a regional transmission organization or independent system operator FERC-approved rate schedule. To the extent that no rate schedule is in effect at the time the Interconnection Customer is required to provide or absorb reactive power under this Agreement, the Parties agree to expeditiously file such rate schedule and agree to support any request for waiver of the Commission's prior notice requirement in order to compensate the Interconnection Customer from the time service commenced.

1.9 Capitalized terms used herein shall have the meanings specified in the Glossary of Terms in Attachment 1 or the body of this Agreement.

## **Article 2. Inspection, Testing, Authorization, and Right of Access**

### **2.1 Equipment Testing and Inspection**

2.1.1 The Interconnection Customer shall test and inspect its Small Generating Facility and Interconnection Facilities prior to interconnection. The Interconnection Customer shall notify the Cooperative of such activities no fewer than five Business Days (or as may be agreed to by the Parties) prior to such testing and inspection. Testing and inspection shall occur on a Business Day. The Cooperative may, at its own expense, send qualified personnel to the Small Generating Facility site to inspect the interconnection and observe the testing. The Interconnection Customer shall provide the Cooperative a written test report when such testing and inspection is completed.

2.1.2 The Cooperative shall provide the Interconnection Customer written acknowledgment that it has received the Interconnection Customer's written test report. Such written acknowledgment shall not be deemed to be or construed as any representation, assurance, guarantee, or warranty by the Cooperative of the safety, durability, suitability, or reliability of the Small Generating Facility or any associated control, protective, and safety devices owned or controlled by the Interconnection Customer or the quality of power produced by the Small Generating Facility.

### **2.2 Authorization Required Prior to Parallel Operation**

2.2.1 The Cooperative shall use Reasonable Efforts to list applicable parallel operation requirements in Attachment 5 of this Agreement. Additionally, the Cooperative shall notify the Interconnection Customer of any changes to these requirements as soon as they are known. The Cooperative shall make Reasonable Efforts to cooperate with the Interconnection Customer in meeting requirements necessary for the Interconnection Customer to commence parallel operations by the in-service date.

2.2.2 The Interconnection Customer shall not operate its Small Generating Facility in parallel with the Cooperative's distribution system or the Transmission Provider's Transmission System without prior written authorization of Cooperative and the Transmission Provider. The Cooperative will provide such authorization once the Cooperative receives notification that the Interconnection Customer has complied with all applicable parallel operation requirements. Such authorization shall not be unreasonably withheld, conditioned, or delayed.

### **2.3 Right of Access**

2.3.1 Upon reasonable notice, the Cooperative may send a qualified person to the

premises of the Interconnection Customer at or immediately before the time the Small Generating Facility first produces energy to inspect the interconnection, and observe the commissioning of the Small Generating Facility (including any required testing), startup, and operation for a period of up to three Business Days after initial start-up of the unit. In addition, the Interconnection Customer shall notify the Cooperative at least five Business Days prior to conducting any on-site verification testing of the Small Generating Facility.

- 2.3.2 Following the initial inspection process described above, at reasonable hours, and upon reasonable notice, or at any time without notice in the event of an emergency or hazardous condition, the Cooperative shall have access to the Interconnection Customer's premises for any reasonable purpose in connection with the performance of the obligations imposed on it by this Agreement or if necessary to meet its legal obligation to provide service to its customers.
- 2.3.3 Each Party shall be responsible for its own costs associated with following this article.

### **Article 3. Effective Date, Term, Termination, and Disconnection**

#### 3.1 Effective Date

This Agreement shall become effective upon execution by the Parties subject to acceptance by FERC (if applicable), or if filed unexecuted, upon the date specified by the FERC. The Transmission Provider shall promptly file this Agreement with the FERC upon execution, if required.

#### 3.2 Term of Agreement

This Agreement shall become effective on the Effective Date and shall remain in effect for a period of five years from the Effective Date or such other longer period as the Interconnection Customer may request and shall be automatically renewed for each successive one-year period thereafter, unless terminated earlier in accordance with article 3.3 of this Agreement.

#### 3.3 Termination

No termination shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination.

3.3.1 The Interconnection Customer may terminate this Agreement at any time by giving the Transmission Provider 20 Business Days written notice.

3.3.2 Either Party may terminate this Agreement after Default pursuant to article 7.6.

3.3.3 Upon termination of this Agreement, the Small Generating Facility will be disconnected from the Transmission Provider's Transmission System. All costs

required to effectuate such disconnection shall be borne by the terminating Party, unless such termination resulted from the non-terminating Party's Default of this SGIA or such non-terminating Party otherwise is responsible for these costs under this SGIA.

3.3.4 The termination of this Agreement shall not relieve either Party of its liabilities and obligations, owed or continuing at the time of the termination

3.3.5 This provisions of this article shall survive termination or expiration of this Agreement.

#### 3.4 Temporary Disconnection

Temporary disconnection shall continue only for so long as reasonably necessary under Good Utility Practice.

3.4.1 Emergency Conditions -- "Emergency Condition" shall mean a condition or situation: (1) that in the judgment of the Party making the claim is imminently likely to endanger life or property; or (2) that, in the case of the Transmission Provider, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the Transmission or Distribution System, the Interconnection Facilities or the Distribution and Transmission Systems of others to which the Transmission System is directly connected; or (3) that, in the case of the Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Small Generating Facility or the Interconnection Customer's Interconnection Facilities. Under Emergency Conditions, the Cooperative or Transmission Provider may immediately suspend interconnection service and temporarily disconnect the Small Generating Facility. The Cooperative shall notify the Interconnection Customer promptly when it becomes aware of an Emergency Condition that may reasonably be expected to affect the Interconnection Customer's operation of the Small Generating Facility. The Interconnection Customer shall notify the Cooperative promptly when it becomes aware of an Emergency Condition that may reasonably be expected to affect the Cooperative's distribution system, Transmission Provider's Transmission System or any Affected Systems. To the extent information is known, the notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of both Parties' facilities and operations, its anticipated duration, and the necessary corrective action.

#### 3.4.2 Routine Maintenance, Construction, and Repair

The Cooperative may interrupt interconnection service or curtail the output of the Small Generating Facility and temporarily disconnect the Small Generating Facility from the Distribution or Transmission System when necessary for routine maintenance, construction, and repairs on the Distribution or Transmission

System. The Cooperative shall provide the Interconnection Customer reasonable notice prior to such interruption. The Cooperative shall use Reasonable Efforts to coordinate such reduction or temporary disconnection with the Interconnection Customer.

3.4.3 Forced Outages

During any forced outage, the Cooperative may suspend interconnection service to effect immediate repairs on the Distribution or Transmission System. The Cooperative shall use Reasonable Efforts to provide the Interconnection Customer with prior notice. If prior notice is not given, the Cooperative shall, upon request, provide the Interconnection Customer written documentation after the fact explaining the circumstances of the disconnection.

3.4.4 Adverse Operating Effects

The Cooperative shall notify the Interconnection Customer as soon as practicable if, based on Good Utility Practice, operation of the Small Generating Facility may cause disruption or deterioration of service to other customers served from the same electric system, or if operating the Small Generating Facility could cause damage to the Distribution or Transmission System or Affected Systems. Supporting documentation used to reach the decision to disconnect shall be provided to the Interconnection Customer upon request. If, after notice, the Interconnection Customer fails to remedy the adverse operating effect within a reasonable time, the Cooperative may disconnect the Small Generating Facility. The Cooperative shall provide the Interconnection Customer with five Business Day notice of such disconnection, unless the provisions of article 3.4.1 apply.

3.4.5 Modification of the Small Generating Facility

The Interconnection Customer must receive written authorization from the Cooperative before making any change to the Small Generating Facility that may have a material impact on the safety or reliability of the Transmission System. Such authorization shall not be unreasonably withheld. Modifications shall be done in accordance with Good Utility Practice. If the Interconnection Customer makes such modification without the Cooperative's prior written authorization, the latter shall have the right to temporarily disconnect the Small Generating Facility.

3.4.6 Reconnection

The Parties shall cooperate with each other to restore the Small Generating Facility, Interconnection Facilities, and the Distribution and Transmission System to their normal operating state as soon as reasonably practicable following a temporary disconnection.

#### **Article 4. Cost Responsibility for Interconnection Facilities and Distribution Upgrades**

#### 4.1 Interconnection Facilities

4.1.1 The Interconnection Customer shall pay for the cost of the Interconnection Facilities itemized in Attachment 2 of this Agreement. The Cooperative shall provide a best estimate cost, including overheads, for the purchase and construction of its Interconnection Facilities and provide a detailed itemization of such costs. Costs associated with Interconnection Facilities may be shared with other entities that may benefit from such facilities by agreement of the Interconnection Customer, such other entities, and the Cooperative.

4.1.2 The Interconnection Customer shall be responsible for its share of all reasonable expenses, including overheads, associated with (1) owning, operating, maintaining, repairing, and replacing its own Interconnection Facilities, and (2) operating, maintaining, repairing, and replacing the Transmission Provider's Interconnection Facilities.

#### 4.2 Distribution Upgrades

The Transmission Provider shall design, procure, construct, install, and own the Distribution Upgrades described in Attachment 6 of this Agreement. If the Transmission Provider and the Interconnection Customer agree, the Interconnection Customer may construct Distribution Upgrades that are located on land owned by the Interconnection Customer. The actual cost of the Distribution Upgrades, including overheads, shall be directly assigned to the Interconnection Customer.

### **Article 5. Cost Responsibility for Network Upgrades**

#### 5.1 Applicability

No portion of this article 5 shall apply unless the interconnection of the Small Generating Facility requires Network Upgrades.

#### 5.2 Network Upgrades

The Transmission Provider or the Transmission Owner shall design, procure, construct, install, and own the Network Upgrades described in Attachment 6 of this Agreement. If the Transmission Provider and the Interconnection Customer agree, the Interconnection Customer may construct Network Upgrades that are located on land owned by the Interconnection Customer. Unless the Transmission Provider elects to pay for Network Upgrades, the actual cost of the Network Upgrades, including overheads, shall be borne initially by the Interconnection Customer.

#### 5.2.1 Repayment of Amounts Advanced for Network Upgrades

The Interconnection Customer shall be entitled to a cash repayment, equal to the total amount paid to the Transmission Provider and Affected System operator, if any, for Network Upgrades, including any tax gross-up or other tax-related payments associated with the Network Upgrades, and not otherwise refunded to

the Interconnection Customer, to be paid to the Interconnection Customer on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges, as payments are made under the Transmission Provider's Tariff and Affected System's Tariff for transmission services with respect to the Small Generating Facility. Any repayment shall include interest calculated in accordance with the methodology set forth in FERC's regulations at 18 C.F.R. § 35.19a(a)(2)(iii) from the date of any payment for Network Upgrades through the date on which the Interconnection Customer receives a repayment of such payment pursuant to this subparagraph. The Interconnection Customer may assign such repayment rights to any person.

5.2.1.1 Notwithstanding the foregoing, the Interconnection Customer, the Transmission Provider, and any applicable Affected System operators may adopt any alternative payment schedule that is mutually agreeable so long as the Transmission Provider and said Affected System operators take one of the following actions no later than five years from the Commercial Operation Date: (1) return to the Interconnection Customer any amounts advanced for Network Upgrades not previously repaid, or (2) declare in writing that the Transmission Provider or any applicable Affected System operators will continue to provide payments to the Interconnection Customer on a dollar-for-dollar basis for the non-usage sensitive portion of transmission charges, or develop an alternative schedule that is mutually agreeable and provides for the return of all amounts advanced for Network Upgrades not previously repaid; however, full reimbursement shall not extend beyond twenty (20) years from the commercial operation date.

5.2.1.2 If the Small Generating Facility fails to achieve commercial operation, but it or another generating facility is later constructed and requires use of the Network Upgrades, the Transmission Provider and Affected System operator shall at that time reimburse the Interconnection Customer for the amounts advanced for the Network Upgrades. Before any such reimbursement can occur, the Interconnection Customer, or the entity that ultimately constructs the generating facility, if different, is responsible for identifying the entity to which reimbursement must be made.

### 5.3 Special Provisions for Affected Systems

Unless the Transmission Provider provides, under this Agreement, for the repayment of amounts advanced to any applicable Affected System operators for Network Upgrades, the Interconnection Customer and Affected System operator shall enter into an agreement that provides for such repayment. The agreement shall specify the terms governing payments to be made by the Interconnection Customer to Affected System operator as well as the repayment by Affected System operator.

#### 5.4 Rights Under Other Agreements

Notwithstanding any other provision of this Agreement, nothing herein shall be construed as relinquishing or foreclosing any rights, including but not limited to firm transmission rights, capacity rights, transmission congestion rights, or transmission credits, that the Interconnection Customer shall be entitled to, now or in the future, under any other agreement or tariff as a result of, or otherwise associated with, the transmission capacity, if any, created by the Network Upgrades, including the right to obtain cash reimbursements or transmission credits for transmission service that is not associated with the Small Generating Facility.

### **Article 6. Billing, Payment, Milestones, and Financial Security**

#### 6.1 Billing and Payment Procedures and Final Accounting

6.1.1 The Cooperative shall bill the Interconnection Customer for the design, engineering, construction, and procurement costs of Interconnection Facilities and Upgrades contemplated by this Agreement on a monthly basis, or as otherwise agreed by the Parties. The Interconnection Customer shall pay each bill within 30 calendar days of receipt, or as otherwise agreed to by the Parties.

6.1.2 Within three months of completing the construction and installation of the Cooperative's Interconnection Facilities and/or Upgrades described in the Attachments to this Agreement, the Transmission Provider shall provide the Interconnection Customer with a final accounting report of any difference between (1) the Interconnection Customer's cost responsibility for the actual cost of such facilities or Upgrades, and (2) the Interconnection Customer's previous aggregate payments to the Transmission Provider for such facilities or Upgrades. If the Interconnection Customer's cost responsibility exceeds its previous aggregate payments, the Cooperative shall invoice the Interconnection Customer for the amount due and the Interconnection Customer shall make payment to the Cooperative within 30 calendar days. If the Interconnection Customer's previous aggregate payments exceed its cost responsibility under this Agreement, the Cooperative shall refund to the Interconnection Customer an amount equal to the difference within 30 calendar days of the final accounting report.

6.1.3 On-going O&M expenses will be invoiced on a monthly basis.

#### 6.2 Milestones

The Parties shall agree on milestones for which each Party is responsible and list them in Attachment 4 of this Agreement. A Party's obligations under this provision may be extended by agreement. If a Party anticipates that it will be unable to meet a milestone for any reason other than a Force Majeure Event, it shall immediately notify the other Party of the reason(s) for not meeting the milestone and (1) propose the earliest

reasonable alternate date by which it can attain this and future milestones, and (2) requesting appropriate amendments to Attachment 4. The Party affected by the failure to meet a milestone shall not unreasonably withhold agreement to such an amendment unless it will suffer significant uncompensated economic or operational harm from the delay, (2) attainment of the same milestone has previously been delayed, or (3) it has reason to believe that the delay in meeting the milestone is intentional or unwarranted notwithstanding the circumstances explained by the Party proposing the amendment.

### 6.3 Financial Security Arrangements

At Cooperatives's option, at least 20 Business Days prior to the commencement of the design, procurement, installation, or construction of a discrete portion of the Interconnection Facilities and Upgrades, the Interconnection Customer shall provide the Cooperative, at the Interconnection Customer's option, a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to the Transmission Provider and is consistent with the Uniform Commercial Code of the jurisdiction where the Point of Interconnection is located. Such security for payment shall be in an amount sufficient to cover the costs for constructing, designing, procuring, and installing the applicable portion of the Transmission Provider's Interconnection Facilities and Upgrades and shall be reduced on a dollar-for-dollar basis for payments made to the Transmission Provider under this Agreement during its term. In addition:

- 6.3.1 The guarantee must be made by an entity that meets the creditworthiness requirements of the Transmission Provider, and contain terms and conditions that guarantee payment of any amount that may be due from the Interconnection Customer, up to an agreed-to maximum amount.
- 6.3.2 The letter of credit or surety bond must be issued by a financial institution or insurer reasonably acceptable to the Transmission Provider and must specify a reasonable expiration date.

## **Article 7. Assignment, Liability, Indemnity, Force Majeure, Consequential Damages, and Default**

### 7.1 Assignment

This Agreement may be assigned by either Party upon 15 Business Days prior written notice and opportunity to object by the other Party; provided that:

- 7.1.1 Either Party may assign this Agreement without the consent of the other Party to any affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this Agreement, provided that the Interconnection Customer promptly notifies the Cooperative of any such assignment;
- 7.1.2 The Interconnection Customer shall have the right to assign this Agreement,

without the consent of the Cooperative, for collateral security purposes to aid in providing financing for the Small Generating Facility, provided that the Interconnection Customer will promptly notify the Cooperative of any such assignment.

- 7.1.3 Any attempted assignment that violates this article is void and ineffective. Assignment shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. An assignee is responsible for meeting the same financial, credit, and insurance obligations as the Interconnection Customer. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.

## 7.2 Limitation of Liability

Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages, except as authorized by this Agreement.

## 7.3 Indemnity

- 7.3.1 This provision protects each Party from liability incurred to third parties as a result of carrying out the provisions of this Agreement. Liability under this provision is exempt from the general limitations on liability found in article 7.2.
- 7.3.2 The Parties shall at all times indemnify, defend, and hold the other Party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's action or failure to meet its obligations under this Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.
- 7.3.3 If an indemnified person is entitled to indemnification under this article as a result of a claim by a third party, and the indemnifying Party fails, after notice and reasonable opportunity to proceed under this article, to assume the defense of such claim, such indemnified person may at the expense of the indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.
- 7.3.4 If an indemnifying party is obligated to indemnify and hold any indemnified person harmless under this article, the amount owing to the indemnified person

shall be the amount of such indemnified person's actual loss, net of any insurance or other recovery.

7.3.5 Promptly after receipt by an indemnified person of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in this article may apply, the indemnified person shall notify the indemnifying party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the indemnifying party.

#### 7.4 Consequential Damages

Other than as expressly provided for in this Agreement, neither Party shall be liable under any provision of this Agreement for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

#### 7.5 Force Majeure

7.5.1 As used in this article, a Force Majeure Event shall mean "any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure Event does not include an act of negligence or intentional wrongdoing."

7.5.2 If a Force Majeure Event prevents a Party from fulfilling any obligations under this Agreement, the Party affected by the Force Majeure Event (Affected Party) shall promptly notify the other Party, either in writing or via the telephone, of the existence of the Force Majeure Event. The notification must specify in reasonable detail the circumstances of the Force Majeure Event, its expected duration, and the steps that the Affected Party is taking to mitigate the effects of the event on its performance. The Affected Party shall keep the other Party informed on a continuing basis of developments relating to the Force Majeure Event until the event ends. The Affected Party will be entitled to suspend or modify its performance of obligations under this Agreement (other than the obligation to make payments) only to the extent that the effect of the Force Majeure Event cannot be mitigated by the use of Reasonable Efforts. The Affected Party will use Reasonable Efforts to resume its performance as soon as possible.

## 7.6 Default

- 7.6.1 No Default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of a Force Majeure Event as defined in this Agreement or the result of an act or omission of the other Party. Upon a Default, the non-defaulting Party shall give written notice of such Default to the defaulting Party. Except as provided in article 7.6.2, the defaulting Party shall have 60 calendar days from receipt of the Default notice within which to cure such Default; provided however, if such Default is not capable of cure within 60 calendar days, the defaulting Party shall commence such cure within 20 calendar days after notice and continuously and diligently complete such cure within six months from receipt of the Default notice; and, if cured within such time, the Default specified in such notice shall cease to exist.
- 7.6.2 If a Default is not cured as provided in this article, or if a Default is not capable of being cured within the period provided for herein, the non-defaulting Party shall have the right to terminate this Agreement by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not that Party terminates this Agreement, to recover from the defaulting Party all amounts due hereunder, plus all other damages and remedies to which it is entitled at law or in equity. The provisions of this article will survive termination of this Agreement.

## **Article 8. Insurance**

- 8.1 The Interconnection Customer shall, at its own expense, maintain in force general liability insurance without any exclusion for liabilities related to the interconnection undertaken pursuant to this Agreement. The amount of such insurance shall be sufficient to insure against all reasonably foreseeable direct liabilities given the size and nature of the generating equipment being interconnected, the interconnection itself, and the characteristics of the system to which the interconnection is made. The Interconnection Customer shall obtain additional insurance only if necessary as a function of owning and operating a generating facility. Such insurance shall be obtained from an insurance provider authorized to do business in the State where the interconnection is located. Certification that such insurance is in effect shall be provided upon request of the Cooperative, except that the Interconnection Customer shall show proof of insurance to the Cooperative no later than ten Business Days prior to the anticipated commercial operation date. An Interconnection Customer of sufficient credit-worthiness may propose to self-insure for such liabilities, and such a proposal shall not be unreasonably rejected.
- 8.2 The Cooperative agrees to maintain general liability insurance or self-insurance consistent with commercial practice. Such insurance or self-insurance shall not exclude

coverage for the liabilities undertaken pursuant to this Agreement.

- 8.3 The Parties further agree to notify each other whenever an accident or incident occurs resulting in any injuries or damages that are included within the scope of coverage of such insurance, whether or not such coverage is sought.

## **Article 9. Confidentiality**

- 9.1 Confidential Information shall mean any confidential and/or proprietary information provided by one Party to the other Party that is clearly marked or otherwise designated "Confidential." For purposes of this Agreement all design, operating specifications, and metering data provided by the Interconnection Customer shall be deemed Confidential Information regardless of whether it is clearly marked or otherwise designated as such.
- 9.2 Confidential Information does not include information previously in the public domain, required to be publicly submitted or divulged by Governmental Authorities (after notice to the other Party and after exhausting any opportunity to oppose such publication or release), or necessary to be divulged in an action to enforce this Agreement. Each Party receiving Confidential Information shall hold such information in confidence and shall not disclose it to any third party nor to the public without the prior written authorization from the Party providing that information, except to fulfill obligations under this Agreement, or to fulfill legal or regulatory requirements.
- 9.2.1 Each Party shall employ at least the same standard of care to protect Confidential Information obtained from the other Party as it employs to protect its own Confidential Information.
- 9.2.2 Each Party is entitled to equitable relief, by injunction or otherwise, to enforce its rights under this provision to prevent the release of Confidential Information without bond or proof of damages, and may seek other remedies available at law or in equity for breach of this provision.
- 9.3 Requests from a state regulatory body conducting a confidential investigation shall be treated in a manner consistent with the applicable state rules and regulations.

## **Article 10. Disputes**

- 10.1 The Parties agree to attempt to resolve all disputes arising out of the interconnection process according to the provisions of this article.
- 10.2 In the event of a dispute, either Party shall provide the other Party with a written Notice of Dispute. Such Notice shall describe in detail the nature of the dispute.

- 10.3 Each Party agrees to conduct all negotiations in good faith and will be responsible for one-half of any costs paid to neutral third-parties.
- 10.4 If the attempted dispute resolution fails, then either Party may exercise whatever rights and remedies it may have in equity or law consistent with the terms of this Agreement.

#### **Article 11. Taxes**

- 11.1 The Parties agree to follow all applicable tax laws and regulations
- 11.2 Each Party shall cooperate with the other to maintain the other Party's tax status. Nothing in this Agreement is intended to adversely affect the Cooperative's tax exempt status.

#### **Article 12. Miscellaneous**

- 12.1 Governing Law, Regulatory Authority, and Rules  
The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the state of Kansas (where the Point of Interconnection is located), without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.
- 12.2 Amendment  
The Parties may amend this Agreement by a written instrument duly executed by both Parties.
- 12.3 No Third-Party Beneficiaries  
This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.
- 12.4 Waiver
- 12.4.1 The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.
- 12.4.2 Any waiver at any time by either Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Termination or default of this Agreement for any reason by Interconnection

Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain an interconnection from the Cooperative. Any waiver of this Agreement shall, if requested, be provided in writing.

12.5 Entire Agreement

This Agreement, including all Attachments, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this Agreement. There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, either Party's compliance with its obligations under this Agreement.

12.6 Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

12.7 No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

12.8 Severability

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

12.9 Security Arrangements

Infrastructure security of electric system equipment and operations and control hardware and software is essential to ensure day-to-day reliability and operational security. FERC expects all Transmission Providers, market participants, and Interconnection Customers interconnected to electric systems to comply with the recommendations offered by the President's Critical Infrastructure Protection Board and, eventually, best practice recommendations from the electric reliability authority. All public utilities are expected to meet basic standards for system infrastructure and operational security, including physical, operational, and cyber-security practices.

12.10 Environmental Releases

Each Party shall notify the other Party, first orally and then in writing, of the release of

any hazardous substances, any asbestos or lead abatement activities, or any type of remediation activities related to the Small Generating Facility or the Interconnection Facilities, each of which may reasonably be expected to affect the other Party. The notifying Party shall (1) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than 24 hours after such Party becomes aware of the occurrence, and (2) promptly furnish to the other Party copies of any publicly available reports filed with any governmental authorities addressing such events.

12.11 Subcontractors

Nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

12.11.1 The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall the Transmission Provider be liable for the actions or inactions of the Interconnection Customer or its subcontractors with respect to obligations of the Interconnection Customer under this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

12.11.2 The obligations under this article will not be limited in any way by any limitation of subcontractor's insurance.

**Article 13. Notices**

13.1 General

Unless otherwise provided in this Agreement, any written notice, demand, or request required or authorized in connection with this Agreement ("Notice") shall be deemed properly given if delivered in person, delivered by recognized national carrier service, or sent by first class mail, postage prepaid, to the person specified below:

If to the Interconnection Customer:

Interconnection Customer: \_\_\_\_\_

Attention: \_\_\_\_\_

Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

If to the Cooperative:

Cooperative: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

13.2 Billing and Payment

Billings and payments shall be sent to the addresses set out below:

Interconnection Customer: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Cooperative: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

13.3 Alternative Forms of Notice

Any notice or request required or permitted to be given by either Party to the other and not required by this Agreement to be given in writing may be so given by telephone, facsimile or e-mail to the telephone numbers and e-mail addresses set out below:

If to the Interconnection Customer:

Interconnection Customer: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

If to the Cooperative:

Transmission Provider: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

13.4 Designated Operating Representative

The Parties may also designate operating representatives to conduct the communications which may be necessary or convenient for the administration of this Agreement. This person will also serve as the point of contact with respect to operations and maintenance of the Party's facilities.

Interconnection Customer's Operating Representative:

Interconnection Customer: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Cooperative's Operating Representative:

Transmission Provider: \_\_\_\_\_  
Attention: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

13.5 Changes to the Notice Information

Either Party may change this information by giving five Business Days written notice prior to the effective date of the change.

**Article 14. Signatures**

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective duly authorized representatives.

For the Cooperative

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

For the Interconnection Customer

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

## Glossary of Terms

**Affected System** – An electric system other than the Transmission Provider's Transmission System that may be affected by the proposed interconnection.

**Applicable Laws and Regulations** – All duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

**Business Day** – Monday through Friday, excluding Federal Holidays.

**Default** – The failure of a breaching Party to cure its breach under the Small Generator Interconnection Agreement.

**Distribution System** – The Cooperatives or Transmission Provider's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances. The voltage levels at which Distribution Systems operate differ among areas.

**Distribution Upgrades** – The additions, modifications, and upgrades to the Transmission Provider's Distribution System at or beyond the Point of Interconnection to facilitate interconnection of the Small Generating Facility and render the transmission service necessary to effect the Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

**Good Utility Practice** – Any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

**Governmental Authority** – Any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include the Interconnection Customer, the Interconnection Provider, or any Affiliate thereof.

**Interconnection Customer** – Any entity, including the Transmission Provider, the Transmission

Owner or any of the affiliates or subsidiaries of either, that proposes to interconnect its Small Generating Facility with the Transmission Provider's Transmission System.

**Interconnection Facilities** – The Transmission Provider's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Small Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Small Generating Facility to the Transmission Provider's Transmission System or Distribution System. Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades or Network Upgrades.

**Interconnection Request** – The Interconnection Customer's request to interconnect a new Small Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Small Generating Facility that is interconnected with the Transmission Provider's Transmission System.

**Material Modification** – A modification that has a material impact on the cost or timing of any Interconnection Request with a later queue priority date.

**Network Upgrades** – Additions, modifications, and upgrades to the Transmission Provider's Transmission System required at or beyond the point at which the Small Generating Facility interconnects with the Transmission Provider's Transmission System to accommodate the interconnection of the Small Generating Facility with the Transmission Provider's Transmission System. Network Upgrades do not include Distribution Upgrades.

**Operating Requirements** – Any operating and technical requirements that may be applicable due to Regional Transmission Organization, Independent System Operator, control area, or the Transmission Provider's requirements, including those set forth in the Small Generator Interconnection Agreement.

**Party or Parties** – The Transmission Provider, Transmission Owner, Interconnection Customer or any combination of the above.

**Point of Interconnection** – The point where the Interconnection Facilities connect with the Transmission Provider's Transmission System.

**Reasonable Efforts** – With respect to an action required to be attempted or taken by a Party under the Small Generator Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

**Small Generating Facility** – The Interconnection Customer's device for the production of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

**Tariff** – The Transmission Provider or Affected System's Tariff through which open access

transmission service and Interconnection Service are offered, as filed with the FERC, and as amended or supplemented from time to time, or any successor tariff.

**Transmission Owner** – The entity that owns, leases or otherwise possesses an interest in the portion of the Transmission System or Distribution System at the Point of Interconnection and may be a Party to the Small Generator Interconnection Agreement to the extent necessary.

**Transmission Provider** – The Cooperative, the Generation and Transmission Cooperative providing contractual wholesale power and transmission services, or the public utility (or its designated agent) that owns, controls, or operates transmission or distribution facilities used for the transmission of electricity. The term Transmission Provider should be read to include the Transmission Owner when the Transmission Owner is separate from the Transmission Provider.

**Transmission System** – The facilities owned, controlled or operated by the Transmission Provider or the Transmission Owner that are used to provide transmission service under the Tariff.

**Upgrades** – The required additions and modifications to the Transmission Provider's Transmission System at or beyond the Point of Interconnection. Upgrades may be Network Upgrades or Distribution Upgrades. Upgrades do not include Interconnection Facilities.

**Description and Costs of the Small Generating Facility,  
Interconnection Facilities, and Metering Equipment**

Equipment, including the Small Generating Facility, Interconnection Facilities, and metering equipment shall be itemized and identified as being owned by the Interconnection Customer, the Transmission Provider, or the Transmission Owner. The Transmission Provider will provide a best estimate itemized cost, including overheads, of its Interconnection Facilities and metering equipment, and a best estimate itemized cost of the annual operation and maintenance expenses associated with its Interconnection Facilities and metering equipment.

**One-line Diagram Depicting the Small Generating Facility, Interconnection  
Facilities, Metering Equipment, and Upgrades**

### Milestones

In-Service Date: \_\_\_\_\_

Critical milestones and responsibility as agreed to by the Parties:

	<b>Milestone/Date</b>	<b>Responsible Party</b>
(1)	_____	_____
(2)	_____	_____
(3)	_____	_____
(4)	_____	_____
(5)	_____	_____
(6)	_____	_____
(7)	_____	_____
(8)	_____	_____
(9)	_____	_____
(10)	_____	_____

Agreed to by:

For the Transmission Provider \_\_\_\_\_ Date \_\_\_\_\_

For the Transmission Owner (If Applicable) \_\_\_\_\_ Date \_\_\_\_\_

For the Interconnection Customer \_\_\_\_\_ Date \_\_\_\_\_

**Additional Operating Requirements for the Transmission Provider's  
Transmission System and Affected Systems Needed to Support  
the Interconnection Customer's Needs**

The Transmission Provider shall also provide requirements that must be met by the Interconnection Customer prior to initiating parallel operation with the Transmission Provider's Transmission System.

**Transmission Provider's Description of its Upgrades  
and Best Estimate of Upgrade Costs**

The Transmission Provider shall describe Upgrades and provide an itemized best estimate of the cost, including overheads, of the Upgrades and annual operation and maintenance expenses associated with such Upgrades. The Transmission Provider shall functionalize Upgrade costs and annual expenses as either transmission or distribution related.

## Best Practices Panel Questions

- Can tracts of land designated for wind farms remain zoned as "agricultural"?
- If a different brand or model of wind turbine is selected following issuance of a conditional use permit (CUP), is a new CUP application required?
- Will the Farm Service Agency allow installation of wind turbines on CRP acreage? If "yes", what are the limitations, if any?