BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

In the Matter of the Application of Grain Belt Express Clean Line LLC for a Limited Certificate of Public Convenience to Transact the Business of a Public Utility in the State of Kansas	)))))	**Docket No. 11-GBEE-624-COC**

DIRECT TESTIMONY OF

MICHAEL PETER SKELLY

ON BEHALF OF

GRAIN BELT EXPRESS CLEAN LINE LLC

I. WITNESS INTRODUCTION

Q. Please state your name, present position and business address.

A. My name is Michael Skelly. I am the Chief Executive Officer of Clean Line Energy Partners LLC ("Clean Line Energy Partners"), and the President of Grain Belt Express LLC ("Clean Line"), the Applicant in this proceeding. Clean Line Energy Partners is the ultimate parent company of Clean Line. My business address is 1001 McKinney Street, Suite 700, Houston, Texas 77002.

Q. What is the business of Clean Line Energy Partners and Clean Line?

A. The mission of Clean Line Energy Partners and its subsidiaries, including Clean Line, is to develop, construct, and operate long-distance, multi-state high voltage, direct current ("HVDC") transmission lines to connect the best renewable energy resources, particularly wind generation resources located in the country's best wind regions, to load and population centers in other regions of the country, and to do so in the most cost effective way possible. Clean Line Energy Partners is not developing generation projects or taking ownership positions in generation facilities. Clean Line Energy Partners' only objective is to develop, build, and operate HVDC transmission lines to facilitate the development of renewable energy projects, particularly wind generation projects, that otherwise would not get built.

Q. Please describe your education and professional background.

A. I received a Bachelor of Arts in Economics from the University of Notre Dame and subsequently served in the United States Peace Corps in Central America. After my service in the Peace Corps, I obtained a Masters of Business Administration from Harvard Business School. I have been in the renewable energy business for almost 20

years. I developed thermal, hydroelectric, biomass and wind energy projects in Central America with Energia Global. Subsequently, I joined Horizon Wind Energy ("Horizon") and led the development of that company from a two-person company to one of the leading wind energy companies in the U.S. In 2008, I was named Wind Industry Person of the Year.

I have significant experience in evaluating and developing wind energy resources. I have traveled to nearly every state in the U.S. to evaluate the potential to build wind farms, and have led the development of more than 2,000 megawatts ("MW") of wind energy projects that were ultimately constructed. During my tenure at Horizon, the company developed and saw the completion of more than a dozen wind energy projects and created a development portfolio of more than 10,000 MW in over a dozen states. Several members of our management team at Clean Line Energy Partners also came from Horizon, where we worked together to help develop and construct various projects, including 925 MW of wind projects in the three-state region of Oklahoma, Texas and Kansas; 322 MW of wind projects in New York, which spearheaded a growing interest in wind energy throughout the northeastern U.S.; over 300 MW of wind projects in Oregon; 200 MW of wind projects in Minnesota; 400 MW of wind projects in Illinois; 299 MW of wind projects in Washington state; 54 MW of wind projects in Pennsylvania; and 380 MW of wind projects in Iowa. We also developed 24 MW of wind projects in Costa Rica through the Tierras Morenas Wind Farm.

In the course of developing those projects, our management team worked with business leaders, legislators and other government officials in the various states and conducted extensive public outreach efforts to educate landowners and other stakeholders

about wind farm development. Our work in developing and building wind energy projects has given me, and several members of Clean Line's management team who were former Horizon employees, extensive project development experience that we believe is directly relevant and transferable to the development of Clean Line Energy Partners' transmission projects.

Q. Have you previously testified before regulatory commissions?

A. Yes, I have provided testimony in proceedings before the state regulatory commissions of Arkansas, New York, Oklahoma and Wisconsin, concerning the development of wind farms or transmission projects.

Q. In addition to your prepared direct testimony, are you presenting any exhibits?

A. Yes, I am presenting exhibits that have been identified as MPS-1 through MPS-3. Each of these exhibits was prepared or assembled by me or under my supervision and direction. To help show the basis for Clean Line Energy Partners' business plans and objectives and to facilitate discovery on the sources used in preparing my testimony, I have provided footnote references to a number of publicly-available studies, reports and other documents containing technical, statistical or policy-oriented information that we have relied on in determining there is a need for projects such as the Grain Belt Express and the other transmission projects being developed by Clean Line Energy Partners and its subsidiaries. These studies, reports and other documents were prepared or published by government entities such as the U.S. Department of Energy ("DOE"), the Energy Information Administration and the National Renewable Energy Laboratory, and industry associations such as the American Wind Energy Association ("AWEA").

II. PURPOSE OF TESTIMONY AND OVERVIEW OF CASE

Q. What is the purpose of your testimony in this proceeding?

A. Clean Line is seeking a Transmission Only Certificate of Public Convenience and Necessity from the Commission, pursuant to K.S.A. 66-131, to operate as a public utility in Kansas. Issuance of a Certificate to Clean Line as a public utility will enable Clean Line to move forward with its plans to develop, construct and operate the Grain Belt Express transmission project. The Grain Belt Express will be a ±500 kilo-volt ("kV") or ± 600 kV HVDC transmission line and associated facilities that will originate in western Kansas near Spearville, run through the state of Kansas into Missouri, and interconnect with the Midwest Independent System Operator ("MISO") extra high voltage transmission system, most likely in St. Francois County, Missouri. The facilities will include gathering lines, a series of high voltage AC lines that will deliver energy from particular wind farms to the Grain Belt Express converter station near Spearville. The primary objective of the Grain Belt Express project is to bring electricity produced by wind generation facilities in wind-rich areas of western Kansas to electricity markets east of Kansas.

The purpose of my testimony is to support Clean Line's request for a Certificate of Public Convenience and Necessity to operate as a public utility. I will provide an overview of Clean Line Energy Partners, its business objectives and projects, and its managerial, financial and technical resources and capabilities. I will also discuss the development of the wind generation industry and the direct and indirect benefits that our transmission line will bring to Kansas and its citizens. My testimony will help to

demonstrate that the public will be convenienced by the granting of a Certificate to Clean Line pursuant to K.S.A. 66-131 to operate as a public utility in Kansas.

Q. Could you please highlight why the public convenience and necessity supports issuance of a Certificate of Public Convenience and Necessity to Clean Line to operate as a public utility providing transmission services?

A. Yes. These points will be discussed in the remainder of my testimony and in the testimony of the other Clean Line witnesses:

- As a public utility, Clean Line will develop, build, and operate a high voltage direct current transmission line, which will efficiently deliver 3,500 MW of wind generated electricity from wind rich areas of western Kansas to markets farther east. The Grain Belt Express will enable construction of over 4,000 MW of wind generation capacity by independent developers active in Kansas. Clean Line will operate the Grain Belt Express as an independent transmission company unaffiliated with any generators. Under Clean Line's projected financing and cost recovery plans, the costs of the Grain Belt Express will be paid for by generators or load serving entities who buy transmission capacity on the line, not by Kansas ratepayers. The investors, not Kansas ratepayers, will bear the risks of the project.
- The western Kansas region is an area of some of the country's richest and most energetic wind resources, meaning that this region has higher average annual wind speeds and therefore wind generators in this region can produce electricity at lower cost than other regions of the country that have less energetic wind resources.
- Many wind power developers will not expend capital to construct wind generation facilities in western Kansas without reasonable assurances and expectations that

transmission infrastructure will be in place on a timely basis to bring their output to market centers. Further, the lead time for development and construction of wind generation plants is shorter than the lead time for certification, siting, development and construction of a long distance transmission facility like the Grain Belt Express. Thus, the development of the long distance transmission facilities Clean Line proposes to build must precede the development of new wind generation plants in western Kansas.

- There is significant demand for electricity supplied by renewable resources, and in particular by wind generation, in the United States, and that demand will continue to grow significantly over the next 15 years. The demand is and will be driven by state and federal laws and policies requiring or encouraging the use of renewable resources and by federal laws and policies limiting the use of carbon-based electricity, as well as, more generally, public demand for clean energy from renewable sources.
- Although the current economy has slowed or reduced growth in demand for electricity temporarily, in the long term the demand for electricity can be expected to continue to grow as it has in the past. Over time, more generation will be needed to meet demand growth and to replace existing, older generation that is retired.
- Federal and state governments and other authoritative sources (such as the North American Electric Reliability Corporation ("NERC")) have recognized that there is a significant need to strengthen the overall grid generally and to support the movement of electricity generated by renewable resources to areas of market demand specifically.
- The Grain Belt Express will not duplicate the functions of any current or planned transmission line. The Priority Projects will enhance the ability of wind farms to transmit power within SPP, while the Grain Belt Express Clean Line will increase the ability to

export wind power out of the SPP region. Both kinds of transmission are needed for Kansas to fully develop its wind potential.

- Construction of the Grain Belt Express will promote economic development and will provide positive benefits to local communities near the location of the line. Construction of the transmission facilities will create over 4,700 full-time equivalent jobs in Kansas over a three-year construction period and over 120 permanent jobs to operate and maintain the transmission facilities. Construction and operation of the associated wind generating facilities will create over 16,500 full-time equivalent jobs over a one-year construction period and over 480 permanent jobs associated with the operations and maintenance of the wind generating facilities.[1]
- Landowners in Kansas will benefit from royalties and other income related to the expansion of wind generation projects.
- On an annual basis, the Grain Belt Express will deliver approximately 15 million megawatt-hours ("MWh") of electricity to the Midwest ISO market, effectively reducing the region's demand for an equivalent amount of electricity generated by coal-fired and other power plants. By reducing generation requirements from coal-fired and other power plants, emissions will be reduced by over 12 million tons of CO2, over 7,000 tons of nitrogen oxides and over 29,000 tons of sulfur dioxide per year. The production of substantial quantities of coal ash and scrubber sludge will be avoided and water consumption for cooling of power plants will be reduced, as well.
- The Grain Belt Express will help direct wind farm development away from the Flint Hills by creating an export opportunity for wind in western Kansas, a region more suitable for

[1] Development Strategies Kansas report; all of these numbers include direct, indirect and induced jobs.

this kind of development. Due to the nature of HVDC technology, for which converter stations are extremely expensive, the project will not attract developers to the Flint Hills, but rather attract them to western Kansas where environmental sensitivities are not as pronounced.

- The Grain Belt Express will enhance competition in the market for transmission services. Currently, wind farms and other power plants who want to move their power east must rely on the SPP transmission system. Their only option is to submit transmission service requests to SPP and bear the costs of any associated upgrades. The Grain Belt Express will provide another option for generators to deliver their product to market. By reducing the strain on existing AC lines, the Project has the potential to reduce electrical congestion on the SPP system, which could have benefits for Kansas ratepayers. It also reduces the risk that Kansas ratepayers could be required to pay for additional transmission service upgrades necessary to remove congestion caused by an excess of wind projects and too little AC transmission. Such upgrades could be required by FERC's Order 890, which requires transmission organizations like SPP to build lines to alleviate transmission congestion.
- Congestion in the western SPP region is mounting. As wind generation in western Kansas continues to develop, the congestion will increase. The Grain Belt Express will collect wind resources largely from a region served by Sunflower Electric Power Corporation ("Sunflower"). At the end of 2009, the amount of generation requesting to connect to Sunflower's system was nearly 8,000 MW, while Sunflower's peak load was only 982 MW. The Grain Belt Express will alleviate this potential congestion by

accommodating renewable power flows from west to east.[2]

- Because wind speeds and the hourly timing of when the wind blows is different in western Kansas from other midwestern wind producing regions such as Illinois, Indiana and Missouri, the Grain Belt Express will reduce the impacts from the variability of the wind, thereby reducing wind integration costs, increasing reliability of the electrical grid, and helping make more efficient use of the available generation resources.
- By utilizing HVDC technology, the Grain Belt Express will efficiently transfer larger amounts of power with minimal losses due to transmission, and it will do so in a narrower right of way and with shorter towers than would be required for a comparable AC system.

Q. Please identify the other witnesses who are submitting direct testimony on behalf of Clean Line.

A. Mr. Jimmy Glotfelty, Executive Vice President – External Affairs of Clean Line Energy Partners, who is responsible for Clean Line Energy Partners' government, regulatory, and public affairs activities, will provide further discussion of the need for increased transmission infrastructure, such as the projects being developed by Clean Line Energy Partners and its subsidiaries, and in particular the need for new, long-distance transmission facilities to bring electricity from wind energy producers in wind-rich regions to load and population centers in the more eastern states of the country. He will also discuss benefits of using HVDC technology in these transmission projects. Additionally, he will describe Clean Line Energy Partners and Clean Line's approach and

[2] Southwest Power Pool, Inc., 2009 State of the Market Report, May 2010, 20, 26.

plans for community outreach and stakeholder interaction in developing the Grain Belt Express.

Dr. Wayne Galli, Vice President – Transmission and Technical Services for Clean Line Energy Partners, will describe Clean Line Energy Partners and Clean Line's technical capabilities and resources for constructing and operating transmission facilities such as the Grain Belt Express. He will also provide additional information on the advantages of HVDC technology in long-distance transmission applications such as Clean Line's project.

Mr. David Berry, Clean Line Energy Partners' Vice President – Strategy and Finance, will describe Clean Line Energy Partners' and Clean Line's financial capabilities and resources including Clean Line Energy Partners' sources of capital for development activities, and an overview of Clean Line Energy Partners' and Clean Line's capabilities and plans for financing the development and construction of the Grain Belt Express and other transmission projects being developed by Clean Line Energy Partners and its subsidiaries. Mr. Berry will also describe Clean Line Energy Partners' and Clean Line's accounting systems and procedures; discuss the inter-company financial relationships between Clean Line Energy Partners and Clean Line, describe the manner in which Clean Line Energy Partners provides managerial, technical and other resources to Clean Line and how the associated costs are charged to Clean Line.

Mr. Bryan Begley, Managing Director of ZBI Ventures, L.L.C. ("ZBI Ventures") and a partner in ZAM Ventures, L.P. ("ZAM Ventures"), the majority owner of Clean Line Energy Partners, will describe ZAM Ventures' investment in Clean Line Energy Partners, the financial support ZAM Ventures provides to Clean Line Energy Partners,

and Clean Line Energy Partners' financial capabilities and objectives from the perspective of Clean Line Energy Partners' majority equity owner.

Q. Do Clean Line Energy Partners and Clean Line understand that additional proceedings will be required beyond this Certification proceeding in order for Clean Line to be able to construct the Grain Belt Express in Kansas?

A. Yes, Clean Line Energy Partners and Clean Line understand that development and construction of the Grain Belt Express will require additional proceedings, either under the Kansas Electric Transmission Siting Act ("KTSA" or "the Siting Act") or the National Environmental Policy Act of 1969 ("NEPA"). In light of this bifurcated process, it is important that the Commission make a decision on whether Clean Line should be granted a Certificate of Public Convenience and Necessity now, as opposed to at the same time the Commission makes a ruling on Clean Line's application for a siting permit, pursuant to K.S.A. 66-1,177 et seq. If the Commission decides we are a public utility in the present case, they have not pre-approved our line; we will still have to come back and present a proposed route to file for a siting permit. Making a decision regarding our pending certification application will bring regulatory certainty to Clean Line, the Commission, and Kansas, because it will allow the Commission to provide Clean Line with oversight during the route selection process. Receipt of a Certificate of Public Convenience and Necessity as a public utility under K.S.A. 66-131 will facilitate Clean Line's stakeholder outreach program for the Grain Belt Express project with State and local government officials, landowners, business leaders, environmental and conservation groups, and other potentially interested stakeholders. Further it will show that Kansas is serious about transmission and renewable energy, and will help Clean Line in its

development activities with potential wind generation developers, potential transmission customers for the line, and potential lenders.

After obtaining a Certificate to operate as a public utility pursuant to K.S.A. 66-131, Clean Line Energy Partners will make an additional filing with the Commission under KETA or will proceed as required under NEPA to site the line. While our evidence in the current docket includes an overview of Clean Line's and Clean Line Energy Partners' plans, capabilities and resources to develop, construct and operate the Grain Belt Express, our evidence in the subsequent siting proceeding will include more detailed information on our plans for siting, routing, acquiring the rights of way, designing, constructing, and ultimately operating, the Grain Belt Express.

III. OWNERSHIP, ORGANIZATION AND BUSINESS OBJECTIVES

Q. Please describe the ownership and organization structure of Clean Line Energy Partners and Clean Line and their related companies.

A. Clean Line, the Applicant in this proceeding, is a limited liability company organized under the laws of the State of Delaware. Clean Line is a wholly owned subsidiary of Grain Belt Express Holding LLC, a Delaware limited liability company and the sole member of Clean Line. Grain Belt Express Holding LLC is a wholly owned subsidiary of Clean Line Energy Partners, which is the sole member of Grain Belt Express Holding LLC. Clean Line Energy Partners is also a Delaware limited liability company. The principal office of Clean Line Energy Partners and its subsidiaries, including Clean Line, is located in Houston, Texas. As I will describe, Clean Line Energy Partners owns other subsidiaries that are developing other HVDC transmission line projects in other parts of the country.

The majority owner of Clean Line Energy Partners is ZAM Ventures, which is the principal investment vehicle for ZBI Ventures. ZBI Ventures, which focuses on long-term investments in the energy sector, is a subsidiary of Ziff Brothers Investments, L.L.C. Additional equity owners of Clean Line Energy Partners include Michael Zilkha of Houston, Texas. The Zilkha family has a proven track record of making successful investments in the energy industry, including being the primary investor in Horizon during its initial growth.

Q. Please identify MPS-1.

A. MPS-1 is an organization structure chart showing Clean Line Energy Partners and all of its subsidiaries.

Q. Please describe the current and planned business operations of Clean Line Energy Partners and Clean Line and the other subsidiaries of Clean Line Energy Partners.

A.. Clean Line is developing the Grain Belt Express transmission project a ±500 kV or ±600 kV HVDC transmission line that will deliver up to 3,500 MW of power from the wind-rich areas of western Kansas to load and population centers to the east of Kansas, approximately 550 miles away, where there is a demand for electricity from renewable resources. The Grain Belt Express will originate near Spearville, Kansas, where a series of gathering, high voltage AC lines will draw power from an estimated 4,000 MW of new wind generation facilities to its converter station, and it will deliver the power to an interconnection point in the Midwest ISO, most likely in St. Francois County, Missouri.[3] Clean Line Energy Partners and its subsidiaries are presently developing three other

[3] Because wind power does not often produce at its rated output, Clean Line anticipates that wind farms in excesss of the total transmission capacity of the line will connect to the converter. This will boost the utilization of the line and lower delivered costs.

HVDC transmission projects that will connect wind generation resources in other wind-rich areas of the U.S. to other load and population centers where a demand exists for electricity from renewable resources. Specifically:

- Plains and Eastern Clean Line LLC ("Plains and Eastern Clean Line"), a subsidiary of Clean Line Energy Partners, is developing the Plains & Eastern Clean Line project, an approximately 800-mile-long HVDC transmission project that will connect up to 7,000 MW of wind generation resources in western Oklahoma, western Kansas and the northern panhandle of Texas with areas of demand for renewable energy in the Tennessee Valley Authority, Arkansas and the southeastern U.S.
- Centennial West Line LLC, another subsidiary of Clean Line Energy Partners, is developing the Centennial West Clean Line transmission project, which it acquired earlier this year from Integrated Transmission Solutions, LLC. The Centennial West Clean Line will be an approximately 800-mile-long HVDC transmission project that will deliver up to 3,500 MW of electric power from New Mexico to southern Nevada or California.
- Clean Line Energy Partners is developing the Rock Island Clean Line transmission project, an approximately 500-mile transmission line that will deliver up to 3,500 MW of electricity generated by the wind resources of western Iowa and eastern South Dakota or eastern Nebraska to the Illinois electricity market.

Q. What services will Clean Line provide?

A. Clean Line will offer transmission service on the Grain Belt Express through an open access transmission tariff ("OATT") that will be filed with and subject to the jurisdiction of the Federal Energy Regulatory Commission ("FERC") under the Federal Power Act and FERC's regulations. Clean Line expects that its customers will consist principally of (i) wind energy producers located in the wind-rich region at the western end of the Grain Belt Express, and (ii) buyers of electricity – particularly buyers seeking to purchase electricity generated from renewable resources – located in areas at, or connected to, the eastern end of the line. The purchasing side customers are expected to be principally wholesale buyers, such as utilities and competitive retail electricity suppliers, and brokers and marketers. The purchasing side customers could also include retail purchasers of electricity seeking to buy unbundled transmission service.

Q. How will Clean Line's services be priced?

A. Because Clean Line will be engaged in the provision of interstate transmission services, Clean Line's rates will be subject to the jurisdiction of the FERC. Clean Line expects to request negotiated rate authority from FERC. We currently anticipate that Clean Line will use an anchor tenant model to sell a portion of the transmission capacity on the Grain Belt Express, with capacity not acquired by anchor tenants being sold to customers through an "open season" process or processes. In addition, a secondary market for transmission rights will be created to allow other entities access to the line and to optimize the use of the transmission capacity.

Because there currently is no mechanism for inter-regional cost allocation, Clean Line does not plan to request cost recovery for the line through regional cost allocation

processes. This will mean that the specific contract customers of the transmission line will pay for the costs of developing, constructing and operating the Grain Belt Express. Therefore, under Clean Line's cost recovery plans, we anticipate that all costs associated with the construction and operation of the Grain Belt Express will be recovered through charges to the transmission capacity customers of the line, *i.e.*, from the suppliers and buyers who contract to use the Grain Belt Express to transmit their output to eastern markets or to transmit the electricity they have purchased from producers in western Kansas.

Q. In terms of concrete steps to move forward with the Grain Belt Express, has Clean Line Energy Partners or Clean Line submitted an interconnection request for the Grain Belt Express to any Regional Transmission Organization ("RTO")?

A. Clean Line submitted an interconnection request, J115, to the Midwest ISO to study the injection of 3,500 MW of power at Ameren's 345 kV St. Francois substation in St. Francois County, Missouri. Clean Line executed an Interconnection Study Agreement with MISO on February 12, 2010 and received the results of the Interconnection Feasibility Study for the Project on March 12, 2010. The interconnection request is currently in the System Planning & Analysis phase of the study process. AWG-1 to Dr. Galli's testimony is a copy of the interconnection request. In addition, Clean Line has presented the Project to the Southwest Power Pool and is undergoing discussions with SPP leadership to determine the appropriate studies that must occur to ensure reliable interconnection with the SPP system at the Spearville substation in western Kansas. My colleague, Wayne Galli, will discuss this in more depth in his testimony.

IV. DEVELOPMENT OF TRANSMISSION INFRASTRUCTURE TO SUPPORT DELIVERY OF WIND ENERGY RESOURCES FROM KANSAS

Q. How has the wind generation industry developed in the United States?

A. While the ability to harness wind for energy production has existed for hundreds of years, only in the last decade have companies in the United States used wind power to produce electricity for commercial consumption on an economic scale. Wind turbine research and development technology that followed the oil embargoes of the 1970s improved upon old ideas and introduced new methods of more efficiently converting wind energy into useful power.[4] The industry has and continues to reanalyze its previous assumptions about the scale and speed of implementation for renewable energy. Over the past decade, recognition that a clean energy economy could create thousands of new jobs, rising concerns over energy independence, climate change and fossil fuel depletion, and associated federal and state policies favoring or mandating the production and use of electricity from renewable resources have intensified the efforts of energy companies to produce more substantial amounts of wind power.

The efficiency and size of wind turbines have improved dramatically. A single land-based wind turbine can now produce up to three MW of power. Further, only a few years ago a typical wind farm project consisted of 50 to 100 MW of capacity, but wind developers are now routinely building 400 MW projects.

In 1998, the United States had 1,574 MW of cumulative wind power capacity; by July 2010, this number had risen to 35,086 MW.[5] In each of the years 2005 through

[4] U.S. Department of Energy, *History of Wind Energy* (Sept. 12, 2005); available at http://www1.eere.energy.gov/windandhydro/wind_history.html (last visited July 27, 2010).

[5] American Wind Energy Association, *AWEA U.S. Wind Industry Annual Market Report Year Ending 2009*, at 1; available at

2008, wind power was the second largest new resource added to the U.S. electrical grid in terms of aggregate capacity, behind only natural gas.[6] In 2007 and 2008, new wind plants represented 35% and 42%, respectively, of the new nameplate capacity added to the U.S. electrical grid.[7] In fact, 2009 saw the greatest wind generation additions ever recorded, with over 10,000 MW of wind capacity installed.[8]

The driving force behind these increases is the continued effort by federal and state policy makers to establish these goals regarding the use of renewable resources in meeting the country's energy demands. The following list exemplifies some of these policy goals:

- In 1999, the Secretary of the U.S. Department of Energy ("DOE") announced the "Wind Powering America" initiative, which set a goal of generating 5% of U.S. electric power through wind energy, an objective that has since been reiterated and increased.

- Nine years later, DOE demonstrated its continued support of renewable energy by publishing a year-long assessment of the costs, challenges, impacts and benefits that would result from wind generation providing 20% of the electrical energy consumed in the United States by 2030.[9]

- The executive branch of the federal government has repeatedly voiced its strong support for a federal renewable electricity standard and for improvements to the U.S. electric transmission grid to build and sustain a clean energy economy.[10]

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http://www.awea.org/reports/Annual_MarketReport_Press_Release_Teaser.pdf.

[6] U.S. Department of Energy, *2008 Wind Technologies Market Report*, at 4; available at: http://www1.eere.energy.gov/windandhydro/pdfs/46026.pdf

[7] *Id.*

[8] American Wind Energy Association, *AWEA U.S. Wind Industry Annual Market Report Year Ending 2009*, at 1, available at: http://www.awea.org/reports/Annual_Market Report_Press_Release_Teaser.pdf.

[9] U.S. Department of Energy, *20% Wind Energy by 2030: Increasing Wind Energy's Contribution to U.S. Electricity Supply (2008)*, available at: http://www.nrel.gov/docs/fy08osti/41869.pdf [hereinafter "20% Wind Energy by 2030"].

[10] *See, e.g.*, The White House, *Energy & Environment*, available at: http:www.whitehouse.gov/issues/energy-and-environment (last visited July 22, 2010); The Obama-Biden Plan, available at http://www.change.gov/agenda/economy_agenda/ (last visited July 22, 2010).

- The U.S. Congress continues to consider legislation that would establish federal RPS requirements for electric utilities.

- FERC recently issued a Notice of Proposed Rulemaking for regulations intended, in part, to support transmission upgrades by Regional Transmission Organizations not only to support immediate reliability needs but also to facilitate renewable electricity standards.[11]

- At the state level, 29 states have placed mandates on the use of renewable energy sources to fulfill electricity demand, while another 7 states have established goals in this regard.[12]

Q. Does Kansas have untapped potential for development of higher-quality wind resources?

A. Yes. The western area of Kansas experiences high average wind speeds of 8.5-9.0 meters per second (about 20 miles per hour) at typical wind turbine hub height of 80 meters and is a prime area for additional development of wind generation resources. The National Renewable Energy Laboratory ("NREL") and AWS Truepower published a state-by-state ranking of wind capacity potential at a 40% gross capacity factor. Kansas ranks fourth in the U.S. for wind energy potential with over 760,000 MW of potential installed capacity, with annual generation potential of 3,024,280 GWh.[13] Yet, as of December 2010, Kansas ranked 14th in the U.S. in terms of installed capacity with only 1,074 MW of wind

[11] Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities, 131 Fed. Reg. 61, 253 (Federal Energy Regulatory Commission June 17, 2010).

[12] Information on the renewables mandates and goals established by these states is collected in Pew Center on Global Climate Change, *Renewables & Alternative Portfolio Standards*, available at: http://www.pewclimate.org/what_s_being_done/in_the_states/rps.cfm (last visited July 22, 2010).

[13] US Department of Energy, National Renewable Energy Laboratory and AWS Truepower, Estimates of Windy Land Area and Wind, February 2010; and http://www.windpoweringamerica.gov/docs/wind_potential.xls

generation capacity installed. Only 60.7 MW had been constructed in all of 2010.[14] The current estimated production from wind generators already in operation in Kansas totals approximately 3.8 million MWh per year.[15] However, the demand for electricity in general, and for renewable energy specifically, in nearby states in the Midwest ISO far exceeds that amount. The cumulative total annual demand for renewable energy based on currently-enacted RPS laws in states[16] affiliated with the Midwest ISO is over 20 million MWh in 2017, increasing to approximately 41 million MWh by 2027, excluding already existing and planned generation facilities. [17] Enactment of a federal RPS would likely result in an even higher demand for renewable energy in the regions of the United States east of Kansas.[18] There is currently insufficient electric transmission infrastructure connecting Kansas to load and population centers to the East to provide potential wind generators with access to markets with sufficient demand. By tapping into the abundant wind resource of western Kansas and connecting it to a larger market in the Midwest ISO, the Grain Belt Express will support development of additional wind generation in Kansas.

Q: Will the Grain Belt Express duplicate the functions of any current or planned transmission line?

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[14] American Wind Energy Association, U.S. Wind Industry Year-End 2010 Market Report, January 2011, http://www.awea.org/documents/reports/4Q10_market_outlook_public.pdf.

[15] Installed capacity as of December 2010 equals 1,074 MW. At an assumed capacity factor or 40%, annual production would equal 3,763,296 MWh.

[16] This total does not include Minnesota, which has a varying compliance rate for certain utilities.

[17] Midwest ISO. Regional Generation Outlet Study, Phase 1 Executive Summary Report, 10. .

[18] For example, the total demand for renewable energy in the PJM states under the American Clean Energy and Security Act, H.R. 2454, 111th Cong. (2009), which was passed by the House of Representatives, would be 96 million MWh in 2017 and 122 million MWh in 2020.

A: No. SPP is in the process of implementing considerable upgrades to its AC transmission system, but these projects have different objectives than the Grain Belt Express Clean Line. On April 27, 2010, SPP's Board of Directors approved "Priority Projects" totaling over $1 billion of investment. The stated purpose of these projects is to relieve congestion, improve SPP's generation interconnection queue, and enhance transfer capability from SPP's western region to SPP's eastern region. These projects do not increase SPP's export capabilities to other regions. The Grain Belt Express Clean Line and Priority Projects are designed to serve very different needs. The Priority Projects will enhance the ability of wind farms to transmit power within SPP, while the Grain Belt Express Clean Line will increase the ability to export wind power out of SPP. Both kinds of transmission are needed for Kansas to fully develop its wind potential.

Q: Does Kansas have enough wind potential to satisfy its own demand – as well as the demand of the Southwest Power Pool – and still have export capability?

A: Yes. The potential in Kansas is a multiple of its consumption and all of SPP's consumption combined. As referenced above, the National Renewable Energy Laboratory ("NREL") estimated that Kansas has enough available windy land area with capacity factors above 40% to install 760,000 MW of high capacity factor wind generation capacity.[19] The potential wind energy generation in Kansas alone far exceeds SPP's average load of 26,000 MW.[20] SPP specifically identified a future demand for additional export capacity to the broader Eastern Interconnection as increases in

[19] US Department of Energy, National Renewable Energy Laboratory and AWS Truepower, *Estimates of Windy Land Area and Wind*, February 2010.

[20] Federal Energy Regulatory Commission. FERC Form No. 714 Annual Electric Balancing Authority Area and Planning Area Report for Southwest Power Pool in the Year Ending December 31, 2009.

renewable energy penetration occur.[21] In an April 2009 white paper, SPP stated, "We believe that SPP could absorb only 20%-30% of the wind potential in our region."[22] As a result, a tremendous natural resource will remain under-utilized without delivery to areas outside the SPP footprint. The Grain Belt Express is ideally positioned to export wind energy from the SPP region to the East.

Not only is there enough wind to satisfy intrastate and interstate demand, projects designed to export wind to other load centers will enable that wind potential to be realized and will help resolve the current congestion issues. SPP and its members have worked to create a plan to build a set of "priority" high voltage transmission projects to improve the regional electric grid within SPP including facilitating the addition of new renewable and non-renewable generation. There is much more wind potential in Kansas and the SPP region at-large than what the priority projects will support and the Grain Belt Express will serve to support the development of additional wind resources. Clean Line fully supports the current expansion of the SPP grid and sees our projects as complementary to these by bringing the potential for even more wind capacity than currently planned.

Q. Why are no projects like the Grain Belt Express included in the SPP transmission expansion plan?

A. As a FERC-designated Regional Transmission Organization, SPP is required to work with its members, regulators, and stakeholders to create a regional transmission

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[21] Southwest Power Pool, *Final Report on the SPP EHV Overlay Project*, June 27, 2007, 7. http://www.spp.org/publications/spp_ehv_study_final_report.pdf.

[22] Southwest Power Pool, *An SPP Perspective, Renewable Energy Conference White Paper*, April 14, 2009, 4. http://www.spp.org/publications/Renewable_Energy_Conference_white_paper%20_04%2014%2009.pdf.

expansion plan to meet the long- and near-term needs of the region.[23] Consequently, the approved SPP transmission expansion projects are located within the SPP footprint and are focused on serving SPP customers, not on exporting energy to neighboring regions. The SPP projects will increase reliability, reduce congestion, and improve energy transfers between SPP's east and west regions, facilitating the addition of some new wind generation to the grid. However, as referenced above, SPP recognizes that it could absorb only 20%-30% of the wind potential in the region. Additional export capability will allow for more efficient development of the region's wind generation potential. The Grain Belt Express will help strengthen the national grid, providing access to the Midwest ISO and the broader Eastern Interconnection, thereby enabling the development of over 4,000 MW of additional wind generation.

Q. Why is the development of new transmission infrastructure such as Clean Line's proposed Grain Belt Express important to the continued development of wind generation resources?

A. Over the next few decades, the construction of new transmission that will drive wind generation development for two reasons. First, the existing transmission system in windy areas has reached or is nearing maximum capacity. Second, many of the best regions of the U.S. for locating new wind generation facilities – the areas that are richest in wind resources and have the most energetic wind[24] – are located far from load and population centers with greater demand for electricity in general and renewable energy. Such wind-

[23] Southwest Power Pool, Transmission Planning website, http://www.spp.org/section.asp?pageID=128

[24] By areas with the "most energetic" wind, I mean areas with the highest average annual wind speeds at the heights above ground at which a wind energy turbine would be positioned, typically at 80 meters.

rich regions include the Great Plains from western Texas and Oklahoma north through western Kansas and into the Dakotas. However, transmission facilities dedicated to transporting electricity, which is produced in these regions, hundreds of miles to load and population centers located farther east are limited or non-existent. The transmission infrastructure in the U.S. has generally been developed to move power from generation resources to load centers within electric utility service territories or within planning regions. The development of inter-regional transmission facilities specifically intended to bring large amounts of electricity from areas such as western Kansas to load and population centers in the East has been extremely limited.

Exhibit MPS-2 is a map of the United States showing average annual wind speeds at a height of 80 meters above ground.[25] As the exhibit shows, the areas of the U.S. with the highest average wind speeds are in the west central or Great Plains region from the Canadian border to the Mexican border, and include areas in eastern Montana, eastern Wyoming, North and South Dakota, western Minnesota, Nebraska, western and northern Iowa, eastern Colorado, Kansas, western Oklahoma and western Texas. **Exhibit MPS-3** is a map showing the high voltage transmission grid in the United States.[26] A comparison of these two exhibits shows that transmission capacity to bring electricity produced by wind generation facilities in the areas of the most energetic wind to load and population centers in the eastern states is limited or non-existent.

To lift the renewable energy industry to the next level, a massive investment in transmission infrastructure is a necessity, especially investment in facilities that will

[25] As shown on **Exhibit MPS-2**, this map was prepared by AWS True Wind, LLC and the National Renewable Energy Laboratory of the U.S. DOE.

[26] The map provided in **Exhibit MPS-3** was prepared by National Public Radio.

provide the ability to move renewable energy over long distances and across several utility footprints. As a former developer of wind energy projects, I can say with confidence that developers of wind generation projects will not invest capital in the construction of additional wind generation facilities in Kansas without reasonable assurances of adequate transmission capacity and infrastructure to deliver their output to load and population centers in the more eastern areas of the country. Indeed, to date, much of the development of wind generation facilities in the U.S. has been in areas with access to existing transmission lines to bring the output of the wind plants to load and population centers. These areas, in which wind generation facilities have been installed, are not necessarily the country's best wind resource areas. If we want wind generation facilities to be developed in the nation's best wind resource areas, in order to meet the growing demand for electricity in general and for electricity from renewable sources in particular, we will first have to construct inter-regional transmission facilities that can deliver the output of these generating facilities to load and population centers.

Clean Line Energy Partners' and Clean Line's objective is to participate in this process by building transmission facilities, such as the Grain Belt Express, that will provide customers in load and population centers in eastern markets with access to electricity from wind generation resources located in the nation's best wind resource areas. The construction of robust, inter-regional transmission facilities such as the Grain Belt Express can support the development of thousands of megawatts of wind generation in wind-rich areas by providing the capability to bring their output to load and population centers that have a need and demand for electricity generated from renewable resources.

Clean Line witness Jimmy Glotfelty provides additional discussion on the importance of enhancing and strengthening the U.S. transmission infrastructure, particularly the addition of long-distance, inter-regional transmission facilities such as the Grain Belt Express.

Q. Is there a need to provide transmission access between existing and potential wind generation facilities in wind-rich areas of the U.S., and load and population centers in the eastern United States?

A. Yes. Although, as I described, there has been significant development of new wind energy facilities in a number of states over the past several years, 2009 also saw the curtailment of wind power facilities at previously unforeseen levels.[27] There are currently 9,208 MW of wind energy projects in the SPP Wind Generation Interconnection Queue, and there are several projects that have not yet submitted a queue request due to transmission limitations. Wind generation projects under development vastly outstrip available transmission; as a result, the development of new wind generation resources is limited by the availability of transmission. Wind turbine installations in the first three quarters of 2010 were 72% lower than in the first half of 2009.[28]

As referenced above and in Clean Line's Application, we have described some of the statutory, regulatory and policy drivers, both in the state of Kansas and at the national level, for the development of renewable generating sources for electricity. As a result of

[27]Fink, S., C. Mudd, K. Porter, and B. Morgenstern, Exeter Associates, Inc., National Renewable Energy Laboratory, *Power Wind Energy Case Studies: May 2008-May 2009*, NREL/SR-550-46716 (October 2009); available at: http://www.nrel.gov/docs/fy10osti/46716.pdf

[28] American Wind Energy Association, *AWEA Third Quarter 2010 Market Report* at 2; available at: http://www.awea.org/documents/reports/2010_third_quarter_report.pdf (last visited Dec. 16, 2010).

these statutory requirements and other drivers of demand for electricity from renewable resources, there will be strong and growing demand for electricity generated from renewable resources, and from wind generation in particular, well into the future.

Q. You have testified that inter-regional transmission facilities need to be constructed to bring electricity generated by wind from the western Kansas region to load and population centers in the East, but you have not identified specific wind generating facilities that are being developed in that region that would use Clean Line's transmission line. Shouldn't there be actual wind generation customers to justify the need to construct the transmission line?

A. Not at this stage. As I have testified, developers of and investors in wind generation facilities will not commit capital and resources to develop and construct new wind generation facilities in the wind-rich western Kansas region unless and until they have reasonable assurances that there will be sufficient transmission infrastructure in place to deliver the output of their facilities to load and population centers. Transmission facilities must be under construction or at least substantially into development (including regulatory approvals) so that there is certainty that the necessary transmission capacity is likely to become a reality. Further, the time required to develop, site, obtain government approvals for and construct a wind generating facility is much shorter than the time required to develop, site, obtain government approvals for and construct a long distance, multi-state, inter-regional transmission line. This is another reason why development, licensing and construction of the inter-regional transmission facilities, such as Clean Line's proposed project, must precede the development of the wind generation facilities that will use it.

The fact that Clean Line is requesting certification as a public utility before it has specific wind generation customers identified for the line should not be regarded as different from the circumstances of a traditional incumbent utility requesting authority to build a new transmission line to add transmission capacity. Recognizing the lead time required for siting, obtaining government approvals for, and constructing its new transmission line, the incumbent utility would be expected to request authority to build the new line based on anticipated growth in customer demand for electricity in the areas to be served by the new line. The incumbent utility would not wait until the load growth that justified the construction of the new line and addition of transmission capacity had actually manifested before it requested authority to construct a new line to meet that demand.

Q. In addition to the direct benefits from Clean Line's proposed operations, are there ancillary economic benefits from the construction and operation of Clean Line's proposed Grain Belt Express transmission project?

A. Yes. The Grain Belt Express is a substantial transmission infrastructure project, with a projected cost of about $1.7 billion. Approximately $896 million of that will be spent in Kansas. Clean Line retained economic development consulting firm, Development Strategies, Inc. to conduct an economic impact study of the Grain Belt Express on Kansas. Construction of the Grain Belt Express will employ over 4,700 workers in Kansas over a three year construction period.[29] The combined direct, indirect, and induced jobs that are associated with this construction will be paid a total of

[29] Development Strategies Report

approximately $227 million in earnings and will generate $903 million in economic output.

Operation and maintenance of the line will create or support over 120 jobs in Kansas. These jobs will be comprised of positions with Clean Line and its affiliates and positions with other companies with which Clean Line may contract to perform construction, engineering, operations, maintenance and other functions. The combined direct, indirect, and induced jobs associated with the operations and maintenance of this line will be paid a total of $6.5 million in earnings and will generate $14.9 million in economic output.

As a result of the Grain Belt Express project, suppliers of materials, equipment and services to the Grain Belt Express project, or to the developers of new wind generation facilities that may be connected to the transmission line will see increased demand for their products and services. This is of vital importance; wind turbine manufacturing companies, such as Siemens, have recently located new manufacturing facilities in the state of Kansas. Increasing demand for wind turbines and components within the state and the region will ensure that these companies keep their factories full and that competitive jobs will remain in the state.

Using the assumption that 4,000 MW of wind generation capacity will be built as a result of the Grain Belt Express, the Development Strategies report projects that approximately $8 billion will be spent during the anticipated one year construction period. As a result, over 16,500 full time equivalent jobs will be created, generating $107 million in earnings and $2.09 billion in direct and indirect generated output. Wind farm operations and maintenance will support over 480 full time equivalent jobs, which will

generate $22 million in direct and indirect earnings and another $52.7 million in direct and indirect economic output.

The wind farms that are constructed as a result of the Grain Belt Express will provide landowners with property on which wind turbines are built with royalty payments for several years into the future. The economic activity generated by the Grain Belt Express project will result in increased property, sales and income tax revenues for the State of Kansas and for local governments within the state. Construction of the Grain Belt Express will generate approximately $33.8 million in individual income, corporate income, sales and use, and ad valorem taxes in Kansas. Once the line goes into operation, approximately $6.2 million in taxes will be generated during an average operational year.

Q. **Does the generation of electricity from wind resources have any environmental benefits?**

A. Yes. Generating electricity from wind resources is environmentally-friendly because wind generation does not emit carbon dioxide, sulfur dioxide, or nitrogen oxides, nor does wind generation produce mercury, particulates, coal ash, or scrubber sludge as in the case of coal-fueled generation or radioactive waste as in the case of nuclear generation. According to the Energy Information Administration of the U.S. DOE (EIA), the United States produces six billion metric tons of carbon dioxide annually, and 40% of those emissions are generated by the electric power sector.[30] Adding carbon-free power will produce environmental benefits by inhibiting the growth of carbon emissions. According to a report by AWEA, wind energy projects that were installed in the U.S. through 2008

[30] Energy Information Administration, *Short Term Energy Outlook Supplement: Understanding the Decline in Carbon Dioxide Emissions in 2009* (Oct. 2009); available at http://www.eia.doe.gov/emeu/steo/pub/special/pdf/2009_sp_06.pdf

displaced over 44 million tons of carbon dioxide in 2009.[31] Another environmental benefit of wind energy is found in water savings – wind farms do not require the large amounts of water that are needed for cooling coal- or gas-burning power plants. Approximately 39% of freshwater withdrawn from rivers, lakes and aquifers in the United States is presently used to cool thermoelectric power plants.[32]

By stimulating new wind energy development, Clean Line's proposed Grain Belt Express transmission project will reduce emissions of carbon dioxide, sulfur dioxide, nitrogen oxides, particulate and organic compounds and waste by-products, and it will also reduce water consumption, as compared to the production of comparable amounts of electricity from other power sources. The Grain Belt Express will infuse up to 3,500 MW of carbon-free electricity into the marketplace, and will deliver approximately 15 million MWh of clean electricity per year into U.S. markets in the Eastern Interconnection.[33] Clean Line retained ICF International to quantify the environmental benefits of the proposed Grain Belt Express project and wind generating capacity made possible by the transmission line. According to ICF analysis, the amount of electricity that will be produced by wind generators and transmitted into the marketplace by the Grain Belt Express would, if generated by other power sources, produce over 12 million tons of carbon dioxide per year, over 7,000 tons of nitrogen oxides per year, over 29,000 tons of sulfur dioxide per year, and 160 pounds of mercury per year, as well as significant

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[31] American Wind Energy Association, *Wind Power and Climate Change*; available at: http://awea.org/pubs/factsheets/Climate_Change.pdf

[32] IEEE Spectrum Staff, IEEE Spectrum, *The Coming Clash Between Water and Energy,* June 2010, 26-27.

[33] This is equivalent to the nameplate capacity of 4 to 5 new base load coal-fueled generating units or 3 to 4 new nuclear generating units.

amounts of coal ash and (potentially) scrubber sludge. In addition, ICF estimated that the Grain Belt Express would reduce fresh water consumption by over 11,000 gallons per second, or over 1.1 million acre-feet per year, by reducing coal plant dispatches in MISO and the associated cooling requirements.

Q. Will the Grain Belt Express result in additional environmental benefits specific to Kansas?

A. The Grain Belt Express will help direct wind farm development away from the Flint Hills by creating an export opportunity for wind generation in western Kansas, a region more suitable for this kind of development. Due to the nature of HVDC technology, for which on and off converter stations are extremely expensive, the project will not attract developers to the Flint Hills to serve markets to the East via the Grain Belt Express. This might occur if the line were constructed with AC technology, which allows for economical interconnection directly into a line by the addition of a breaker or small substation, a relatively inexpensive requirement when compared to a converter station. Rather, the Grain Belt Express will attract wind developers to western Kansas where environmental sensitivities are not as pronounced.

Q. What is the specific economic benefit to consumers of developing wind generation facilities in Kansas and long distance inter-regional transmission facilities to bring the output of the wind generation facilities in Kansas to markets farther east?

A. As I have described, fostering the development of wind generation resources in Kansas and enabling those resources to access the eastern electricity markets will help the United States meet the long-term demand for electricity generally and for electricity from renewable resources. With respect to cost and pricing, the specific benefit is that the

wind-rich areas of Kansas have, as I noted, higher average annual wind speeds than is found in the region where Grain Belt Express will deliver energy. As I described earlier, Kansas has the potential for development of a much greater amount of generating capacity that will be able to achieve annual capacity factors between 40 and 50%, than do states such as Missouri or Illinois.[34] The higher average annual wind speeds and higher capacity factors in Kansas will allow for a lower bus bar cost of electricity from wind generation facilities in Kansas than from wind generation facilities in other areas, such as Missouri and Illinois.

Further, the accessibility of the additional wind energy capacity with lower per-MWh bus bar costs from the western Kansas region to the eastern market, which Clean Line's proposed Grain Belt Express will make possible, will increase competition among suppliers of wind energy, among suppliers of electricity from renewable resources generally, and among all suppliers of electricity to this market. Grain Belt Express will deliver energy from generating sources that have a lower marginal cost than many existing generation sources (specifically, from wind generation sources that have zero marginal cost); this will decrease market-clearing wholesale prices, which will increase competition in wholesale power markets and, ultimately, in retail power markets. Increased competition should exert downward pressure on the price of electricity and therefore be beneficial to the ultimate consumers of electricity in the eastern U.S. As this Commission has previously acknowledged, in evaluating the public convenience and

[34] See the data in National Renewable Energy Laboratory, Estimates of Windy Land Area and Wind Energy Potential by State for Areas with a Gross Capacity Factor of 40% and Greater at 80 Meters (2010).

necessity for a proposed transmission line in Kansas, the impact of the line on other states should be considered in light of the interconnected nature of the transmission system.[35]

Q. Are there benefits in terms of diversity and reliability of renewable resources to developing wind generation resources in Kansas and constructing transmission to deliver the output to eastern markets?

A. Yes. The times of higher wind speeds in Kansas are weakly correlated with the times of higher wind speeds in other wind-producing regions serving the MISO grid, meaning that the periods of highest availability of wind energy resources in the different regions are diverse. Therefore, installation of new transmission capacity to bring electricity to eastern markets from wind resources in Kansas will provide greater diversity of renewable resource supply to the eastern market. Integrating wind energy resources from a more diverse geographical area, inside and outside of Kansas, will allow eastern electricity markets to accommodate more renewable energy in a more reliable fashion.

Q. Are there benefits from the development of new, long distance transmission infrastructure by independent transmission-only companies such as Clean Line and the other Clean Line Energy Partners operating companies?

A. Yes. As I noted earlier, neither Clean Line Energy Partners, Clean Line, nor any other Clean Line Energy Partners subsidiaries are affiliated with or have any ownership interest in generation facilities or in companies developing, owning or operating generating facilities. While many electric industry participants, including the incumbent utilities, have important roles to play in the expansion and strengthening of the transmission

[35] See Commission Docket No. 08-KMOE-028-COC, Order dated August 12, 2008, page 15, paragraph 40.

infrastructure that is needed in this country, Clean Line Energy Partners, Clean Line and the other Clean Line Energy Partners subsidiaries are focused singularly on transmission as their only line of business. Therefore, there is and will be no internal competition among the Clean Line Energy Partners' companies for capital and other resources for any purposes other than construction, maintenance and operation of transmission facilities. Clean Line Energy Partners and its operating subsidiaries such as Clean Line are dedicating their capital and their management attention solely to investment in transmission facilities to increase access to generation resources and to improve and maintain reliability. Since retail customers in the U.S. benefit from increased access to generation resources and reliable transmission service, the interests of Clean Line Energy Partners and Clean Line are aligned with the interests of retail customers.

Further, Clean Line Energy Partners, Clean Line, and Clean Line Energy Partners' other operating subsidiaries are independent and thereby have no affiliation with any other market participant. Hence, Clean Line Energy Partners and Clean Line have no motivation to prefer or discriminate against any generation resources. The independent transmission company business model avoids the structural conflict that can occur within traditional, vertically-integrated utilities or holding companies that own both transmission and generation. The singular focus of Clean Line Energy Partners, Clean Line and the other Clean Line Energy Partners' companies on transmission enables them to help meet public policy objectives by facilitating the interconnection of renewable resources specifically, and more generally, the development of competitive wholesale and, ultimately, retail electricity markets by providing access to remotely located wind generation facilities.

FERC has articulated the benefits of the independent transmission company business model:

> [T]he transmission business is ideally suited to bring about: (1) improved asset management including increased investment; (2) improved access to capital markets given a more focused business model than that of vertically integrated utilities; (3) development of innovative services; and (4) additional independence from market participants.[36]

Q. Are there examples of non-load-serving transmission companies that are not serving load in Kansas?

A. Yes. Although there are no companies that are undertaking the same type of project as Clean Line, two independent transmission companies that are in operation in Kansas are Prairie Wind Transmission, LLC ("Prairie Wind") and ITC Great Plains LLC ("ITC"). Prairie Wind was granted certification by the Commission in Docket No. 08-PWE-1022-COC on October 5, 2009, and ITC was granted certification in Docket No. 07-ITCE-380-COC on June 5, 2007.[37] Unlike Clean Line, Prairie Wind is affiliated with entities involved in activities in the energy industry other than transmission. Prairie Wind is owned 50% by Westar Energy, Inc. and 50% by Electric Transmission America, LLC, a joint venture affiliated with American Electric Power Company, Inc. and MidAmerican Energy Holdings Company.

Prairie Wind and ITC have received Commission approval to construct two segments of a north/south 345 kV transmission line through Kansas. The Grain Belt Express will not duplicate the purposes or functions of the lines being built by Prairie

[36] *Proposed Pricing Policy for Efficient Operation and Expansion of Transmission Grid*, 102 FERC ¶ 61,032 at P 16 (Jan. 15, 2003) (quoting *Remedying Undue Discrimination Through Open Access Transmission Service and Standard Electricity Market Design*, 67 Fed. Reg. 55,451, FERC Stats. & Regs. ¶ 32,563 at P 132 (2002)).

[37] ITC's certification was amended in Dockets No. 08-ITCE-936-COC.

Wind or ITC. The Grain Belt Express will complement and improve the existing transmission system in Kansas.

There are other independent transmission companies that are in operation or are in the process of developing new transmission infrastructure in other parts of the country, including American Transmission Company ("ATC") in Wisconsin and Illinois; ITC Midwest LLC in Michigan, Oklahoma, Illinois, Iowa, Minnesota and Missouri; Electric Transmission Texas LLC in the Electric Reliability Council of Texas region; Neptune Regional Transmission System, LLC in the PJM Interconnection and New York Independent System Operator regions; Trans Bay Cable, LLC in California; and TransCanada in the western United States. The point of these examples is that the independent transmission company business model is not novel but rather is established and has become recognized, including in Kansas.

V. MANAGERIAL, TECHNICAL AND FINANCIAL CAPABILITIES

Q. Do Clean Line and Clean Line Energy Partners have the managerial and technical capabilities for Clean Line to operate as a public utility in Kansas, and particularly to construct and operate transmission facilities and offer transmission services as proposed?

A. Yes. Clean Line Energy Partners is assembling an outstanding management team to manage the development, construction and operation of Clean Line's proposed Grain Belt Express and the other transmission projects under development by other Clean Line Energy Partners subsidiaries. The key is to find a combination of experience with a wide range of skill sets that can work well together and with the many stakeholders involved in

a major infrastructure project. This not only includes people who have the capacity to envision how a project will look before progress has begun, who understand the local environment and who can work well with the local authorities to obtain the necessary permits, but also those who have the right technical talents and experience in developing, constructing and operating similar facilities efficiently and within the applicable reliability and safety guidelines. In addition to me (I described my background and experience in Section I of this testimony), Clean Line Energy Partners' team includes the following individuals who collectively possess a wealth of relevant experience:

- **Jimmy Glotfelty, Executive Vice President – External Affairs of Clean Line Energy Partners**. Mr. Glotfelty is responsible for Clean Line Energy Partners' government, regulatory and public affairs activities. He served as a senior policy advisor for George W. Bush in his gubernatorial and presidential administrations, focusing primarily on electricity markets. He also founded, and served as the first Director of the Office of Electric Transmission and Distribution in the U.S. DOE, where he led the investigation of the 2003 Northeast blackout, as well as efforts to upgrade and modernize the electric transmission system.
- **Wayne Galli, P.E., PhD, Vice President – Transmission and Technical Services for Clean Line Energy Partners**. Dr. Galli is the senior executive of Clean Line Energy Partners responsible for the planning, engineering, design and other technical activities for the transmission projects of Clean Line Energy Partners and its subsidiaries. Dr. Galli holds a Ph.D. in Electrical Engineering from Purdue University. He is a Senior Member of the Institute of Electrical and Electronics Engineers and is a registered Professional Engineer in the Commonwealth of

Virginia. Prior to joining Clean Line Energy Partners, Dr. Galli served as Director of Transmission Development for NextEra Energy Resources (a subsidiary of NextEra Energy, Inc. formerly known as FPL Group, Inc.), where he developed several transmission projects and focused on HVDC applications, and led efforts in routing, siting and engineering transmission lines in the Texas Competitive Renewable Energy Zone. Dr. Galli also previously held the position of Supervisor of Operations Engineering at Southwest Power Pool ("SPP"), where he led the implementation of several components of the SPP market and grew the SPP Operations Engineering group over fourfold to help ensure reliable operations of the SPP grid under the new Regional Transmission Organization market paradigm. Dr. Galli's background includes system planning experience with Southern Company Services, where he analyzed 500 kV expansion plans. He also gained commercial power systems experience at Siemens Westinghouse Technical Services. Dr. Galli has taught at the university level and has helped design shipboard power systems for the Department of Defense.

- **Jayshree Desai, Executive Vice President – Commercial and Operations of Clean Line Energy Partners and Executive Vice President of Clean Line**. Ms. Desai previously served as the Chief Financial Officer of Horizon Wind Energy, where she oversaw the company's balance sheet as it grew from $8 million to more than $5 billion. At Horizon, Ms. Desai was responsible for corporate and project finance, accounting, tax and information technology, and led Horizon through financings and acquisitions totaling several billions of dollars. She holds a Masters of Business Administration from the Wharton School of the University of Pennsylvania.

- **David Berry, Vice President – Strategy and Finance of Clean Line Energy Partners**. Mr. Berry is responsible for Clean Line Energy Partners' financing efforts, deal structuring, strategic analysis and accounting. He was previously with Horizon Wind Energy, where he worked on and led over $2 billion in project finance transactions and was responsible for investment analysis and acquisitions.
- **Mario Hurtado, Executive Vice President of Clean Line Energy Partners**. Mr. Hurtado is the lead developer of the Plains & Eastern Clean Line. He has developed and managed power and other energy infrastructure projects with both large corporate and early-stage venture companies in the electric power and natural gas industries for over 15 years, including with Reliant Energy and Duke Energy. Mr. Hurtado has been involved in the development and operation of both traditional and renewable resource generating facilities in North America and Latin America and in the development of liquefied natural gas terminals in the U.S. and Europe.
- **Mark Lawlor –Director of Development, Grain Belt Express Clean Line.** Mr. Lawlor is responsible for all development aspects of Grain Belt Express. Mr. Lawlor has extensive experience in wind development, transmission policy and legislative matters. Mr. Lawlor managed a team of developers for over three years at Horizon Wind Energy developing projects in Kansas. While at Horizon, Mr. Lawlor developed the 201 MW Meridian Way Wind Farm and a pipeline of projects exceeding 1,000 MW. In 2008, Mr. Lawlor was appointed to the Kansas Wind Working Group by the governor. Mr. Lawlor serves as the Chair of the SPP Committee within The Wind Coalition, a trade organization that covers the ERCOT and SPP regions. He has been managing a team of lobbyists in the SPP states and

directing consultants involved in SPP's transmission planning and market development for the region. Prior to his involvement in developing wind and transmission projects, Mr. Lawlor was a founding partner in a law firm specializing in renewable energy law in Kansas.

- **Diana Coggin – Project Development Manager, Grain Belt Express Clean Line.** Ms. Coggin is the Project Development Manager dedicated to the Grain Belt Express Clean Line. In this role, Ms. Coggin coordinates and reconciles stakeholder interests, collaborates with project vendors and serves as a public representative for the project with various constituencies in the broader community. Prior to joining Clean Line, Ms. Coggin gained manufacturing expertise at General Electric and transitioned into energy development at Horizon Wind Energy. As a member of the Operations Management Leadership Program at GE Aviation, Ms. Coggin held roles including Manufacturing Quality Engineer and Lean Leader at various aircraft engine manufacturing and assembly plants. As a Six Sigma Black Belt at GE Energy, Ms. Coggin improved processes and reduced costs in the aero-derivative gas turbine supply chain. Ms. Coggin has a Bachelor of Science degree in Operations Research & Industrial Engineering from Cornell University and an MBA from Harvard Business School. While at Harvard, she focused her elective studies on energy and energy efficiency.

- **Kathryn Patton, Vice President and General Counsel of Clean Line Energy Partners and General Counsel of Clean Line.** Ms. Patton is the senior executive responsible for the legal affairs of Clean Line Energy Partners and its subsidiaries. Immediately prior to joining Clean Line Energy Partners, Ms. Patton was Deputy

General Counsel for Allegheny Energy, Inc. from 2003-2010, where she oversaw legal matters for Allegheny's regulated electric utilities and transmission companies, and served as the company's Chief Compliance Officer. While at Allegheny, she led the effort for obtaining regulatory approvals for construction of the Trans-Allegheny Interstate Line Project. Prior to Allegheny, Ms. Patton was with Dynegy Inc., serving as Senior Vice President, General Counsel and Secretary for Illinois Power Company, based in Decatur, from 2000-2003, as well as for Northern Natural Gas Company, and as Vice President and Assistant General Counsel for Dynegy Inc. At Illinois Power she was responsible for the legal and regulatory affairs of the company. In addition to holding a J.D. degree, Ms. Patton is also a Certified Public Accountant.

Q. Will Clean Line Energy Partners and Clean Line be developing, designing, constructing and operating the Grain Belt Express exclusively using their own employees?

A. No, Clean Line Energy Partners and Clean Line will engage and rely on experienced, qualified companies to assist in these functions. Clean Line Energy Partners and Clean Line will contract with a firm or firms experienced in land acquisition activities in the areas where the project will be constructed to assist in contacting and negotiating with landowners to secure necessary rights-of-way. Clean Line Energy Partners and Clean Line will also contract with an experienced, qualified firm or firms to perform the engineering, procurement and construction ("EPC") activities for the Grain Belt Express, as well as overall project management. Finally, for operations, Clean Line Energy Partners and Clean Line will contract with a firm or firms experienced in electric transmission maintenance and operations to provide operations and maintenance services

and also capital replacements and upgrades as necessary. However, Clean Line Energy Partners and Clean Line will oversee, supervise and control the activities of all its outside contractors through its own experienced management team. Additionally, we expect that, in connection with Clean Line's request to FERC for negotiated rate authority, Clean Line will be required to turn over functional control of the Grain Belt Express, including responsibilities for scheduling, to an RTO, such as SPP or MISO.

As the purpose of this proceeding is to demonstrate that Clean Line should receive a Certificate of Public Convenience and Necessity under K.S.A. 66-131 to operate as a public utility, and not to obtain a siting permit, we have intentionally not provided a great amount of detail in our filing about specific plans for development, construction and operation of the transmission facility. In the subsequent filing or filings with the Commission or under NEPA, Clean Line will provide additional information on its plans, resources and capabilities to acquire the land rights for, develop, design, construct and operate the Grain Belt Express.

Q. Do Clean Line and Clean Line Energy Partners have the financial capability for Clean Line to operate as a public utility in Kansas?

A. Yes. Clean Line Energy Partners has funding commitments for its development and permitting activities for Clean Line's proposed Grain Belt Express project and the other transmission projects under development by other Clean Line Energy Partners' subsidiaries. Clean Line Energy Partners also has concrete, workable plans for raising the additional capital needed to finance the major engineering and construction expenditures for these projects.

In the electric utility industry, the development of innovative and competitive projects requires experienced investors, who are focused on long term results and who recognize that interstate transmission projects have extensive development periods. Clean Line Energy Partners' investors match these criteria.

Clean Line Energy Partners' two main equity owners, ZAM Ventures and Mr. Michael Zilkha, have deep experience in the energy field, including electric power and renewable energy. ZAM Ventures is concerned with long term results and the growth of the renewable energy industry, and therefore is an ideal private equity investor for Clean Line Energy Partners. ZAM Ventures focuses exclusively on, and has a successful history in, private equity investments in the energy and energy related sector. Bryan Begley, who is a limited partner of ZAM Ventures and a Managing Director of ZBI Ventures, provides further information on ZAM Ventures and its long-term investment focus. Similarly, the Zilkha family has a proven track record of making successful and productive investments in the energy industry, including being the primary investor in Horizon Wind Energy during its early growth. The Zilkhas have invested hundreds of millions of dollars in the energy sector. They understand Clean Line Energy Partners and its subsidiaries may not see gains immediately, and that the investment focus should be on the long-term results.

With the backing of ZAM Ventures and Mr. Zilkha, as well as its management team, Clean Line Energy Partners has secured capital to perform the work to obtain the necessary permits and approvals for its proposed projects, including the Grain Belt Express, acquire options for rights of way, conduct extensive public outreach, and otherwise aggressively conduct development activities for the Grain Belt Express and

Clean Line Energy Partners' other transmission projects. I believe that ZAM Ventures and Mr. Zilkha are excellent partners for the current stage in this process, and as our projects move forward, they will be joined by other investors who are well suited for this undertaking.

Further, recent experience shows that significant amounts of liquidity exist in the capital markets for transmission projects that have reached an advanced stage of development. As Clean Line witness David Berry, Clean Line Energy Partners' Vice President – Strategy and Finance, discusses, the capital markets have a substantial history of supporting transmission projects, including merchant transmission projects, through debt and equity financings.

Mr. Berry provides additional information on Clean Line Energy Partners' and Clean Line's capital structure, financial capabilities and resources and financing plans.

VI. OTHER APPROVALS

Q. Is Clean Line requesting other approvals from the Commission in this proceeding?

A. Yes. Clean Line is requesting that the Commission include in its Order a waiver or exemption for Clean Line from certain statutory requirements since the company will be under the jurisdiction of FERC and will not have Kansas intrastate revenue. My colleague, Mr. Berry, also provides further information on this topic.

VII. CONCLUSION

Q. Please summarize why the public will be convenienced by the grant of a Certificate of Public Convenience and Necessity to Clean Line to operate as a public utility pursuant to K.S.A. 66-131.

A. Clean Line's operations will situate Kansas in the forefront of the wind industry. It will convenience the public by encouraging the development of additional wind generation facilities in wind-rich areas of western Kansas, where electricity from wind can be produced at lower per-MWh bus bar costs, and by providing access for those facilities to deliver their electrical output to the eastern wholesale and, ultimately, retail electricity markets. Clean Line's proposed Grain Belt Express will help to meet the growing demand for electricity in general, and from a renewable resource, wind, in the United States. It will help to increase competition in the wholesale and retail markets. The production of electricity by the wind generation facilities that will connect to the Grain Belt Express will not generate carbon-related and other emissions and waste, nor use significant volumes of water, as would coal-fueled generation facilities producing the same amounts of electricity. Clean Line will use HVDC technology that will enable electricity to be transmitted hundreds of miles to markets farther east with lower line losses and lesser land use impacts than traditional AC transmission lines. it will provide additional benefits in terms of system stability and reliability. As an independent transmission company, Clean Line will be focused solely on developing, operating and maintaining transmission infrastructure and on providing non-discriminatory transmission services, uninfluenced by any affiliation with other market participants, including generators, sellers and marketers of generation supply services. Finally, Clean Line, with the support of its parent company Clean Line Energy Partners, will have the managerial, technical, and financial capabilities and resources to operate as a public utility and to provide safe and reliable transmission service in accordance with its

business objective to connect the nation's best renewable resources to the growing demand in the eastern marketplace.

Q. Does this conclude your prepared direct testimony?

A. Yes, it does.

EXHIBIT
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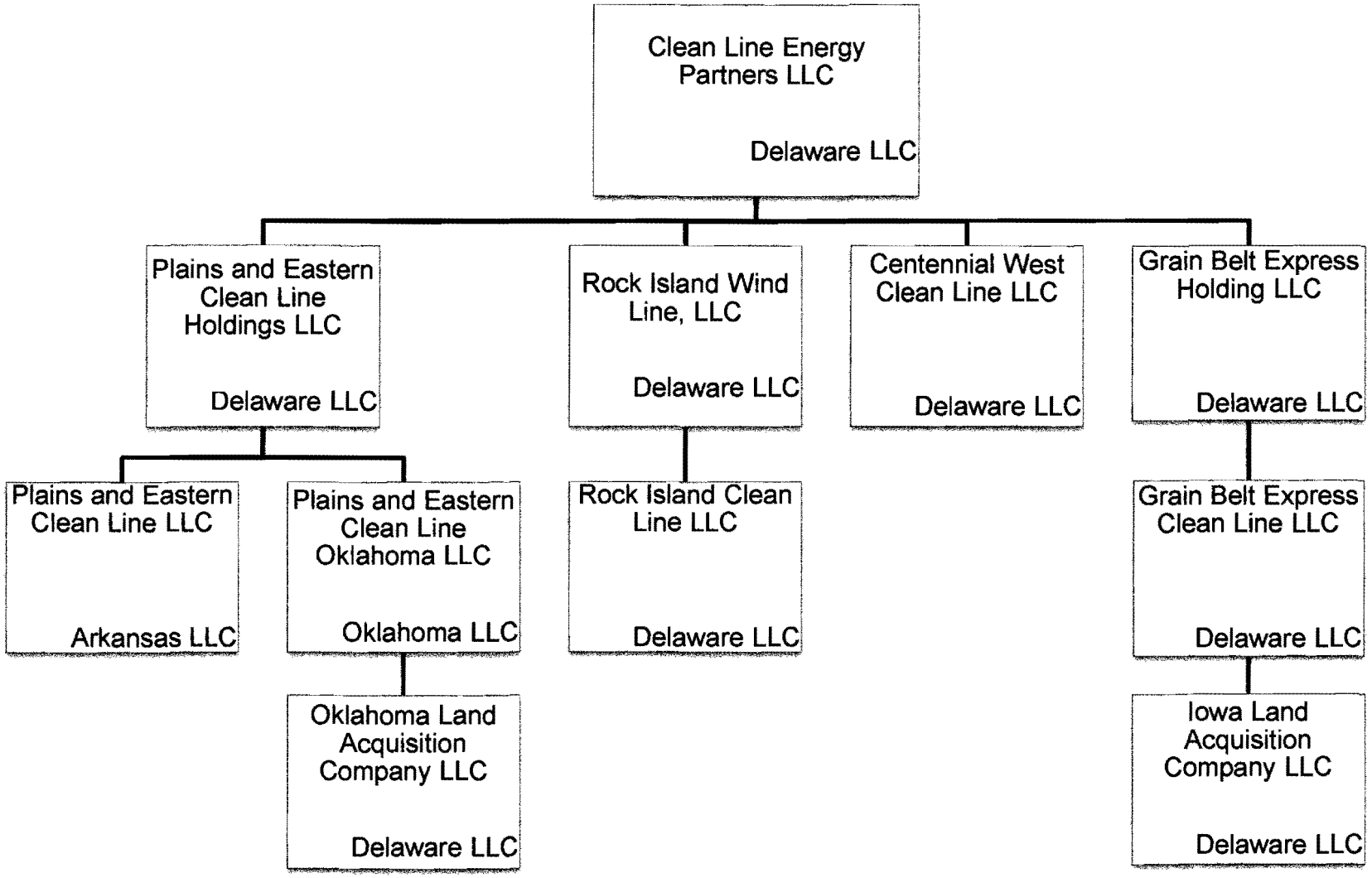
MPS-1

CLEAN LINE ENERGY PARTNERS LLC

Organizational Chart



EXHIBIT

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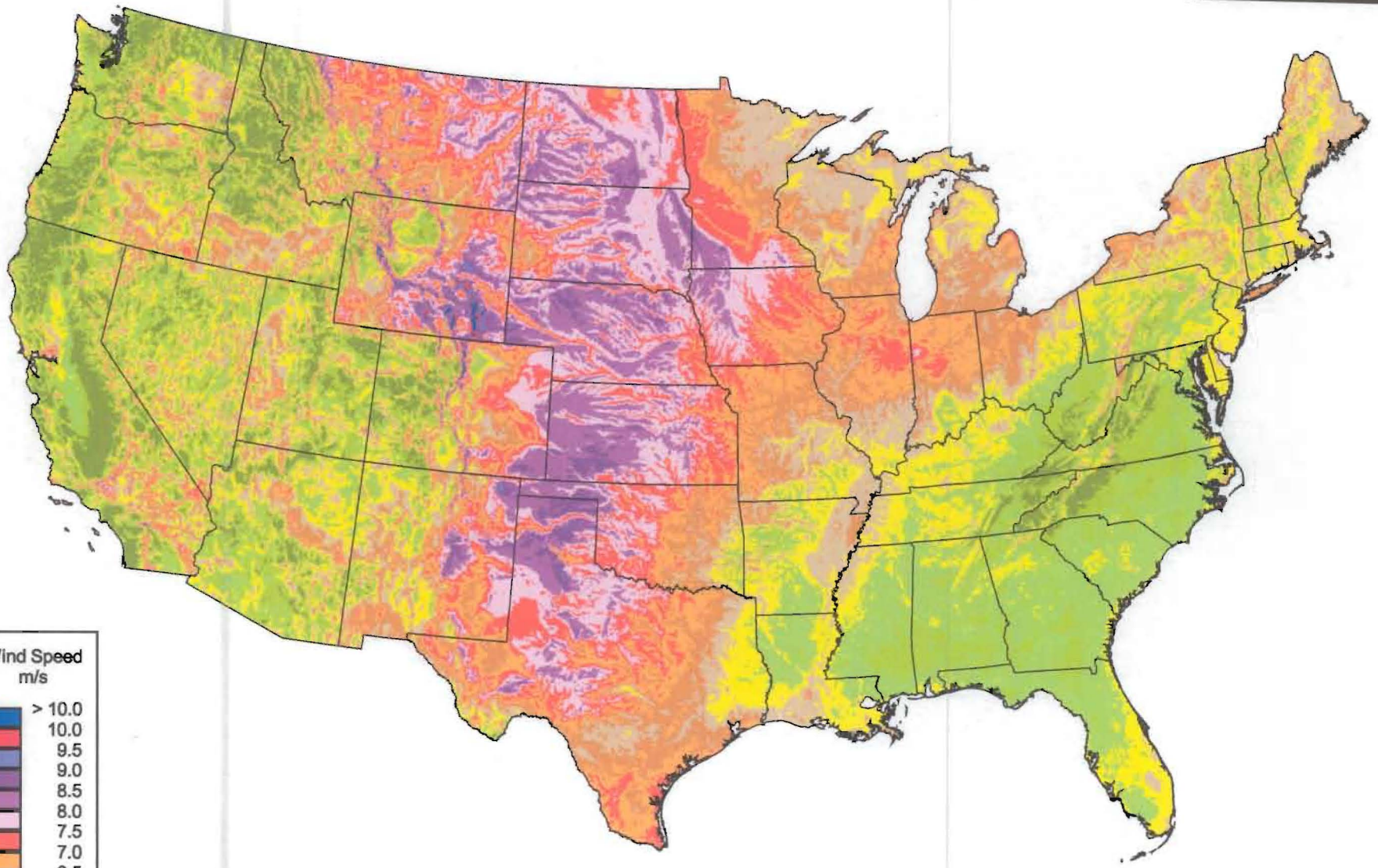
MPS-2

United States - Annual Average Wind Speed at 80 m



Source: Wind resource estimates developed by AWS Truewind, LLC for windNavigator®. Web: http://navigator.awstruewind.com | www.awstruewind.com. Spatial resolution of wind resource data: 2.5 km. Projection: Albers Equal Area WGS84.

AWS Truewind

NREL
National Renewable Energy Laboratory
Innovation for Our Energy Future

28-JAN-2010 4.1.1

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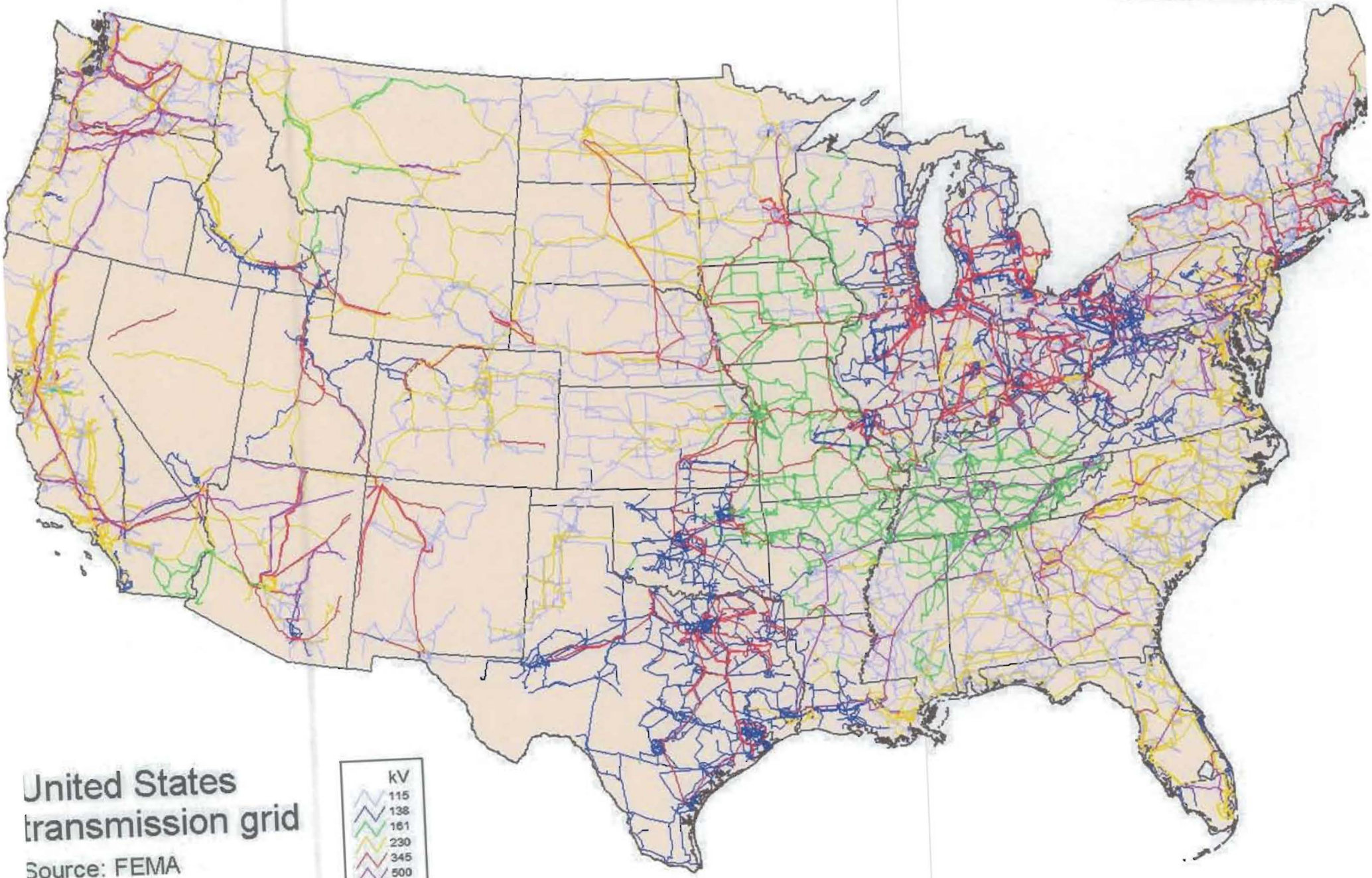
MPS-3



United States transmission grid

Source: FEMA