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-GBEE624-COC**

DIRECT TESTIMONY OF

JAMES WALTER GLOTFELTY

ON BEHALF OF

GRAIN BELT EXPRESS CLEAN LINE LLC

I. WITNESS INTRODUCTION AND PURPOSE OF TESTIMONY

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

A. My name is Jimmy Glotfelty. I am the Executive Vice President – External Affairs of Clean Line Energy Partners LLC ("Clean Line Energy Partners"). Clean Line Energy Partners is the ultimate parent company of Grain Belt Express Clean Line LLC ("Clean Line"), the Applicant in this proceeding. My business address is 1001 McKinney Street, Suite 700, Houston, Texas 77002.

Q, What are your duties and responsibilities as Executive Vice President – External Affairs of Clean Line Energy Partners?

A. I oversee and am responsible for all of the government, regulatory, and public affairs activities of Clean Line Energy Partners and its subsidiaries.

Q. Please describe your experience in the electric power industry.

A. I have almost two decades of experience in the public and private sectors, in electric transmission and distribution, generation, energy policy, and energy security. Most recently, I held the position of Vice President, Energy Markets, for ICF Consulting ("ICF"). In that capacity, I worked with entities such as the Midwest Independent System Operator ("MISO"), PJM Interconnection, the North American Electricity Reliability Corporation ("NERC"), the United States Department of Energy ("U.S. DOE"), and many transmission utilities on various projects related to transmission expansion, power system reliability, power market optimization, and the development of renewable and other generation resources.

Prior to my employment at ICF, I served as a presidential appointee in the U.S. DOE, where I founded and served as the first Director of its Office of Electric

Transmission and Distribution. In that position, I oversaw a $100 million per year research and development program with a mission to lead national efforts to modernize the electric grid, enhance security and reliability of electric infrastructure, and facilitate recovery from disruptions to energy supply. During my tenure at the U.S. DOE, I led the administration's electricity policy efforts, which included acting as lead negotiator with Congress on the Electricity Title of the Energy Policy Act of 2005. I managed the research and writing of the 2002 National Transmission Grid Study, *Grid 2030: A National Vision for the Grid's Second 100 Years; and the National Electric Delivery Technologies Roadmap.*[1] I also served as the lead U.S. representative to the Joint United States-Canada Power System Outage Task Force that investigated the northeast blackout of August 2003, which affected 50 million people in the United States and Canada. I worked extensively with utility chief executive officers and senior management executives in the electric power and energy sectors. I led teams that focused on researching new smart grid technologies, evaluating Presidential permit applications for cross-border transmission lines, studying the impacts of Regional Transmission Organizations ("RTO"), identifying major transmission bottlenecks and securing the critical energy infrastructure for the United States.

Prior to working at the U.S. DOE, I worked at Calpine Corporation, an independent power supplier, where I served on power plant development teams and managed external relations for 14 states in which Calpine was actively developing gas-fired power plants. I worked with utilities and state utility commissions to ensure Calpine's facilities were interconnected to the grid. I also served as a Senior Energy

[1] Available at http://www.climatevision.gov/sectors/electricpower/pdfs/electric_vision.pdf.

Policy Advisor to the Governor of the State of Texas. During my tenure in the Governor's office, I worked with members of the Texas Legislature and industry to pass legislation that created a robust renewable portfolio standard and competitive wholesale power markets in Texas.

Q. Have you testified previously before regulatory commissions?

A. Yes, I have testified before the Federal Energy Regulatory Commission ("FERC"), the Louisiana Public Service Commission, the Public Utility Commission of Texas, and the Arkansas Public Service Commission. I have also testified in numerous hearings before committees of the United States House of Representatives and United States Senate. I will be testifying in front of the Oklahoma Corporation Commission in March 2011.

Q. What is the purpose of your direct testimony?

A. I am testifying in support of Clean Line's request to be issued a Certificate of Public Convenience and Necessity pursuant to K.S.A. 66-131 to operate as a public utility in the State of Kansas. My testimony will support the conclusion that the public convenience and necessity fully supports granting a certificate to Clean Line to operate as a public utility to provide the transmission services described in our Application.

Specifically, I will (1) describe the transmission services that Clean Line will provide, (2) explain the need to construct new interstate, inter-regional transmission lines, such as Clean Line's proposed Grain Belt Express, particularly for the purpose of connecting remote, wind-rich areas that are ideal locations for wind generation facilities to load and population centers, and (3) describe Clean Line's and Clean Line Energy Partners' efforts to understand issues important to stakeholders in Kansas in connection with the development and construction of the Grain Belt Express. I will also briefly

discuss the high voltage direct current ("HVDC") technology that will be used for the Grain Belt Express and the other interstate transmission projects being developed by Clean Line Energy Partners and its subsidiaries. The testimony of Clean Line witness Dr. Wayne Galli discusses the use and advantages of HVDC technology in greater detail.

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

A. Yes, I am also presenting Exhibits identified as **JWG-1** and **JWG-2**. In addition, 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 that contain technical, statistical or policy-oriented information 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. DOE, the Energy Information Administration and the National Renewable Energy Laboratory, industry associations such as the American Wind Energy Association ("AWEA"), and other recognized sources such as the North American Electric Reliability Corporation ("NERC").

II. TRANSMISSION SERVICES TO BE PROVIDED BY CLEAN LINE

Q. What services does Clean Line plan to provide as a public utility in Kansas?

A. Clean Line plans to provide only wholesale transmission services in the State of Kansas. Specifically, Clean Line plans to construct and operate the Grain Belt Express, which will be an approximately 550-mile long, ±500 kilovolt ("kV") or ±600 kV direct current transmission line and the associated facilities. The western end of the Grain Belt Express

will be located in the western region of Kansas, near Spearville. The eastern end will be located at an interconnection point to the east, most likely in St. Francois County, Missouri, connecting with the extra high voltage transmission system operated by the Midwest Independent Transmission System Operator ("MISO"). Clean Line's business objective in constructing and operating the Grain Belt Express is to foster the development of new wind generation facilities in the wind-rich areas of Kansas by providing transmission access to bring the output of these facilities to the eastern electricity markets. The Grain Belt Express will have a capacity of 3,500 MW, but because wind farms typically do not generate 100% of their nameplate capacity, the transmission line will likely foster development of wind farms that have a combined generating capacity that is greater than the Project's transmission capacity. Clean Line estimates that the Grain Belt Express will enable development of over 4,000 MW of new wind energy projects, roughly $7 billion of new investment in the state of Kansas. By delivering the clean electricity, produced by wind generation facilities in one of the nation's best wind resource regions, Clean Line's transmission line will help to meet the growing demands for electricity generally and for electricity from renewable resources in particular.

As a provider of wholesale transmission services, Clean Line will provide those services pursuant to an Open Access Transmission Tariff ("OATT") conforming to the regulations and jurisdiction of the Federal Energy Regulatory Commission (FERC). Clean Line will also seek negotiated rate authority from FERC. While Clean Line will have individual contracts with the transmission capacity customers of the line, the contracts will be subject to the requirements of the OATT.

Clean Line expects to sell a portion of the transmission capacity on the Grain Belt Express using an anchor tenant model, with capacity not secured by anchor tenants being sold through an "open season" process or processes. These arrangements are similar to those used for interstate natural gas pipelines and are governed by FERC rules. Clean Line's likely customers will be (1) owners and operators of wind generation facilities located in the western Kansas region, or other sellers of the output of those facilities, who purchase transmission capacity in order to deliver their output to buyers in eastern load and population centers, and (2) utilities, cooperatives, municipal utilities, and other load serving entities that purchase output of Kansas wind generation facilities. Although Clean Line expects its customers to be, for the most part, participants in the wholesale electricity markets, customers could also include retail end users of electricity seeking to use unbundled transmission service. Also, as a provider of non-discriminatory open access transmission service in accordance with FERC's requirements, Clean Line will make its transmission services available on a non-discriminatory basis to all wholesale and retail transmission customers. However, due to the anticipated location of the western end of the Grain Belt Express and other operational characteristics of the line, Clean Line expects that its customers will consist predominantly of market participants of the type I have described, i.e., sellers and buyers of electricity from wind generation facilities.

Under Clean Line's current cost recovery plans, it anticipates that all costs associated with the development, construction and operation of the Grain Belt Express will be recovered through charges to the transmission customers of the line. Clean Line plans to request negotiated rate authority from FERC and, if granted, to use negotiated

rates to recover its costs from customers of the Grain Belt Express. As Mr. Skelly discusses, because there currently is no mechanism for inter-regional cost allocations, Clean Line does not plan to seek cost recovery through inter-regional/regional cost allocation methods.

III. NEED FOR AND DEVELOPMENT OF NEW INTERSTATE TRANSMISSION FACILITIES

Q. Is there a need for new inter-regional transmission facilities in the United States, particularly in connection with the increasing demand for electricity produced from renewable resources?

A. Yes. The construction of new, long-distance transmission infrastructure has generally lagged behind what policymakers and industry experts view as necessary in light of the vertical disintegration and decentralization of the electric generation sector, the development of open access transmission requirements and the increased focus on reliability of supply. Competitive wholesale power markets, and ultimately retail power markets, only work effectively if the transmission system needed to deliver the power is open, access to the system is fair, and, importantly, the transmission system itself is robust enough to handle regional transactions.

Further, the development of and demand for renewable power generation, including wind generation, has intensified the need for new transmission infrastructure, particularly interstate, inter-regional transmission facilities. In 2008, the U.S. DOE published a report, which was the product of a year-long assessment, on 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.[2] That report highlighted the importance of expanding and strengthening the U.S. transmission infrastructure in order to accommodate greater reliance on wind generation as a source of supply, identifying, as one of four major challenges, the need for "[i]nvestment in the nation's transmission system, so that the power generated is delivered to urban centers that need the increased supply."[3]

With respect to wind generation in particular, the windiest sites in the U.S. are often not located near load centers, and currently there are insufficient transmission lines to connect many of the best regions for development of wind generation to load centers where electricity from renewable resources is demanded. This situation is demonstrated by **Exhibits MPS-2** and **MPS-3** to Mr. Skelly's direct testimony.

Development of additional transmission infrastructure is critical to the nation's ability to fully take advantage of its wind resources for the production of clean, environmentally friendly electricity. The limitations of the electric transmission grid are already stifling the growth of wind power development in many areas due to the lack of sufficient transmission infrastructure to deliver the electricity that would be produced by new wind energy facilities in these areas to load and population centers.

[2] 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"].

[3] *Id.*, Executive Summary at 14.

Q. Have industry groups and authorities articulated a need to construct additional transmission to support the demand for and development of renewable energy resources?

A. Yes. The following organizations, for example, have recognized this need:

- The U.S. DOE Electric Advisory Board concluded that "[t]he possibility of a national renewable portfolio standard will require significant new transmission to bring these resources, which are often remotely located, to consumer load centers."[4]
- A joint white paper by the AWEA and the Solar Energy Industries Association states: "The massive deployment of renewable generation envisioned by President Obama cannot occur without a renewed investment in our country's transmission infrastructure."[5]
- NERC's 2009 Long-Term Reliability Assessment concluded that "by the year 2025, state Renewable Portfolio Standards (RPS) will result in about 60,000 MW of wind generation infrastructure in the United States typically generating about 180,000 GWh/year," but currently "[i]n many of the regions in North America that are well suited to wind generation, the resources are remote from existing transmission systems."[6] As a result, NERC concluded that "[a]dditional transmission

[4] U.S. DOE, Electricity Advisory Committee, *Keeping the Lights On in a New World*, January 2009, at 45; available at http://www.oe.energy.gov/adequacy_report_01-09-09.pdf

[5] American Wind Energy Association and Solar Energy Industries Association, *Green Power Superhighways*, February 2009, at 1; available at: http://www.awea.org/GreenPowerSuperhighways.pdf

[6] North American Electric Reliability Corporation, *2009 Long-Term Reliability Assessment: 2009-2018*, October 2009, at 71-72; available at: http://www.nerc.com/files/2009_LTRA/pdf.

infrastructure is vital to accommodate large amounts of wind resources."[7] NERC also stated that "[s]ignificant transmission will be required to 'unlock' projected renewable resources. Without this transmission, the integration of renewable resources could be limited."[8]

- Two recent transmission studies, the Joint Coordinated System Plan 2008 and the Eastern Wind Integration and Transmission Study, point out the necessity of new, major links from the best wind resources to locations farther east with higher electricity demand. These studies find that long-distance HVDC lines play a critical role in integrating high amounts of wind energy. Their conclusions are discussed in greater detail below.

Q. Have government and transmission planning officials and energy industry leaders started thinking about expanding the transmission grid from an inter-regional and national perspective?

A. Yes. As generation technologies have evolved, transmission planning officials and energy industry leaders have had to change the way they view transmission. The passage of the Energy Policy Act of 1992 spurred generation innovation.[9] It created exempt wholesale generators, effectively allowing non-utilities to build electric generation in the United States for the first time. As a result, FERC required transmission utilities to treat

[7] *Id.*

[8] *Id.* at 30. NERC has been certified by FERC as the "electric reliability organization" ("ERO") under Section 215(c) of the Federal Power Act, 16 U.S.C. §824o(c) (as added by the Energy Policy Act of 2005) and Section 39.3 of FERC's regulations, 18 C.F.R. §39.3. Federal Energy Regulatory Commission, *Order Certifying North American Electric Reliability Corporation as the Electric Reliability Corporation and Ordering Compliance Filing*, 116 FERC ¶ 61,062 (2006). As the ERO, NERC has the statutory responsibility to, among other things, "conduct periodic assessments of the reliability and adequacy of the bulk-power system in North America." 16 U.S.C. §824o(g).

[9] Energy Policy Act of 1992, Pub. L. No. 102-486 (1992).

generators in a non-discriminatory manner, thus forcing them to look not just to their own plants, but more regionally and to all companies that were generating power. Throughout the 1990s and early 2000s, very little transmission was built because our electric transmission policies were in limbo, utilities were expending a substantial portion of their resources on rate cases, and cost allocation and siting issues for transmission lines went unresolved. System planners and utilities have begun, only recently, to transition from thinking about transmission to serve local needs to thinking more about it regionally, inter-regionally and nationally.

While some of these issues are still present, there has been recent progress. Since the passage of the Energy Policy Act of 2005,[10] new transmission projects have been announced and built. These new transmission projects have been the result of reliability issues as well as incentive transmission rates of return for transmission allowed by FERC. System planners and policymakers are now considering long-haul transmission projects because, as the wholesale power industry has expanded, a significant amount of generation has been developed in locations farther away from the load that eventually consumes it. And, as the demand to move towards a clean energy economy has increased, it has become readily apparent that the best renewable wind resources are located in areas that (1) are far from load and population centers, and (2) have a lack of transmission capacity to connect them to load and population centers.

As previously noted, transmission planning efforts have been evolving since the Energy Policy Act of 1992 required the separation of generation planning and transmission planning. There have been many efforts at U.S. DOE and FERC to improve

[10] Energy Policy Act of 2005, Pub. L. No. 109-58 (2005).

the current process and to plan on a more regional and inter-regional basis. In 2002, the U.S. DOE released the National Transmission Grid Study, which stated, "The transmission systems of tomorrow must be built by relying on open regional planning processes that consider a wide range of alternatives, accelerating the siting and permitting of needed facilities, taking full advantage of advanced transmission technologies."[11] The latest attempt to consider inter-regional planning began on June 17, 2010, when FERC issued a Notice of Proposed Rulemaking ("NOPR"). In the NOPR, FERC proposes to reform its electric transmission planning and cost allocation requirements for public utility transmission providers to support "the development of transmission facilities identified by the region as necessary to satisfy reliability standards, reduce congestion, and enable compliance with public policy requirements established by state or federal laws or regulations."[12] More specifically, FERC proposes to require public utility transmission providers to participate in a regional transmission planning process that produces a regional transmission plan and requires coordination between neighboring transmission planning regions for facilities that are proposed to be located in both regions, as well as inter-regional facilities that could address transmission needs more efficiently than separate intraregional facilities.[13]

Q. Is there a pressing need to build new transmission lines, such as Clean Line's proposed Grain Belt Express, from the Midwestern region of Kansas to areas further east?

[11] National Transmission Grid Study, at page 8.

[12] *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, 131 FERC ¶ 61,253, at P 3 (Federal Energy Regulatory Commission June 17, 2010).

[13] *Id.* at P 2.

A. Yes. Areas east of Kansas are major electric load centers with the potential for continuing load growth. Further, as Mr. Skelly discusses in greater detail, the states east of Kansas in the Midwest ISO have established significant renewable portfolio standards ("RPS") for electric utilities and alternative retail electric suppliers. States in the PJM region have also established RPS. Central and western areas of Kansas have seen some significant development of wind farms, generally in locations that have access to existing transmission lines. In Kansas, the windiest available sites are in the western half of the state where much development activity has been taking place. As of December 2010, Kansas had 1,074 MW of installed wind generation capacity.[14] According to the U.S. DOE's National Renewable Energy Laboratory, the potential wind generation capacity in Kansas at sites with wind resources netting 40% capacity, measured at 80-meter height is over 760,000 MW.[15] More wind development has not occurred in this region due to lack of transmission capacity. Additional transmission lines will enable Kansas to develop its available wind energy potential and as a result, Kansas will become a leader in wind energy. My colleague Michael Skelly expounds on the economic benefits from the Grain Belt Express and the corresponding wind farms, including the number of jobs created, in his testimony.

Increasing the access of wind generation located in these areas will help supply, on a more economic basis, the electricity that is needed to meet RPS objectives as well as to displace fossil-fueled generation with environmentally-friendly generation as the

[14] American Wind Energy Association, *U.S. Wind Energy Projects*; available at: http://www.awea.org/projects/ (last visited Sept. 5, 2010).

[15] 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).

source to meet future load growth. Additionally, increasing the access of wind generation located in this area to the eastern markets will increase competition among suppliers of wind energy, among suppliers of electricity from renewable resources, and among all suppliers of electricity to customers in the U.S. Increased competition should exert downward pressure on the price of electricity and be beneficial to all consumers.

Further, the development and construction of new, long-distance transmission needs to be initiated in advance of the development and construction of new wind farms, because the development and construction of new or expanded wind farms often requires only a few years to complete, whereas siting and building a transmission line takes much longer. Investors in and developers of wind generation facilities will not make investments to construct new wind farms only to have them sit idle, awaiting the construction of transmission facilities to connect the wind farms to load centers. In fact, to date, the development of wind generation facilities has tended to be concentrated in areas that have good wind resources *and* are located reasonably close to existing transmission. New transmission facilities need to be initiated and constructed to connect wind-rich areas, such as western Kansas, to load and population centers farther east in order for new wind generation facilities to be developed in Kansas. Constructing new interstate transmission facilities, such as the Grain Belt Express, which will be capable of moving large quantities of wind-generated power efficiently to eastern markets, will help to promote and ensure the success of future wind generation projects in Kansas, as well as support the overall viability of the renewable energy industry.

Q. You have identified a pressing need for the construction of more interstate, inter-regional transmission facilities, but what is the role of Kansas and the Kansas Corporation Commission in meeting this need?

A. The United States does not have a national interstate transmission law that provides certificates for interstate transmission lines, such as the laws used for interstate natural gas pipelines. The Energy Policy Act of 2005 gave the FERC backstop siting authority over interstate transmission facilities if they will be located within a "national interest electric transmission corridor" designated by the U.S. DOE; however, FERC can only use this authority after a transmission company makes ample efforts to obtain the requisite approvals for siting authority at the state level.[16] Recent court cases challenged this authority and appear to have reduced its scope, thus it remains difficult for interstate transmission lines to be cited through FERC.

Clean Line recognizes that there are historically strong state and local interests in siting transmission facilities. However, the current situation means that each state public utility commission or other state authority with jurisdiction over approvals of transmission lines needs to take into account the overall need for and benefits of constructing interstate, inter-regional transmission lines to expand and strengthen the bulk power grid and not just focus solely on the presence (or absence) of local benefits. Fortunately, in the case of Clean Line and the Grain Belt Express, there will be specific, significant benefits for Kansas from the certification of Clean Line as a public utility and, ultimately, the construction and operation of the Grain Belt Express. Mr. Skelly's testimony discusses these benefits in detail.

[16] Section 216 of the Federal Power Act, 16 U.S.C. §824p.

Clean Line is committed to working with authorities at the state level on siting regional transmission facilities. The Chairman of FERC has recognized that local and sub-regional planning and coordination must continue, and therefore any new federal transmission requirements should be harmonized with planning efforts already taking place at regional, state and local levels.[17] Clean Line Energy Partners shares this view, and recognizes that Clean Line's proposed transmission line and operations will directly impact local interests.

Q. Have Midwestern states, including Kansas, recognized the importance of cooperation in permitting and siting facilities to support expansion and strengthening of the independent transmission grid?

A. Yes. On July 16, 2005, the Midwestern Governors, including the Governor of Kansas, executed a "Protocol Among the Midwestern Governors Regarding the Permitting and Siting of Interstate Electric Transmission Lines in the Midwestern United States and Manitoba, Canada" (the "Protocol"). The members of the Midwestern Governors Association are the Governors of Illinois, Indiana, Iowa, Kansas, Ohio, Michigan, Minnesota, Missouri, South Dakota and Wisconsin. **Exhibit JWG-1** is a copy of the Protocol. The Protocol recites the following important points, among others:

- "A reliable and low-cost electric transmission system is the backbone of a strong economy. A robust electric transmission system is necessary for the delivery of electricity from a variety of electric generation sources throughout the Midwestern United States and Manitoba, Canada." (Protocol at 1.)

[17] Testimony of FERC Chairman Jon Wellinghoff, June 12, 2009, at 6; available at http://www.ferc.gov/EventCalendar/Files/20090612113050-06-12-09wellinghoff-Testimony.pdf

- "Transmission investment has not kept pace with increased generation capacity in the Midwest and has remained essentially flat since 2000. . . . As a result, the Midwest transmission grid has become more congested." (*Id.*)
- "Although transmission projects within each Midwestern state and Manitoba have continued to be permitted and constructed, there is additional need for closer cooperation among the Midwestern states and Manitoba on permitting and siting of transmission projects that cross state and national boundaries." (*Id.*)
- "The Midwestern United States and Manitoba currently have over 200,000 megawatts (MW) of low-cost power generation. . . . In addition, the Upper Midwest could become a substantial provider of wind-generated electricity, which is cost-effective and essentially pollution-free. . . . Since this power is not always produced where it is needed, a robust electric transmission grid is particularly important to the Midwest because it is essential for the delivery of this low cost and renewable power to customers." (*Id.* at 1-2.)
- "Both short-term and long-term benefits accrue from building transmission infrastructure, including a more reliable electric grid, ability to access low-cost generation, more diverse supplies of electricity leading to lower costs, environmental benefits from improved access to renewable generation, economic and job growth, and an expanded tax base." (*Id.*)

Based on these considerations, the signatories to the Protocol committed that (1) they "recognize[] the need for a robust, reliable electric transmission system;" (2) they "support[] additional investment in the electric transmission grid when such investment is needed and in the public interest;" (3) "[t]o the extent possible [under the respective

state's laws] and considering the rights of all potential parties to electric transmission line proceedings," they "will support[] efforts to improve coordination of and cooperation on the evaluation and processing of applications for electric transmission projects that cross state and national boundaries;" and (4) they "support a regional, cooperative approach to solving problems associated with improvement of the Midwestern electric transmission grid." (*Id.* at 2-3.)

Q. Should independent transmission companies, such as Clean Line, be certificated as public utilities to build and operate new transmission facilities in Kansas?

A. Yes. Transmission companies play an important role in the continued growth and development of the renewable energy industry. Historically, utilities have not looked outside of their local service territories to build transmission and have only constructed transmission facilities to connect their own power plants to their own load centers. Recently local utilities and newly-certified independent transmission companies have become active in transmission expansion in Kansas and SPP. While these interests have been addressing much-needed transmission lines, they have been focused on projects identified and approved by SPP to serve SPP customers through the expansion of the AC system. As mentioned above, wind energy potential in Kansas far exceeds demand – both in Kansas and in SPP. A study released by the National Renewable Energy Laboratory estimated that Kansas has the potential to produce in excess of 700,000 MW of high capacity factor wind energy, which far exceeds the state's electricity demand and the peak demand of all of SPP. Significant demand for renewable energy exists east of SPP. Therefore, it is necessary for independent transmission companies to be proactive in expanding the transmission grid by constructing long distance, interstate transmission

lines that are used solely for export. Unless independent transmission companies are proactive in developing these projects, and are able to obtain the necessary certifications and authorizations from (multiple) state commissions, such as the KCC, these types of needed, interstate transmission facilities may not get built.

Mr. Skelly discusses other benefits of the independent transmission company business model. For the reasons he and I describe, the certification of independent transmission companies, such as Clean Line, as public utilities is in the public interest.

IV. CLEAN LINE'S USE OF HVDC TECHNOLOGY

Q. Can you summarize the benefits of constructing long distance, inter-regional transmission lines using HVDC technology, as Clean Line is planning to do with the Grain Belt Express?

A. Yes. Most recent high voltage transmission projects developed in the U.S. use alternating current ("AC") technology. As Dr. Galli discusses in greater detail, while AC upgrades are critical for serving local loads in a reliable fashion, AC transmission is not the most efficient method of moving large amounts of renewable wholesale power from one region to another.[18] HVDC projects are necessary so that the entire country – not just certain states – can benefit from the country's best renewable resources. Therefore, HVDC transmission lines must be considered for use in integrating the country's best renewable resources into the nation's energy supply.

Two recent important reports highlighted the need to consider transmission from an inter-regional or national perspective, and in doing so favored the utilization of HVDC

[18] Fesmire, Bob, ABB Inc., *Energy Efficiency in the Power Grid*, July 9, 2007, at 6; available at http://www04.abb.com/global/seitp/seitp202.nsf/c71c66c1f02e6575c125711f004660e6/64cee3203250d1b7c12572c8003b2b48/$FILE/Energy+efficiency+in+the+power+grid.pdf

transmission lines to efficiently move large amounts of power without interfering with the underlying transmission system. First, the Joint Coordinated System Planning ("JCSP") Study offers a conceptual plan for integrating large amounts of renewable energy into the Eastern Interconnection.[19] This plan suggests the construction of many new HVAC and HVDC transmission lines, with the direct current lines moving wind power from the central United States to the East in an efficient manner. Second, the Eastern Wind Integration and Transmission Study, sponsored by the U.S. DOE's National Renewable Energy Laboratory, conceptualizes high capacity, direct current lines that span multiple regions as an effective way to move large amounts of wind power.[20]

HVDC is proven technology that has been utilized for decades in the U.S. and globally. For long distances, direct current lines transmit power over long distances at a lower line loss than AC lines, while providing other operational and reliability benefits. Additionally, HVDC lines utilize narrower rights of way, shorter towers and fewer conductors than comparable AC lines. Clean Line witness Dr. Galli provides additional information on the benefits of using HVDC technology in applications such as the proposed Grain Belt Express.

In summary, Clean Line's planned interstate transmission line using HVDC technology will efficiently deliver large amounts of electricity from western Kansas to markets farther east while supporting the stability and reliability of the bulk power

[19] http://jcspstudy.org/ (click on the "report" tab for more information regarding this study). The JCSP Study is a collaborative effort among the Midwest ISO, the Mid-Continent Area Power Pool, PJM Interconnection, Southwest Power Pool and Tennessee Valley Authority, and has been performed in collaboration with the U.S. DOE. It is focused on planning for reliably meeting RPS requirements. The JCSP Study investigated both 20% and 30% wind energy penetration scenarios for these regions.

[20] EnerNex Corporation, The National Renewable Energy Laboratory, *Eastern Wind Integration & Transmission Study: Executive Summary & Project Overview*, NREL/SR-550-47086, Jan. 2010, at 23; available at http://www.uwig.org/ewits_executive_summary.pdf

system and with minimal visual and land use impacts. Therefore, certifying Clean Line as a public utility so that it can proceed with its plans to use HVDC technology to develop and operate a long distance, inter-regional transmission line is in the public interest.

V. LOCAL OUTREACH EFFORTS

Q. Have Clean Line and Clean Line Energy Partners initiated outreach efforts to stakeholders in Kansas concerning the proposed construction and operation of the Grain Belt Express?

A. Yes. Since May 2010, our employees and members of the our management team have held numerous meetings to explain the benefits of the project to stakeholders, to listen to stakeholders in Kansas about which issues they believe are most important and to build support for the project. Clean Line representatives have met with state and local business leaders, government officials, environmental groups and economic development authorities to discuss the positive benefits the Grain Belt Express project will have on Kansas. We have also spoken with officials at Sunflower Electric Cooperative, Westar, KCP&L, KETA, Ameren, Associated Electric Cooperative, Inc., MISO, and SPP. We have also presented the project to the Kansas Electric Transmission Authority and several state legislators to seek their views and support.

From our meetings and conversations, I believe that Kansas is a prominent and important hub for the electric transmission and wind energy industries. In addition to the number of new wind farms constructed in the state, companies like Siemens, Tindall Corp., Jupiter Group and others recognize the potential for growth in Kansas and have opened or expanded manufacturing facilities in the state. Ensuring that the domestic

wind industry continues to grow will keep these factories operating and allow them to grow.

Modernizing the nation's transmission infrastructure is critical to wind industry growth. Certificating Clean Line as a public utility, and (after further siting proceedings) the development, construction and operation of the Grain Belt Express, will result in the potential creation of thousands of megawatts of wind farms in Kansas. Clean Line's project can increase business opportunities for the wind energy manufacturing base in Kansas. The construction of the transmission facilities comprising the Grain Belt Express will stimulate local construction and manufacturing. Specifically, one of the project's DC converter stations will be located in western Kansas near Spearville and will be an approximately $250 million capital investment.

We have also gained insight about how to minimize the impact of the Grain Belt Express on Kansas' environment and land. We are engaging in ongoing discussions with The Nature Conservancy, the Sierra Club and other conservation organizations, to identify how to optimally site and construct this project. And we commit to work with these organizations and consider all issues that are brought before us to ensure that we are responsible corporate citizens in Kansas.

Q. After receiving a Certificate as a public utility, will Clean Line continue its outreach efforts to State and local government officials, business, community and environmental groups, and landowners and other citizens about the Grain Belt Express project?

A. Yes. Clean Line will establish and maintain contacts with landowners, relevant leaders and officials in each of the communities and units of local government that will be

crossed by the proposed route of the transmission line and will plan an extensive public outreach campaign. Clean Line will publicize the project to local residents in the areas through which the transmission line will pass and will hold a series of informational "open house" meetings in these communities to gain their input prior to making any routing determinations. The open house meetings will be appropriately publicized, including newspaper advertisements and announcements, with the objective of attracting as many interested persons and organizations to attend as possible. We plan to hold extensive public meetings in the project area as we proceed through the route selection process.

Clean Line's receipt of a Certificate of Public Convenience and Necessity as a public utility is important to the success of this stakeholder process as we move the Project forward. Clean Line's certification as a public utility will help to demonstrate to state and local government officials, landowners, business groups, environmental and conservation groups and other interested stakeholders that Clean Line's transmission project is a serious project that Clean Line intends to pursue to completion.

Q. Have Clean Line Energy Partners and Clean Line initiated efforts to identify appropriate routing for the Grain Belt Express?

A. Yes. Clean Line has contracted with experienced project development professionals responsible for establishing and maintaining stakeholder contacts in areas of the state traversed by the project. Clean Line has hired the Louis Berger Group, Inc. ("LBG") to manage the routing, environmental permitting, and public involvement processes in Kansas. LBG is already building a Geographic Information System database of sensitive environmental areas with threatened and endangered species habitat, critical wetlands,

state and local parks, wildlife refuges, and important historical and archeological features, and will use the public involvement process to add to this reference tool to result in the best possible routing selection.

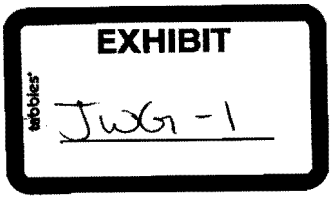
As a certificated utility, Clean Line will comply with all Kansas laws in approaching landowners and negotiating with them for rights of way. Clean Line will treat and compensate landowners fairly for any easements necessary for the Project. Additionally, Clean Line has adopted a "Code of Conduct for Right-of-Way Agents and Subcontractor Employees" for the Grain Belt Express Project. **Exhibit JWG-2** is a copy of the Code of Conduct. The Code of Conduct will guide the activities of Clean Line's right of way agents and subcontractors to contact and communicate respectfully, honestly, and fairly with landowners in the course of surveying and other route selection activities and in negotiating with landowners for the acquisition of easements and rights of way for the project.

Q. Based on Clean Line's anticipated community and stakeholder outreach activities and the work needed to identify an appropriate route or routes for the Grain Belt Express, when do you expect Clean Line will be make a filing under the Kansas Electric Transmission Siting Act or under NEPA?

A. We anticipate Clean Line being in position to file for such approval by early 2012.

Q. Does this conclude your prepared direct testimony?

A. Yes, it does.



PROTOCOL AMONG THE MIDWESTERN GOVERNORS REGARDING THE PERMITTING AND SITING OF INTERSTATE ELECTRIC TRANSMISSION LINES IN THE MIDWESTERN UNITED STATES AND MANITOBA, CANADA

A. Background

1. A reliable and low-cost electric transmission system is the backbone of a strong economy. A robust electric transmission system is necessary for the delivery of electricity from a variety of electric generation sources to customers throughout the Midwestern United States and Manitoba, Canada.
2. Generation capacity has grown significantly since 2000, both nationally and in the Midwest.
3. Transmission investment has not kept pace with increased generation capacity in the Midwest and has remained essentially flat since 2000.
4. As a result, the Midwest transmission grid has become more congested. FERC estimated that transmission constraints cost customers over $1 billion during the summers of 2000 and 2001. Curtailment of scheduled transmission transactions in the Midwest has more than tripled from 2000 to 2004.
5. Since the Manitoba transmission system is interconnected with that of the Midwestern United States, we have a common interest in supporting a reliable, robust electric transmission system.
6. Although transmission projects within each Midwestern state and Manitoba have continued to be permitted and constructed, there is additional need for closer cooperation among the Midwestern states and Manitoba on permitting and siting of transmission projects that cross state and national boundaries.

B. Importance Of Midwest Transmission Infrastructure

1. The Midwestern United States and Manitoba currently have over 200,000 megawatts (MW) of low-cost power generation, including 161,000 MW of coal, 26,000 MW of nuclear, and 13,000 MW of hydro. In addition, the Upper Midwest could become a substantial provider of wind-generated electricity, which is cost-effective and essentially pollution-free.
2. Since this power is not always produced where it is needed, a robust electric transmission grid is particularly important to the Midwest because it is essential for delivery of this low-cost and renewable power to customers.
3. Both short-term and long-term benefits accrue from building transmission infrastructure, including a more reliable electric grid, ability to access low-cost generation, more diverse supplies of

electricity leading to lower costs, environmental benefits from improved access to renewable generation, economic and job growth, and an expanded tax base.

C. Existing Work To Coordinate And Cooperate On Regional Transmission Planning And Siting Activities

1. Regional transmission organizations, such as the Midwest Independent Transmission System Operator (MISO), the PJM Interconnection, and the Southwest Power Pool, have begun to plan and operate regional electric transmission systems. Other regional organizations, both existing and in development, also coordinate regional planning and reliability.
2. The Organization of MISO States (OMS), a regional organization of state utility regulators from 14 Midwestern states and Manitoba, is an example of governments working to better coordinate and cooperate on permitting and siting activities related to proposed transmission projects that cross state and national boundaries.
3. Some of these activities include learning about each other's permitting and siting requirements and exploring ways that state and provincial regulators can better coordinate their respective permitting and siting activities when applications for transmission lines crossing state and provincial boundaries are filed.
4. The National Conference of State Legislators (NCSL) has issued sample legislation to give state permitting and siting authorities explicit authority: a) to effectively coordinate and cooperate with other states on permitting and siting activities regarding proposed electric transmission lines that cross state and national boundaries; and b) to consider both state and regional needs and planning when evaluating whether a proposed electric transmission line should be approved.

D. Signatory Commitments

1. Each signatory to this Protocol recognizes the need for a robust, reliable electric transmission system.
2. Each signatory to this Protocol supports additional investment in the electric transmission grid when such investment is needed and in the public interest.
3. To the extent possible under his or her respective state laws and considering the rights of all potential parties to electric transmission line proceedings, each signatory to this Protocol will support efforts to improve coordination of and cooperation on the evaluation and processing of applications for electric transmission projects that cross state and national boundaries.

4. Each signatory to this Protocol will support legislation to give state permitting and siting authorities explicit authority: a) to effectively coordinate and cooperate with other governmental permitting and siting authorities on permitting and siting activities regarding proposed electric transmission lines that cross state and national boundaries; and b) to consider both state and regional needs and planning when evaluating whether a proposed electric transmission line should be approved.
5. The signatories to this Proposal support a regional, cooperative approach to solving problems associated with improvement of the Midwestern electric transmission grid.

E. Administrative Provisions

1. Nothing in this Protocol shall be construed to limit, repeal, or in any manner modify the existing legal authorities, rights, privileges, and duties of the signatories to this protocol.
2. The Governors intend that all the states in the Midwest sign the protocol.
3. The Governors will give a copy of this Protocol to state agencies with responsibilities for the review of transmission proposals.
4. Any party to this Protocol may unilaterally withdraw its participation in the agreement.
5. The Protocol may be amended or modified if all parties agree.
6. Upon signature, the Protocol will be immediately effective and will be posted on the Midwestern Governors Association website.

Grain Belt Express Clean Line LLC
Grain Belt Express Clean Line Project
Code of Conduct
For
Right-of-Way Agents and Subcontractor Employees

This Code of Conduct applies to all communications and interactions with property owners and occupants of property by all right-of-way agents and subcontractor employees representing Grain Belt Express Clean Line LLC in the negotiation of right-of-way and the performance of surveying, environmental assessments and the other activities for the Grain Belt Express Clean Line Project on property not owned by Grain Belt Express Clean Line LLC.

1. All communications with property owners and occupants must be factually correct and made in good faith.

a. Do provide maps and documents necessary to keep the landowner properly informed

b. Do not make false or misleading statements.

c. Do not purposely or intentionally misrepresent any fact.

d. If you do not know the answer to a question, do not speculate about the answer. Advise the property owner that you will investigate the question and provide an answer later.

e. Follow-up in a timely manner on all commitments to provide additional information.

f. Do not send written communications suggesting an agreement has been reached when, in fact, an agreement has not been reached.

g. If information provided is subsequently determined to be incorrect, follow up with the landowner as soon as practical to provide the corrected information.

h. Do provide the landowner with appropriate contact information should additional contacts be necessary.

2. All Communications and interactions with property owners and occupants of property must be respectful and reflect fair dealing.

a. When contacting a property owner in person, promptly identify yourself as representing Grain Belt Express Clean Line.

b. When contacting a property owner by telephone, promptly identify yourself as representing Grain Belt Express Clean Line.

c. Do not engage in behavior that may be considered harassing, coercive, manipulative, intimidating or causing undue pressure.

d. All communications by a property owner, whether in person, by telephone or in writing, in which the property owner indicates that he or she does not want to negotiate or does not want to give permission for surveying or other work on his or her property, must be respected and politely accepted without argument. Unless specifically authorized by a Grain Belt Express Clean Line, do not contact the property owner again regarding negotiations or requests for permission.

e. When asked to leave property, promptly leave and do not return unless specifically authorized by Grain Belt Express Clean Line.

f. If discussions with the property owner become acrimonious, politely discontinue the discussion and withdraw from the situation.

g. Obtain unequivocal permission to enter property for purposes of surveying or conducting environmental assessments or other activities. Clearly explain to the property owner the scope of the work to be conducted based on the permission given. Attempt to notify the occupant of the property each time you enter the property based on this permission.

h. Do not represent that a relative, neighbor and/or friend have signed a document or reached an agreement with Grain Belt Express Clean Line, unless asked.

i. Do not ask a relative, neighbor and/or friend of a property owner to convince the property owner to take any action.

j. Do not represent that a relative, neighbor and/or friend supports or opposes the Grain Belt Express Clean Line Project, unless asked.

k. Do not suggest that any person should be ashamed of or embarrassed by his or her opposition to the Grain Belt Express Clean Line Project or that such opposition is inappropriate.

m. Do not suggest that an offer is "take it or leave it."

n. Do not threaten to call law enforcement officers or obtain court orders.

o. Do not threaten the use of eminent domain.

3. All communications and interactions with property owners and occupants of property must respect the privacy of property owners and other persons.

a. Discussions with property owners and occupants are to remain confidential.

b. Do not discuss your negotiations or interactions with other property owners or other persons.

c. Do not ask relatives, neighbors and/or friends to influence the property owner or any other person.