BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of Grain Belt Express Clean Line LLC for a Certificate of Convenience and Necessity Authorizing it to Construct, Own, Operate, Control, Manage, and Maintain a High Voltage, Direct Current Transmission Line and an Associated Converter Station Providing an Interconnection on the Maywood - Montgomery 345 kV Transmission Line	)	Case No. EA-2014-0207

BRIEF OF *AMICUS CURIAE* ENERGY FOR GENERATIONS, LLC

On April 25, 2014, Energy for Generations, LLC (E4G) filed a Petition for Leave to Appear and File Brief as Amicus Curiae with the Commission and its petition was granted on May 6, 2014. As its Petition noted, E4G is a Tulsa, Oklahoma based limited liability company which engages in the business of developing, and encouraging development, of state-of-the-art wind power projects intended to export low-cost renewable energy. Because E4G is a potential customer of the energy transmission services for which Grain Belt Express Clean Line LLC ("Grain Belt") seeks authority by this application to provide, E4G asked for this opportunity to address the Commission. E4G joins other parties to this matter in strong support of Grain Belt's application. The Commission should grant the application.

The Project

Grain Belt has applied for authority to construct in Missouri approximately 206 miles of high voltage direct current ("HVDC") transmission line ("HVDC Line") of the much larger Grain Belt Express Project (the Project) that will traverse the states of Kansas, Missouri, Illinois and Indiana. The Missouri-based portion of the Project includes an associated converter station in Ralls County, Missouri, that will interconnect with the Ameren Missouri transmission line connecting the Maywood and Montgomery 345 kV substations. The transmission line will be

located in the Missouri counties of Buchanan, Clinton, Caldwell, Carroll, Chariton, Randolph, Monroe and Ralls.[1]

As designed, the Project will be a 750-mile-long, multi-terminal +600 kV HVDC transmission line capable of delivering up to 500 MW of power to wholesale electricity purchasers in Missouri and up to 3,500 MW of power to Illinois, Indiana and states farther east through interconnections with MISO and PJM. The primary objective of the Project is to bring electricity produced by wind generation facilities in wind-rich areas of western Kansas to electricity markets in Missouri, Illinois, Indiana and states farther east.[2]

The parties identified three issues for hearing. For its brief, E4G will address the first issue identified which was expressed as follows: *Does the evidence establish that the high-voltage direct current transmission line and converter station for which Grain Belt Express Clean Line LLC is seeking a certificate of convenience and necessity are necessary or convenient for the public service.*

The Criteria for Approval.

The merits of Grain Belt's application must be tested against standards historically applied by this Commission. As recently as April of this year, the Commission restated them:

> The Commission may grant an electric corporation a certificate of convenience and necessity to operate after determining that the construction and operation are either "necessary or convenient for the public service." [footnote omitted] The Commission has stated five criteria that it will use when considering an application for certificate of convenience and necessity:
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> 1) There must be a need for the service;
>
> 2) The applicant must be qualified to provide the proposed service;
>
> 3) The applicant must have the financial ability to provide the service;

[1] Ex. 100, Skelly Direct at 3-4.
[2] Ex. 100, Skelly Direct at 8.

4) The applicant's proposal must be economically feasible; and

5) The service must promote the public interest.[3]

E4G will focus on two of the five criteria.[4]

Need for the Facilities

E4G stands in league with other wind development firms that are appearing in this matter. Both TradeWind Energy, Inc. (TradeWind) and Infinity Wind Power (Infinity), like E4G, engage in the development and management of projects that convert renewable energy resources, such as wind and solar, into electric power. As potential customers of the energy transmission services which Grain Belt will provide across the facilities involved in this application, E4G, TradeWind and Infinity constitute concrete examples of the demonstrable need for Grain Belt's services.

As described by Infinity's Director of Business Development, Matt Langley, in his rebuttal testimony:

> Grain Belt satisfies a missing link in modernizing the nation's electric power infrastructure. The project will enable Infinity and companies like Infinity to deliver inexpensive power from some of the most productive sites in the country to the load centers where the power is needed most. Wind energy is now the least expensive form of new build energy in the US. This is true because we are siting the wind farms in areas that are very windy, thus making the farms quite productive. The challenge is developing the ability to delivery this very cheap power to load, where it can help provide stable prices to businesses and consumers. This project is the solution to that very real delivery problem.[5]

The Grain Belt project also lends new efficiencies to power transmission and delivery. Mr. Langley further testified:

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[3] *Order Approving Amended Non-Unanimous Stipulation and Agreement* (April 8, 2014), File No. EA-2014-0136 at page 2 citing *In re Tartan Energy Company*, 3 Mo.P.S.C. 173, 177 (1994).

[4] Although E4G devotes attention to only two of the *Tartan Energy* criteria, E4G submits that the Commission has before it overwhelming evidence that the applicant and its proposal meet or exceed each of the five criteria. The testimony of the applicant's witnesses alone is substantial and more than adequate to support such findings.

[5] Ex. 875, Langley Rebuttal, at 3.

> The project proposed by Grain Belt Express is the most efficient way to export large amounts of power due to the technology being used. For example, the use of Direct Current (DC) technology as opposed to Alternating Current (AC) technology reduces the amount of line loss that is experienced, which means that more of the energy generated at the wind farm in Kansas will make it to the end consumer of that power. That reduction in line loss alone is a "savings" because consumers don't incur the loss of the energy that they would experience using an AC technology.
>
> In order to export power today, a generator in Kansas must work with multiple utilities and transmission operators in order to acquire the rights to export. Many of those agreements are short in term, and very expensive. This makes it very difficult to obtain the financing needed to construct a wind farm. This is really due to the design of the grid, and its lack of modernization. Grain Belt is really the best solution to this problem. [6]

Frank B. Costanza, an Executive Vice President with TradeWind, offered similar observations about the project in his rebuttal testimony:

> TradeWind has built part of its business model around the concept of delivering wind energy to regions outside the SPP RTO. TradeWind intends to actively develop projects in western Kansas, where today there exist limited export potential on the SPP RTO system. If the Grain Belt CNN is approved it would present an alternative electric conveyance system capable of moving bulk energy to markets east of the Mississippi River. TradeWind is experienced at delivering energy to eastern markets already using the existing RTO transmission systems and we see continued demand for clean energy in the eastern grid in the future. The high voltage direct current Grain Belt line would provide three major benefits including (1) eliminating the significant electric energy loss that is attendant to alternating current lines, (2) eliminating the significant congestion pricing risk that is posing issues for energy delivery from the western areas of the existing RTO grids where the wind energy production is best situated, and (3) accommodating future demand growth in the eastern markets and presenting a solution relative to the requirements that will be attendant to EPA Reg. 111 (d).[7]

Yet another need that would be fulfilled by Grain Belt's proposed facilities was recognized by Michael Goggin, Director of Research for the American Wind Energy Association. He explained at the outset that the primary benefit of Grain Belt's project is that "it provides Missouri, MISO and PJM states significantly greater access to underutilized and low

[6] Ex. 875, Langley Rebuttal, at 4.
[7] Ex. 725, Costanza Rebuttal, at 5-6.

cost wind energy resources in Kansas."[8] He then turned to Missouri's Renewable Interest Standard (RES) and its relationship to activity in federal agencies having jurisdiction. At page 10 of Mr. Goggin's rebuttal this exchange appears:

> Q. **Above you mentioned that demand for wind resources in Missouri, MISO and PJM are driven by state's interest in renewable energy. Do you expect that additional regulations are likely to be enacted in the future that will create additional demand?**
>
> A: The U.S. EPA is in process of developing a new rule for section 111(d) of the Clean Air Act. Section 111(d) requires the U.S. EPA to regulate emissions that cause or significantly contribute to air pollution that may endanger public health or welfare. On June 2, 2014 the USEPA published a draft rule to reduce the carbon dioxide emissions from existing fossil fuel generation plants to target levels set by the U.S. EPA. A final rule is to be issued by June 1, 2015. States will have one to three years to develop a compliance plan, depending on whether they are developing a plan for their own state or in conjunction with multiple states. The compliance period will run from 2020 to 2030. The draft Clean Power Plan rule specifically allows for the use of renewable energy as a way to comply with the required carbon emission reduction targets. *Thus, the [Grain Belt Express] line provides access to lower cost wind generation that Missouri could use to comply with the Clean Power Plan. While this line was not planned in anticipation of U.S. EPA requirements, it provides access to low-cost wind power that could be used for compliance*.[9] [emphasis added]

There is a need for the Grain Belt facilities on both the state and interstate level. Unmistakably, this criterion has been met.

Public Interest

It was Grain Belt's witness David Berry who succinctly described how its services would be in the public interest in Missouri and the surrounding region. At page 4 of his direct testimony the Commission will find these bullet points:

[8] Ex. 700, Goggin Rebuttal at 3.
[9] Ex. 700, Goggin Rebuttal at 10.

- The Project will offer any customer participating in MISO and PJM access to low-cost wind energy, which today cannot be readily accessed by buyers in these power pools.

- The Project enables cost-effective compliance with RES and RPS goals in Missouri and other states in the MISO and PJM region.

- The Project reduces wholesale electricity prices in Missouri and throughout MISO and PJM.

- Lower renewable energy compliance costs and lower wholesale electric prices will both result in decreased costs to end-use electric customers.

- By delivering over 18 million megawatt-hours ("MWh") of clean energy to Missouri, Illinois, Indiana, and other MISO and PJM states, the Project will reduce the need to generate electricity from fossil-fueled power plants and therefore will reduce carbon dioxide, sulfur dioxide, nitrous oxide and mercury emissions as well as water usage.

- The Project allows Missouri to access affordable clean energy as increasing environmental regulation drives increased costs for and additional retirements of coal plants.

- By enabling new generation sources and providing a major link between three major RTOs in the Eastern Interconnection, the Project will improve electric reliability and reduce seams issues between regions.

- The Project will contribute to economic development in Missouri and in the broader region by providing construction, manufacturing and operations jobs and additional business for Missouri companies.

- All of these benefits will be provided to the public without any socialization of transmission costs to ratepayers since only users of the line will be charged for the costs of the Project.[10]

Mr. Berry, along with other Grain Belt witnesses, testified to details for each of these statements all of which are supported by substantial evidence.

[10] Ex. 118, Berry Direct, at 4.

Mr. Langley of Infinity added that:

> The benefits of a project like this are several in number and significant in impact. Infinity has developed projects throughout the region, and has witnessed the impacts to the landowners, the communities, and the regions. Specifically, the projects provide economic benefits to the landowners and ratepayers, to local businesses and American manufacturing companies. Additionally, the project will be supporting energy projects that are clean, do not consume precious water or finite resources, and are capable of delivering power at a predictable fixed price, rather than one that is dictated by volatility of the energy markets.[11]

Michael Goggin testified extensively on the public benefits to be derived from the Grain Belt project. At pages 14 through 16 of his rebuttal he pointed to the cost savings to rate payers that wind power promises. At page 20 he testifies in general to the public benefit of the Grain Belt proposal:

> Q: **If the GBE Project is approved, what benefits will result to the wind generation industry, and to Missouri and the region?**
>
> A: If a certificate of convenience and necessity is granted to the GBE Project I would anticipate that over 3,500 MW of wind generation would be built. Economic development benefits are typically broadly spread around the project area, as indirect economic impacts spread the economic impact beyond local areas and industries that are directly receiving payments. In addition, the manufacturing jobs associated with building the components of the transmission and wind infrastructure would be broadly distributed around the state as well. The Department of Energy's ("DOE") 2008 report, "20% Wind Energy by 2030," found that the manufacturing jobs associated with deploying large amounts of wind would be broadly distributed. As of the end of 2012 approximately 72% of turbines, blades and structures installed in the U.S. in 2011 were from U.S. manufacturers.

At page 21 of his testimony, Mr. Goggin describes the consequences if Grain Belt's request for certification is denied:

> **Q: If a certificate of convenience and need is denied, what would be the negative consequence or results for the wind industry?**

[11] Ex. 875, Langley Rebuttal at 7-8.

A: The benefit of this project is it delivers wind energy from one of the best wind resource locations to the highest need markets for renewable energy -- MISO and PJM. The need for wind energy resources for compliance with RESs or for economic reasons is not as great in and around Kansas, mainly because Kansas has lower electricity demand than states to the east. If a certificate of convenience and necessity is not granted the GBE Project, then the development of 3,500 to 4,000 MW, or potentially even more, of wind resources in western Kansas will likely be lost. I am not aware of other proposed transmission lines that could take the place of serving that prospective wind development, and even if there were the wind development would be additive and not mutually exclusive with that driven by GBE. Therefore, the tens of thousands of jobs, and the billions of dollars of direct project expenditures and millions of dollars of supply chain benefits for Missouri, would be lost.

The bottom line is that the GBE project gives Missouri, and the states in MISO and PJM access to low cost wind energy from Kansas that helps lower their states overall cost of electricity.[12]

Grain Belt's proposed transmission line will serve and promote the public interest. This criterion is fully satisfied.

Conclusion

It would be an egregious mistake to pretend that wind energy is not integral to future energy production, transmission and distribution in this country. As more wind energy generation resources are developed and find markets, unreasonable obstacles should not be placed in the path toward diversifying the energy supplies of the nation. Missouri is more than a simple way station for Grain Belt's proposed power line. The state and its ratepayers will also be recipients of the benefits, both environmental and financial, the line will deliver. Perhaps all those benefits will not be evident immediately but they are inevitable, and to delay approval of the application in this matter delays the date when those benefits can be fully enjoyed.

[12] Ex.700, Goggin Rebuttal at 20-21.

The number of prospective suppliers of wind energy across Grain Belt's proposed power line cannot be ignored by the Commission. E4G is only one of them. Others, and certainly not all, have intervened in this case and have supplied the reasoning and testimony illuminating the need for these facilities in this state and in the states where customers await this energy. The availability of the Grain Belt HVDC Line, its connectivity with the industries and households in neighboring and more distant states timely sets the stage for 1) competition to develop at an incremental pace; 2) reduced pressure on air quality and the natural resources now devoted to energy production; and 3) cost effective means for Missouri's electric utilities to comply with new and more stringent regulatory targets.

The Commission's approval of Grain Belt's application will allow wind energy to be a win-win-win for consumers, the environment, and the economy. Grain Belt's application should be granted.

Respectfully submitted,

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Certificate of Service

I hereby certify that a true and correct copy of the above and foregoing document was sent via e-mail on this 8th day of December, 2014, to:

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