

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) File No. EA-2014-0207
Current Transmission Line and an Associated)
converter Station Providing an Interconnection on the)
Maywood-Montgomery 245 kV Transmission Line.)

REBUTTAL TESTIMONY OF

MATT LANGLEY

ON BEHALF OF

INFINITY WIND POWER

September 15, 2014

1 **I. INTRODUCTION AND PURPOSE OF TESTIMONY**

2 **Q. Please state your name.**

3 A. My name is Matt Langley.

4 **Q. By whom and in what capacity are you employed?**

5 A. I work for Infinity Wind Power (Infinity), located at 3760 State Street, Suite 200, Santa
6 Barbara, CA 93105. I am the Director of Business Development for Infinity and have
7 held this position since March 2012.

8 **Q. What is the purpose of your testimony in this matter?**

9 A. The purpose of my testimony is to respond to the testimony of Grain Belt Express Clean
10 Line LLC (Grain Belt Express) and its request for a certificate of convenience and
11 necessity (CCN) from the Missouri Public Service Commission (MPSC or Commission).
12 Specifically, my testimony will address the need for national electric grid expansion and
13 discuss how the Grain Belt Express project will assist in meeting that need.

14 **Q. As part of your response to Grain Belt Express' testimony, will you address the five
15 (5) criteria that the Commission applies in determining whether to issue a CCN¹?**

16 A. As appropriate. My testimony addresses the need for the project, which includes a brief
17 discussion on how the Grain Belt Express project will enable the potential build out of
18 Infinity's wind projects in Kansas, as well as a high level policy discussion on the public
19 interest prong of the analysis. Additionally, my testimony discusses the economic
20 feasibility of the project. I do not believe it is appropriate for me to weigh in on the other
21 factors, which in my opinion are company specific and more appropriately addressed by
22 Grain Belt Express.

¹ *In re Entergy Arkansas, Inc.*, No. EA-2012-0321, Order Granting Certificate of Convenience and Necessity, p. 2 (July 11, 2012).

1 **Q. How is your testimony structured?**

2 A. I will begin by providing the Commission with some general background information on
3 myself and Infinity. I will then discuss the need, public interest, and economic feasibility
4 of the project from Infinity's point of view.

5 **II. BACKGROUND**

6 **Q. What is your educational background?**

7 A. I received a Bachelor's degree in Economics and the Chinese Language from The Johns
8 Hopkins University in 2001, and a Masters of Business Administration from the Darden
9 School of Business at The University of Virginia in 2008.

10 **Q. You indicated above that you have been the Director of Business Development for**
11 **Infinity since 2012. What does your role of Director of Business Development**
12 **involve?**

13 A. I am responsible for managing the financial analysis and forecasting activities for
14 Infinity, acquiring Purchase Power Agreements (PPA) and employing other offtake
15 strategies for the company, including hedging strategies, selling directly to industrial
16 customers, as well as other related strategies. I am also responsible for financing our
17 projects, which involves raising equity, debt and tax equity, as appropriate. Additionally,
18 I am responsible for much of the project acquisition that Infinity pursues.

19 **Q. What did you do prior to becoming the Director of Business Development for**
20 **Infinity in March 2012?**

21 A. Prior to joining Infinity in March 2012, I led the commercial efforts for Colorado-based
22 juwi Wind, LLC (juwi), which was developing wind projects throughout North America.
23 In that role, I led efforts to expand the company's footprint into Canada, and completed

1 the acquisition of a late stage project in Minnesota. I also conducted all of the power
2 marketing activities for the company. Prior to juwi, I worked in a similar role for Clipper
3 Windpower Development Company, located in Carpentaria, CA and Cedar Rapids, Iowa.

4 **Q. Have you ever provided testimony before the Missouri Public Service Commission?**

5 A. No, I have not previously provided testimony to the Commission.

6 **Q. Has Infinity previously been involved in matters before the Commission?**

7 A. No, Infinity has not previously been involved in matters before the Commission.

8 **III. COMMISSION CRITERIA FOR CCN**

9 *Need for the Grain Belt Express Project*

10 **Q. Grain Belt Express witness, Mr. David Berry indicates that the majority of Kansas’**
11 **wind potential can only be developed if access to transmission and markets is**
12 **developed. Do you agree with Mr. Berry’s assertion?²**

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

² Direct Testimony, David Berry, p.27.

1 As the Commission is aware, the Grain Belt Express project originates in Kansas
2 and delivers power to Missouri and large load centers to the east. Given the differences
3 in population and economic growth these load centers represent a ready market for wind
4 generated in Kansas. Because of the population of Kansas, and its abundant wind
5 resource, the market to sell additional energy in the state is limited, whereas the markets
6 that the Grain Belt Express project will serve represent a potentially enormous market for
7 the energy that wind farm generators like Infinity will produce.

8 **Q. Are you suggesting that there are no other alternatives to exporting Kansas' wind**
9 **energy than the project being proposed by Grain Belt Express?**

10 Essentially, yes. I do not believe there are other economically feasible ways to export the
11 energy. The project proposed by Grain Belt Express is the most efficient way to export
12 large amounts of power due to the technology being used. For example, the use of Direct
13 Current (DC) technology as opposed to Alternating Current (AC) technology reduces the
14 amount of line loss that is experienced, which means that more of the energy generated at
15 the wind farm in Kansas will make it to the end consumer of that power. That reduction
16 in line loss alone is a "savings" because consumers don't incur the loss of the energy that
17 they would experience using an AC technology.

18 In order to export power today, a generator in Kansas must work with multiple
19 utilities and transmission operators in order to acquire the rights to export. Many of those
20 agreements are short in term, and very expensive. This makes it very difficult to obtain
21 the financing needed to construct a wind farm. This is really due to the design of the
22 grid, and its lack of modernization. Grain Belt is really the best solution to this problem.

1 **Q. How do you envision this modernization effort occurring?**

2 A. From my experience in the industry I have found that many people compare the challenge
3 of modernizing the nation's energy infrastructure to the moonshot that the United States
4 undertook in the 1960s, due to what seemed at the time to be an aggressive approach to a
5 daunting task of actually safely getting a man to the moon and back. I prefer to compare
6 the task of building out a modern, flexible grid to the building of the national interstate
7 highway system. Modernization of the energy grid is a major challenge that requires the
8 participation of many stakeholders and the Grain Belt Express project would play a
9 crucial role in the modernization effort because it can address the current "seams" issues
10 that exists between the Regional Transmission Organizations (RTOs), such as the
11 Southwest Power Pool, the Midcontinent Independent System Operator, Inc. and the PJM
12 Interconnection, LLC . Similar to the interstate highway project, I think projects like the
13 Grain Belt Express project have the potential to positively and fundamentally alter the
14 economies of the regions that house the project. Not only will individual companies
15 benefit from the investment that is required for such a critical project, but so will
16 generations of Americans, as they realize the benefits of inexpensive, predictable and
17 clean energy.

18 **Q. Isn't your company one of the companies that could potentially benefit from this**
19 **project?**

20 A. Yes, if the Grain Belt Express project is approved for construction and Infinity is selected
21 as a wind generator for the project, Infinity would benefit from the project, and this is a
22 good thing for the economy. Companies like Infinity employ people, and those people
23 in turn put money back into the economy. A healthy economy is beneficial to society. In

1 addition to my company and my competitors, the ratepayers of Missouri will also benefit
2 by virtue of being able to receive some of the power that the line will transport. This
3 power will assist in keeping rates low and predictable for households and businesses in
4 the state.

5 **Q. Exactly how might Infinity benefit from the Grain Belt Express project?**

6 A. Infinity is currently developing over 2,000MW of wind energy projects that could benefit
7 from the Grain Belt Express project. These projects represent more energy than can be
8 sold to a single buyer, because the projects will produce more energy than the current
9 demand of any one buyer in the State of Kansas. The Grain Belt Express project
10 provides an opportunity to find several buyers for this energy, and allow Infinity to
11 complete the development of this approximately \$3.5 Billion investment. Infinity
12 anticipates developing these projects in phases that match Grain Belt Express' timing.
13 Infinity has worked closely with the developers of the Grain Belt Express project to
14 ensure that our wind projects' timing matches that of Grain Belt. In addition to our
15 project, it's clear from the response to Grain Belt Express' RFI that other wind generation
16 companies see benefits to the Grain Belt Express project as well. I believe that some of
17 those companies are also providing testimony to this Commission on this particular
18 matter.

19 **Q. Is it your testimony then that you agree with Mr. Berry's assertion that without the
20 Grain Belt Express project Infinity's projects will not be built?³**

21 A. To a large extent, yes. If the Grain Belt Express project does not come to fruition,
22 Infinity's current plans will be substantially altered. When assessing the need for a

³ Direct Testimony, David Berry, p.28.

1 project like this, it is appropriate to analyze the alternatives to utilizing the transmission
2 that will be built by this project. In looking at these alternatives, it is clear that there is no
3 existing project or combination of projects that can yield similar results. The obvious
4 alternative to building the Grain Belt line is to attempt to use the existing infrastructure to
5 accomplish the same goal. The problem is that the current system is not designed to
6 deliver a large quantity of power over long distances. Additionally, as I mentioned
7 earlier, there are currently some constraints associated with moving energy from one
8 RTO into the next. Grain Belt Express' project addresses both of these concerns.

9 In the absence of Grain Belt, if Infinity tried to develop an energy project in
10 western Kansas and deliver the power east, then the project would face significant
11 technical and financial challenges. The net result of these challenges would be a less
12 reliable and more expensive energy product for ratepayers. In our analysis, with the
13 current technology and infrastructure, it would not be economically feasible to deliver
14 this quantity for clean, inexpensive power in the absence of this project.

15 *Public Interest*

16 **Q. Mr. Berry provides substantial testimony regarding why approval of the Grain Belt**
17 **Express project is in the public interest.⁴ How does Infinity view the public interest**
18 **being affected by the Project?**

19 A. The benefits of a project like this are several in number and significant in impact.
20 Infinity has developed projects throughout the region, and has witnessed the impacts to
21 the landowners, the communities, and the regions. Specifically, the projects provide
22 economic benefits to the landowners and ratepayers, to local businesses and American

⁴ Direct Testimony, David Berry, p.4, 11-12, 22-37.

1 manufacturing companies. Additionally, the project will be supporting energy projects
2 that are clean, do not consume precious water or finite resources, and are capable of
3 delivering power at a predictable fixed price, rather than one that is dictated by volatility
4 of the energy markets.

5 The wind resource in Kansas is one of the finest in the United States. It allows
6 our energy projects to produce power during both peak, and off –peak hours, and is very
7 well understood. By delivering this resource to the load centers in Missouri and east, we
8 can help create a stable power pricing regime, which is good for industries that are
9 coming back to the United States, or that are growing. One trend that we are seeing in
10 the renewable energy arena is the increasing number of large companies that are directly
11 purchasing renewable power from developers like Infinity. These companies are doing
12 this in part because they recognize the environmental benefits of doing so, but also
13 because they see the value in purchasing energy at a very low and fixed price for a long
14 period of time. This stability is exactly what industry requires when it is deciding to
15 invest in growth. The Grain Belt Express project will allow more purchases of this kind,
16 thus facilitating further economic growth in the Midwest.

17 *Economic Feasibility of the project*

18 **Q. Mr. Berry provides examples of the economic feasibility of the Grain Belt Express**
19 **project.⁵ Do you agree with Mr. Berry’s analysis?**

20 A. While I have not conducted for my testimony a separate in-depth levelized cost analysis
21 like Mr. Berry’s, I certainly agree with his statement that the Grain Belt Express project
22 will allow for cheaper alternatives in meeting renewable portfolio standards requirements

⁵ Direct Testimony, David Berry, p.17-22.

1 because it will offer access to abundant wind energy. Additionally, from a wind
2 generation standpoint and based upon my experience in the wind industry, I believe that
3 the project is economically feasible for a variety of reasons. As discussed above, the
4 project represents one of the most efficient ways to deliver large quantities of power from
5 western Kansas to markets where it is needed. Also, wind energy projects are sensitive to
6 economies of scale so larger projects are more efficient because the more megawatts we
7 can generate and ultimately deliver, the lower the price of power that we sell to
8 ratepayers is. If the Grain Belt Express project is constructed, Infinity has the potential of
9 bringing on-line multiple phases of generation, as discussed above, which will result in a
10 lower per megawatt cost – the larger the project, the lower the per megawatt cost will be.

11 **Q. Are you saying that efficiency is the equivalent to economic feasibility?**

12 I'm saying that efficiency is certainly a component of whether something is economically
13 feasible. Western Kansas is ideally suited to building wind generation projects. The land
14 usage is very compatible with wind energy development, the resource is extremely good
15 and consistent, and the area is well served with transportation infrastructure.

16 When we consider the costs of building a project, one of the critical challenges is
17 the attractiveness of a project to the financing community. These projects are designed to
18 last for twenty to thirty years and cost several hundred million dollars each. Therefore,
19 we need to raise significant capital from large, institutional investors. The Grain Belt
20 Express project contributes significantly to our ability to raise these funds because it
21 offers an exportation path for our projects that does not currently exist. As mentioned, if
22 we did not have the Grain Belt Express project, we would have to deliver the power from
23 our farms over the existing AC systems. The problem with the AC approach is that the

1 cost of moving power is significantly higher, and the way that it is accomplished is
2 significantly more complicated. This complexity will make it much harder to attract both
3 customers and financing to a project. So without the project, there are probably several
4 hundred million dollars that cannot be invested into these projects. As you can imagine
5 the impact of that size of investment would be felt not only in the immediate area of a
6 wind farm, but indeed regionally.

7 Because of the quality of the wind resource, the economies of scale, and the
8 stability of financing, wind projects that will deliver power over this project will do so at
9 a lower cost to rate payers in Missouri and states to the east.

10 **Q. Does this complete your testimony?**

11 **A. Yes.**

AFFIDAVIT

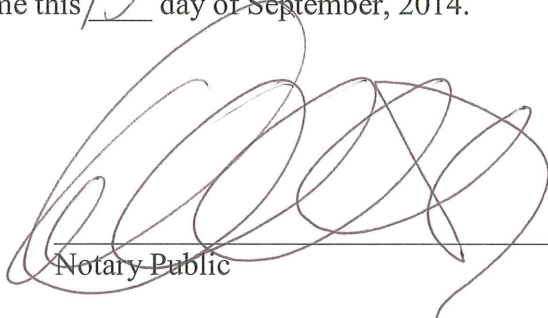
STATE OF CALIFORNIA)
) ss
COUNTY OF SANTA BARBARA)

I, Matt Langley, upon oath first duly sworn, state that I am Director of Business Development of Infinity Wind Power, that I am authorized to make this Affidavit on behalf of Infinity Wind Power, that I have prepared the foregoing *Rebuttal Testimony*, and that the statements contained therein are true and correct to the best of my knowledge and belief.



Matt Langley
Director of Business Development
Infinity Wind Power

Subscribed and sworn to before me this 15th day of September, 2014.



Notary Public

My appointment expires: 3/2/17

