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.	)))))))	File No. EA-2016-0358

REBUTTAL TESTIMONY OF

MATT LANGLEY

ON BEHALF OF

INFINITY WIND POWER

January 24, 2017

Infinity Exhibit No. 875
Date 3-23-17 Reporter TS
File No EA-2016-0358

I. INTRODUCTION AND PURPOSE OF TESTIMONY

Q. Please state your name.

A. My name is Matt Langley.

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

A. I work for Infinity Wind Power (Infinity), located at 3760 State Street, Suite 200, Santa Barbara, CA 93105. I am the Vice President, Finance and Origination for Infinity and have held this position since September 2016.

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

A. The purpose of my testimony is to respond to Grain Belt Express Clean Line LLC's (Grain Belt Express) request for a certificate of convenience and necessity (CCN) from the Missouri Public Service Commission (MPSC or Commission). Specifically, my testimony will address the need for national electric grid expansion and discuss how the Grain Belt Express project will assist in meeting that need by providing a current example demonstrating the benefit of the Grain Belt Express project.

Q. How is your testimony structured?

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

II. BACKGROUND

Q. What is your educational background?

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

Q. You indicated above that you have been the Vice President, Finance and Origination for Infinity since 2016. What does your role of Vice President involve?

A. I am responsible for managing the financial analysis and forecasting activities for Infinity, acquiring Purchase Power Agreements (PPA) with utility customers and employing other offtake strategies for the company, including hedging strategies, direct sales to industrial customers, as well as other related strategies. I am also responsible for financing our projects, which involves raising equity, debt and tax equity, as appropriate. I also manage the team that conducts all of the financial modeling and market analysis for the company.

Q. What did you do prior to becoming the Vice President, Finance and Origination for Infinity in September 2016?

A. Prior to my promotion to Vice President in 2016, I was the Director of Business Development for Infinity. I was hired into that position in March, 2012. I had similar responsibilities that I currently have, with the exception of fewer management responsibility. In my previous position, I was also more heavily involved in the acquisition of energy projects from other developers.

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

A. Prior to joining Infinity in March 2012, I led the commercial efforts for Colorado-based juwi Wind, LLC (juwi), which was developing wind projects throughout North America. In that role, I led efforts to expand the company's footprint into Canada, and completed the acquisition of a late stage project in Minnesota. I also conducted all of the power

marketing activities for the company. Prior to juwi, I worked in a similar role for Clipper Windpower Development Company, located in Carpentaria, CA and Cedar Rapids, Iowa.

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

A. Yes, I previously provided testimony to the Commission on behalf of Infinity in File No. EA-2014-0207.

III. BENEFITS OF THE GRAIN BELT EXPRESS PROJECT

Need for the Grain Belt Express Project

Q. Grain Belt Express witness Mr. David Berry indicates that there is a demand from Kansas wind producers for the Grain Belt Express Project.[1] Do you agree with Mr. Berry's assertion?

A. Yes. As a wind developer in Kansas, Infinity believes that the Grain Belt Express project satisfies a missing link in modernizing the nation's electric power infrastructure. The project will enable Infinity and companies like Infinity to export inexpensive power to the benefit of others in load centers outside of Kansas. As was true a couple of years ago, wind energy is still 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 means to deliver this very cheap power to load, where it can help provide stable prices to businesses and consumers. The Grain Belt Express Project is the solution to that very real delivery problem, as is evidenced by the recent contract that Infinity was able to broker with the Missouri Joint Municipal Electric Utility Commission ("MJMEUC).

[1] Berry Direct, pp. 24-25.

Q. To what contract are you referring?

A. I am referring to a contract that was just entered into on January 23, 2017, between Infinity and MJMEUC. Because the contract is contingent upon the approval of the Grain Belt Express Project, many of the terms remain confidential, but what I can say is that it is a 20-year term fixed-price contract that provides for the purchase by MJMEUC of a minimum of 100 MW of capacity and energy per year from our Iron Star Wind Project, a maximum purchase of 300 MW per year, and a likely purchase amount of 200 MW per year.

Q. Would this contract have been possible without the Grain Belt Express Project?

A. No. As I noted, the contract is contingent upon the completion of the Grain Belt Express Project, which requires the Missouri Public Service Commission's approval of Grain Belt Express' application for certification. Without the Project, there is not a sufficient pathway for the power to flow from Kansas to MJMEUC.

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

Essentially, yes. I do not believe there are other economically feasible ways to export the energy, and certainly the contract between Infinity and MJMEUC will not exist without the Grain Belt Express Project. The project proposed by Grain Belt Express is the most efficient way to export large amounts of power due to the technology being used.

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. This is really due to the design of the grid, and its lack of modernization. Many of those agreements are short in term, and very expensive, and in looking at these alternatives to export power, it

is clear that there is no existing project or combination of projects that can yield similar results as the Grain Belt Express Project.

Public Interest

Q. Mr. Berry discusses how the Grain Belt Express project is in the public interest.[2] How does Infinity view the public interest being affected by the Project?

A. As I have noted to this Commission in Grain Belt Express' previous certification filing in 2014, 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.

Q. Please continue.

A. The wind resource in Kansas is one of the finest in the United States. It allows our energy projects to produce power during both peak, and off peak hours, and is very well understood. By delivering this resource to the load centers in Missouri and east, we can help create a stable power pricing regime, which is good for industries that are coming back to the United States, or that are growing. We continue to see increasing numbers of large companies that are directly purchasing renewable power from developers like Infinity. These companies are doing this in part because they recognize the

[2] Direct Testimony, David Berry, pp. 23-45.

environmental benefits of doing so, but also because the see the value in purchasing energy at a very low and fixed price for a long period of time. This stability is exactly what industry requires when it is deciding to invest in growth. The Grain Belt Express project will allow more purchases of this kind, thus facilitating further economic growth in the Midwest.

Economic Feasibility of the project

Q. Mr. Berry examines the economic feasibility of the Grain Belt Express project on pages 27-34 of his Direct testimony. Do you agree with Mr. Berry's analysis?

A. Yes, I do agree with Mr. Berry's discussion. While I have not conducted a separate in-depth levelized cost analysis like Mr. Berry's, the results of his study are consistent with $/MWh values I routinely see through the course of my daily activities. I also agree, as discussed above, that the Grain Belt Express project will provide a lower cost option of exporting large amounts of Kansas wind power to areas further east.

From Infinity's perspective, we know that energy projects are sensitive to economies of scale so larger projects are more efficient because the more megawatts we can generate and ultimately deliver, the lower the price is of the power that we sell to ratepayers. However, when we consider the costs of building a project, one of the critical challenges is the attractiveness of a project to the financing community. These projects are designed to last for twenty to thirty years and cost several hundred million dollars each. Therefore, we need to raise significant capital from large, institutional investors. The Grain Belt Express project contributes significantly to our ability to raise these funds because it offers an exportation path for our projects that does not currently exist.

In other words, the lack of sufficient pathways for exporting presents challenges to obtaining the financing needed to construct or fully develop a wind farm. In the absence of the Grain Belt Express Project, Infinity's ability to develop energy projects in western Kansas is somewhat hampered due to technical and financial challenges resulting from the lack of pathways. The net result of these challenges is a less reliable and more expensive energy product for ratepayers. In our analysis, with the current technology and infrastructure, it would not be economically feasible to deliver this quantity for clean, inexpensive power in the absence of this project. 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.

As mentioned, if we did not have the Grain Belt Express project, we would have to deliver the power from our farms over the existing AC systems. The problem with the AC approach is that the cost of moving power is significantly higher, and the way that it is accomplished is significantly more complicated. This complexity makes it much harder to attract both customers and financing to a project.

Because of the quality of the wind resource, the economies of scale, and the stability of financing, wind projects that will deliver power over this project will do so at a lower cost to rate payers in Missouri and states to the east. If the Grain Belt Express project is constructed, Infinity has the potential of bringing on-line multiple phases of generation, which will result in a lower per megawatt cost – the larger the project, the lower the per megawatt cost will be.

Q. Does this complete your testimony?

A. Yes.