Exhibit No.:_____
Issues: Need, Benefits, Economic Feasibility, Financing Plan
Witness: David Berry
Sponsoring Party: Grain Belt Express
Clean Line LLC
Type of Exhibit: Direct Testimony
Case No.: EA-2014-0207
Date Testimony Prepared: Mar. 26, 2014

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. EA-2014-0207

DIRECT TESTIMONY OF

DAVID BERRY
EXECUTIVE VICE PRESIDENT – STRATEGY AND FINANCE

ON BEHALF OF

GRAIN BELT EXPRESS CLEAN LINE LLC

March 26, 2014

Exhibit A

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is David Berry. My business address is 1001 McKinney Street, Suite 700, Houston, Texas 77002.

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

A. I am employed by Clean Line Energy Partners LLC ("Clean Line") as Executive Vice President – Strategy and Finance. Clean Line is the ultimate parent company of Grain Belt Express Clean Line LLC ("Grain Belt Express" or "Company"), the Applicant in this proceeding.

Q. What are your duties and responsibilities as Executive Vice President – Strategy and Finance of Clean Line?

A. I oversee and am responsible for the financing activities, transaction structuring, and market analysis for Clean Line and its subsidiaries. I am responsible for developing the transmission capacity products offered to the Company's customers and assessing the demand for the energy delivered by the Company's transmission lines. I also am responsible for raising the capital necessary to fund the development and construction of Clean Line's projects, including the Grain Belt Express Clean Line project ("Grain Belt Express Project" or "Project").

Q. Please describe your educational and professional background.

A. I received a Bachelor of Arts degree from Rice University with a major in economics and a second major in history. Prior to joining Clean Line, I was employed by Horizon Wind Energy (now EDP Renewables North America) as Finance Director. At Horizon Wind Energy, I was responsible for financing transactions, investment analysis, and

Exhibit A

acquisitions. I worked on and led over $2 billion of project finance transactions, including a non-recourse debt financing that was named 2006 North American Renewables Deal of the Year by *Project Finance* and several structured equity transactions for projects in development, construction, and operations. In addition, I was responsible for maintaining financial models for Horizon Wind Energy's wind farm development projects and exploring expansion into other generation technologies besides wind energy.

Q. Have you previously testified before any federal or state regulatory commission?

A. Yes. In support of Clean Line and its subsidiaries, I have previously testified before the Illinois Commerce Commission, the Kansas Corporation Commission and the Indiana Utility Regulatory Commission.

Q. What is the purpose of your direct testimony?

A. My testimony supports the Company's request for a certificate of convenience and necessity ("CCN") to operate in the state of Missouri. The Grain Belt Express Project is a major infrastructure expansion that brings economic, market, policy and environmental benefits to Missouri and the surrounding region. By installing a converter station in Missouri, the Project will allow Missouri electric purchasers the opportunity to access the lowest cost renewable energy in the country without an increase in the rates paid by retail electric consumers. It is my belief the Project is strongly beneficial to the Missouri public.

I understand that this Commission has used five criteria to evaluate applications for a CCN. Those criteria are: (1) there must be a need for the service; (2) the proposed service must promote the public interest; (3) the applicant's proposal must be

for service. In AC lines, power flows to the path of least resistance regardless of the rate recovery mechanism or the contracts in effect. In contrast, HVDC converters function like "toll booths" that control the entry and exit of cars to the turnpike. Only cars that pay for entrance and exit can use the turnpike. Similarly, only shippers that buy service on the Project will be able to use the HVDC line.

Q. How will Grain Belt Express initially allocate the transmission capacity on the Project?

A. To start this process, the Company will issue a broad solicitation to be publicized on the Project website, in industry periodicals and in RTO forums. The solicitation will request a response from interested customers and provide a form of response. Grain Belt Express will negotiate with all interested customers who meet the eligibility criteria, the most important of which is the necessary creditworthiness to purchase long-term capacity. Based on the results of these negotiations, interested customers will submit a detailed bid for transmission service to the Company. In evaluating these bids, Grain Belt Express will apply consistent and objective ranking criteria that will be published for the benefit of all bidders. Long-term transmission service will be awarded to those bids scoring highest based on the Company's ranking criteria.

Grain Belt Express will initially allocate the Project's capacity under long-term, firm transmission service agreements. This will facilitate the financing of the Project through the process I describe in **Section IV** of my direct testimony. However, as I discuss below, customers will also be able to request shorter term firm service or non-firm service under the Company's transmission service tariff.

Exhibit A

Q. Please describe Grain Belt Express' transmission tariff.

A. Transmission service will be sold under an open access transmission tariff ("OATT"). Similar to the transmission tariffs of SPP, MISO, and PJM, the Grain Belt Express OATT will take as its starting point the *pro forma* OATT created by FERC. The tariff will be administered by an RTO, who will manage requests for new service. Grain Belt Express' intent is that PJM, who will receive 3,500 MW of the Project's injection and is experienced in administering the tariffs of HVDC lines, will administer the Project's OATT; however, MISO or SPP could also perform this function. Independent administration of the tariff assures that all eligible customers can purchase service on the Project subject to its availability.

Q. What obligations will Grain Belt Express have in offering and providing transmission service pursuant to a tariff that conforms to FERC's pro forma OATT?

A. Grain Belt Express will be obligated to provide non-discriminatory, open access transmission service to all "eligible customers," as defined by the FERC pro forma OATT. Any modifications to the Company's OATT (from the pro forma OATT) must be approved by FERC.

Q. Will entities who do not receive an initial allocation of capacity be able to request service on the Project?

A. Yes. The negotiated capacity allocation process I describe above determines only the initial allocation of the Project's capacity. Any future sale of capacity will be governed by the OATT, just as is the case for traditional, cost of service transmission providers.

After the initial allocation of capacity, the Project will function as part of the integrated transmission system, and therefore, any eligible customer can request service at any time.

Even if the Project's firm capacity is fully subscribed, any eligible customer can still request non-firm service. Under the terms of the FERC pro forma OATT, Grain Belt Express must provide non-firm service to an eligible customer so long as the same capacity is not being used by the holder of firm transmission rights. In addition, Grain Belt Express will set up a secondary market for the Project, where customers that do not receive an initial allocation of capacity can purchase capacity from customers who do receive an initial allocation. Because Grain Belt Express anticipates that a significant portion of its firm transmission service customers will be wind farms and purchasers of energy from wind farms, which do not produce at full output 100% of the time, non-firm or secondary service is likely to be available in many circumstances.

Q. Who will be able to purchase the energy delivered by the Project?

A. As the Project will deliver to both MISO and PJM, any customer in these two markets will be able to purchase the low-cost renewable energy delivered by the Project. Therefore, as I will describe more in **Section III**, the benefits of the Project accrue not just to the specific users but to the public generally, despite the fact that the general public will not have to pay for the costs of the Project via cost allocation.

III. PROJECT NEED, BENEFITS AND ECONOMIC FEASIBILITY

A. Overview of Missouri RES

Q. Is there demand in Missouri for the renewable energy to be delivered by the Grain Belt Express Project?

A. Yes. Missouri's Renewable Energy Standard ("RES") in Sections 393.1020 and 393.1030 requires the generating portfolios of investor-owned electric utilities to include renewable generation of at least 15% by 2021. A higher percentage of renewable energy in Missouri's electric mix can lower fuel price volatility, create jobs, improve air and water quality, and reduce the rate and reliability impacts of greenhouse gas and other environmental regulations. However, in order to realize these benefits, cost-effective renewable energy resources must be available for utilities to purchase. In that respect, new transmission lines like the Grain Belt Express Project play an essential role.

Q. Will the wind energy delivered by the Project be eligible to meet the Missouri RES?

A. Yes. The Missouri RES does not impose any geographic restrictions on the location of the generation facilities. The RES does provide that 2% of the renewable requirements must be met by solar, but western Kansas wind is eligible to meet the remaining 98% of the RES requirement.

Q. Why is it important that Missouri utilities have access to the lowest cost renewable energy to meet the RES?

A. The RES imposes a cost cap that compliance with the RES cannot increase rates paid by Missouri ratepayers by more than one percent. This means that renewable energy cannot be substantially more expensive than energy from other generation resources. The cost cap mandates that Missouri's utilities have access to the cheapest renewable energy

resources. If they do not have this access, the RES may not be met, and the public will be deprived of the benefits of cost-effective renewable energy compliance, which were supported by Missouri's voters in 2008 when they approved the RES by referendum.

Q. How much renewable energy will be required to meet the Missouri RES, and how does that compare to current supply?

A. Approximately 9-10 million MWh per year of renewable electricity will be needed by 2021 for Missouri's investor-owned utilities to meet their RES requirements. In contrast, the current renewable energy supply of these utilities is only about 4 million MWh per year, encompassing both facilities located in Missouri and renewable energy purchased in other states for end use in Missouri. Therefore, Missouri's investor-owned utilities will need to procure approximately 5-6 million MWh per year of additional renewable electricity to meet the RES in 2021. I am basing my estimates on information from the RES statute, utility compliance reports and the Energy Information Administration ("EIA"). Detail behind these calculations is attached as Schedule DAB-1.

Q. How much renewable energy can the Grain Belt Express Project deliver to Missouri?

A. The Project can supply Missouri with 2.2-2.6 million MWh per year of renewable energy. As I noted above, the Project's delivery point in Missouri will be capable of delivering up to 500 MW of power to the grid in Missouri at any one time. As I discuss in the next subsection, western Kansas wind energy delivered via the Project is an efficient, low-cost way to meet the RES.

B. Levelized cost analysis

Q. Have you prepared an estimate of the levelized cost of energy of the Grain Belt Express Project as delivered to Missouri?

A. Yes. I prepared a financial model calculating the levelized cost of energy for the Project. In the base case, the Project can deliver western Kansas wind energy to Missouri at a fixed, flat, and levelized cost of 4.0-4.5 cents per kilowatt-hour ("kWh") ($40-45 per MWh). This is a very compelling price and is the lowest cost way for Missouri to obtain additional renewable energy. As I discuss later in my testimony, the levelized cost of the Project's delivered energy is lower than several other alternatives.

Q. Please explain what you mean by a levelized cost of energy analysis.

A. Levelized cost of energy ("LCOE") analysis is the best financial technique to compare different generation sources. LCOE analysis takes into account all costs of generating electricity, including capital costs, operating costs, taxes, the cost of debt, the return on equity, any available subsidies, and necessary transmission additions. The analysis produces a levelized cost per unit of energy that is a proxy for a power purchase agreement that a utility would enter into, or the cost for a utility to own and operate a generation asset.

LCOE allows the comparison of different alternatives using a single analytical method. Some alternatives may have higher initial capital costs, while other alternatives may have higher ongoing operating or fuel costs. A levelized cost analysis condenses all the costs of a given alternative in a single figure, which facilitates the comparison of different alternatives. In addition, it is possible to run sensitivities on different input variables to test the conclusions of a levelized cost analysis.

Q. How is your levelized cost of energy analysis of different generation alternatives relevant to the findings the Commission must make to grant a CCN?

A. First, because the Project's delivered energy is cheaper than other ways to meet the Missouri RES and to source electricity, Missouri consumers will benefit. A lower cost of RES compliance will result in Missourians paying lower electric rates. Inexpensive generation alternatives offering clean, renewable energy promote the public interest.

Second, because the Project's delivered cost of energy is lower than alternative ways to meet demand, the Project is economically feasible. Wind generators in western Kansas or load serving entities in Missouri will be able to pay the Project's transmission charge and still deliver energy to Missouri at an attractive price.

Third, because the Project is the lowest-cost way to meet the Missouri RES and other electric demand, the Project is needed to provide the transmission service in order to meet the goals of the RES and to serve the public. Missouri citizens explicitly endorsed clean energy in passing the RES. Further, the cost cap within the RES makes it clear that *low-cost* renewable energy is required.

Q. What accounts for the low levelized cost of the Grain Belt Express Project?

A. The single most important reason is the extremely competitive cost to produce wind energy in western Kansas, which I estimate at 2.0-2.5 cents per kWh (or $20-25 per MWh) flat. Since there is no inflation factor or fuel cost for wind energy, this price will not rise over time. Based on my experience in developing and building wind farms around the United States, I can confirm that the western Kansas region produces wind-generated electricity at a cost as low as or lower than any other region of the country.

Q. Have you independently confirmed the price of generating wind energy in western Kansas?

A. Yes. In January 2014, the Company completed a Request for Information ("RFI") to wind generators that can supply energy to the Project's converter station in western Kansas. The response to the RFI included 14 wind developers developing 26 wind farms totaling more than 13,500 MW. All of these wind farms can buy service on the Grain Belt Express Project or sell power to load serving entities that purchase service on the Project. As part of their responses, generators provided indicative power purchase agreement pricing, which is their own calculation of their levelized cost of energy. The lowest-priced 4,000 MW of new wind generation was an average of 2.0 cents per kWh flat for 25 years.

Q. Why is it so inexpensive to generate wind power in western Kansas?

A. Western Kansas possesses an excellent wind resource that is among the country's best. Attached as Schedule DAB-2 is a wind map of the United States prepared by the National Renewable Energy Laboratory ("NREL"), a federal research laboratory that operates under the direction of the U.S. Department of Energy, and AWS Truepower, a leading meteorology firm. As is evident from the wind map, western Kansas has some of the highest wind speeds in the country—routinely between 8.5-9.0 meters per second at 80 meters above the ground, the hub height of a modern wind turbine. The map demonstrates that average wind speeds in western Kansas are substantially higher than in Missouri, Illinois, Indiana and other states to the east of Kansas that will be served by the Project. By way of confirmation, Grain Belt Express RFI respondents reported an average wind speed of 8.75 meters per second at 80 meters above the ground.

Higher wind speeds lead to a higher capacity factor, meaning that the wind generator runs at a higher average percentage of its maximum power output. For example, a wind turbine with a 2 MW capacity rating can produce a maximum of 2 MW of power under ideal circumstances. The actual power produced varies with wind speed. A wind turbine might produce at a portion of its maximum output if the wind speed at its hub height is 8.0 meters per second ("m/s"). The same turbine might produce at its full power rating with a wind speed of 15.0 m/s and might produce no power with a wind speed of 4.0 m/s.

Even small differences in wind speed have important consequences for the amount of power produced. The kinetic power potential of wind varies with the cube of the wind velocity; in other words, the power potential varies proportionally to the wind velocity raised to the third power. Consequently, an 8.8 m/s average wind speed site will have, other things being equal, 1.99 times the power potential of a 7 m/s site. This effect substantially reduces the cost of wind energy produced by facilities located in areas with higher average wind speeds. As more energy is produced by a wind turbine, the unit cost of energy decreases, since the upfront capital cost and operating costs can be recovered over a larger number of MWh.

Q. Are there any other factors responsible for the low cost to produce wind energy in western Kansas?

A. Yes. The State of Kansas offers two tax incentives, a property tax exemption and a sales tax exemption, that reduce the tax burden on generators in western Kansas and allow them to produce energy at lower cost. Further, construction costs in Kansas are lower than in many other regions of the country. According to a U.S. DOE study, the average

Exhibit A

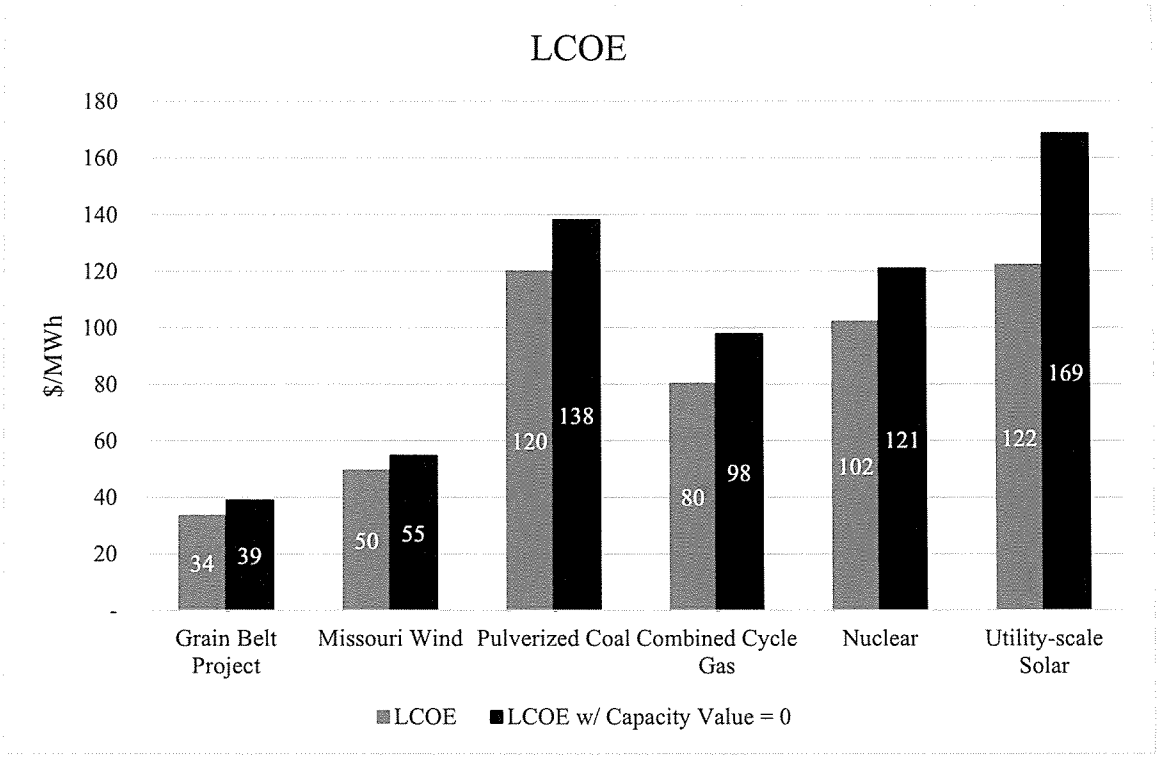
construction cost of a wind farm in the Interior region of the United States that includes western Kansas was $1,760 per kilowatt ("kW") installed, compared to a national average of $1,940 per kW.[1] This lower construction cost is consistent with my own experience and the experience of other members of the Grain Belt Express management team in constructing wind farms in many different regions in the country. Because of these advantages, western Kansas wind farms can generate electricity at a lower cost than wind farms located farther east in Missouri, Illinois, Indiana, and other target markets for the Grain Belt Express Project.

Q. What are the conclusions of your levelized cost analysis?

A. The Grain Belt Express Project is economically feasible because its total delivered cost of energy is less than other alternatives to meet state RPS or other alternatives to generate electricity generally. The cost of delivered energy is equal to the cost to generate wind energy in western Kansas (2.0-2.5 cents) plus the cost to move power on the Grain Belt Express Project, which we estimate at 1.5-2.0 cents per kWh. Based on my LCOE analysis, the Project's all-in cost of 3.5-4.5 cents per kWh is cheaper than building wind farms locally in Missouri or other less windy states east of Kansas; it is cheaper than solar, coal and nuclear power; and it is fully cost-competitive with a new natural gas power plant. These results are shown below:

[1] Lawrence Berkeley National Laboratory, 2012 Wind Technologies Market Report ("2012 Wind Report"), p. 36, http://www.windpoweringamerica.gov/pdfs/2012_annual_wind_market_report.pdf (last accessed on Feb. 26, 2014).

Exhibit A



Two levelized cost comparisons are presented in this chart. The black bars reflect just the cost of generating energy. They do not account for the capacity value of a resource, or the ability to supply electricity with certainty during times of peak demand on the grid. The gray bars, on the other hand, show the results adjusted for each generation technology's capacity value.[2] While capacity value benefits dispatachable generation like gas and coal more than the Project's delivered wind energy, the Grain Belt Project's delivered energy remains the lowest cost option. Schedule DAB-3 contains a complete list of assumptions underlying this analysis, along with sources for these assumptions.

[2] For the wind and solar technologies, capacity value is estimated by using MISO and NREL's estimates respectively. For gas, coal and nuclear, the capacity value was assumed to be equal to one minus the forced outage rate based on national data. The value ascribed to dependable capacity is the annual cost, as estimated by the U.S. Energy Information Administration ("EIA") of operating a simple-cycle combustion turbine, which is the cheapest form of peaking generation. See Schedule DAB-3 for more detail.

Q. Does your levelized cost of energy analysis take account of the fact that wind generation does not produce all the time?

A. Yes. As noted above, my analysis includes the different capacity values attributed to wind, gas and solar resources. These different values reflect the expected contributions of the different generation technologies during times of peak demand. Further, my analysis includes an adjustment to the value of energy based on the Missouri hourly energy prices modeled by Company witness Gary Moland (Director of Power Markets & Transmission Analysis at DNV GL), as described in his direct testimony. Together, these adjustments assure that wind generation delivered by the Project is fairly evaluated against other, non-variable energy resources.

Q. Why is the Grain Belt Express Project's delivered cost of energy lower than generating wind energy in Missouri?

A. The main cost advantages are the higher wind speeds and the plentiful sites for wind development in western Kansas. As evident in Schedule DAB-2, which is a wind map of the Unites States, only the very northwest corner of Missouri has average wind speeds between 7.0-7.5 meters per second—about 1.5 meters per second less than in western Kansas. Further, building a substantial number of wind farms in this relatively unpopulated corner of the state would require a substantial expansion of Missouri's transmission infrastructure. Because this wind resource area is not located in the MISO footprint, Ameren Missouri and any other MISO participants in Illinois would have to pay an additional transmission charge to access that resource using the SPP transmission system.

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, Control, Manage, Operate and Maintain a High Voltage, Direct Current Transmission Line and an Associated Converter Station Providing an Interconnection on the Maywood 345 kV Transmission Line	)))))))	Case No. EA-2014-0207

AFFIDAVIT OF DAVID BERRY

STATE OF Texas)
) **ss**
COUNTY OF Harris)

David Berry, being first duly sworn on his oath, states:

1. My name is David Berry. I am Executive Vice President – Strategy and Finance of Clean Line Energy Partners, LLC.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Grain Belt Express Clean Line LLC consisting of 53 pages, having been prepared in written form for introduction into evidence in the above-captioned docket.

3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.

David Berry

Subscribed and sworn before me this 25 day of March 2014.

Notary Public

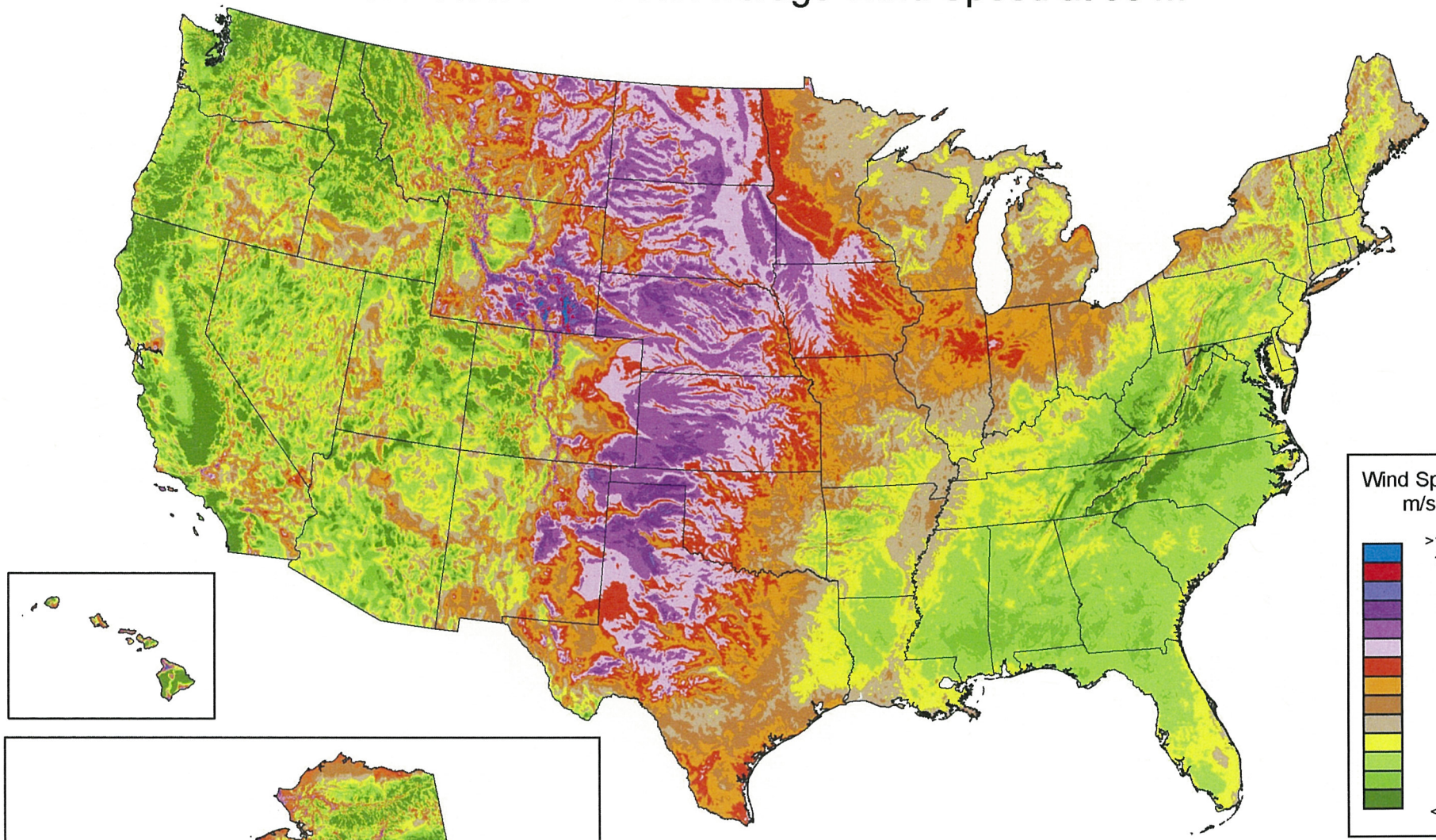
My commission expires: 7-22-2015

JUDY BLANKENSHIP
Notary Public, State of Texas
My Commission Expires
July 22, 2015

81996307-V-1

Exhibit A

United States - Annual Average Wind Speed at 80 m



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

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Exhibit A