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 345kV transmission line.	)	Case No. EA-2016-0358

APPLICATION OF GRAIN BELT EXPRESS CLEAN LINE LLC
FOR A CERTIFICATE OF CONVENIENCE AND NECESSITY

Grain Belt Express Clean Line LLC ("Grain Belt Express" or "Company"), pursuant to Section 393.170.1,[1] 4 CSR 240-2.060 and 4 CSR 240-3.105(1)(B), submits this Application to the Missouri Public Service Commission ("Commission") for a certificate of convenience and necessity ("CCN") authorizing it to construct, own, operate, control, manage, and maintain electric transmission facilities within Buchanan, Clinton, Caldwell, Carroll, Chariton, Randolph, Monroe and Ralls Counties, Missouri, as well as an associated converter station in Ralls County, and waiving certain reporting requirements of 4 CSR 240-3.145, 3.165, 3.175 and 3.190.

In support of this Application, Grain Belt Express states as follows:

I. Overview and New Facts

1. Grain Belt Express requests that the Commission grant a line CCN authorizing the Company to construct, own, operate, control, manage, and maintain in Missouri:

[1] All statutory references are to the Missouri Revised Statues (2000), as amended, unless otherwise noted.

(a) approximately 206 miles of a high voltage, direct current ("HVDC") transmission line that will traverse the state from Kansas into Illinois and Indiana, and

(b) an associated converter station in Ralls County, Missouri and alternating current ("AC") interconnecting facilities, including an AC switching station and related AC transmission lines.

The HVDC transmission line and the converter station facilities are an inter-regional transmission project that will span the footprints of three regional transmission organizations ("RTOs"): Southwest Power Pool, Inc. ("SPP"), Midcontinent Independent System Operator, Inc. ("MISO"), and PJM Interconnection, LLC ("PJM"). The Grain Belt Express transmission project ("Grain Belt Express Project" or "Project") will provide economic and reliability benefits by delivering low-cost, wind-generated energy from western Kansas to load and population centers in Missouri and other states in the region.

2. Grain Belt Express has received the approval of the regulatory utility commissions of Kansas, Illinois and Indiana to proceed with the Project, as more fully described in Section V(F). Missouri is the only remaining state in which Grain Belt Express must obtain the approval of a regulatory utility commission.

3. Grain Belt Express files this Application in light of new and additional facts that demonstrate there is a need for the project, and that it is both economically feasible and in the public interest. This Application is submitted, consistent with the guidance provided by the Commission in its July 1, 2015 Report and Order in Case No. EA-2014-0207 ("2014 Case"), where it denied the Company's request for a CCN by a 3-2 vote. The Commission stated that if

Grain Belt Express "gathers information it feels would make a better case for this project or a new project," it "has the option to file a new application for a CCN."[2]

4. The Company has achieved numerous milestones since its previous application, most significantly entering into a Transmission Service Agreement with the Missouri Joint Municipal Electric Utility Commission which has agreed to purchase 225 MW of capacity from the project, as described more fully in Section III(A).

5. In addition to the Transmission Service Agreement, Grain Belt Express has advanced the Project in other significant ways, including:

a. Entering into an HVDC Transmission Line Development Agreement with Quanta Services, Inc. ("Quanta"), under which it is providing development support, construction review, and engineering services for the Project. The Development Agreement also contemplates that Quanta will enter into a contract to serve as the engineering, procurement and construction ("EPC") contractor for the Project. Quanta has specified that its affiliate, PAR Electrical Contractors, Inc. ("PAR Electric"), will lead the construction of the Project. PAR Electric is headquartered in Kansas City, Missouri.

b. Offering up to 500 MW of bi-directional service from the Missouri converter station to PJM, of which MJMEUC has agreed to purchase 25 MW, with an option for another 25 MW. This service will allow Missouri utilities an additional means to earn revenue from off-system sales of excess power. Previously, Grain Belt Express had only offered

[2] Report & Order at 27, n.91, In re Grain Belt Express Clean Line LLC, No. EA-2014-0207 (2015).

transmission service from the Project's Kansas converter station to Missouri.

c. Developing a Construction Plan that outlines the scope, methods, durations, and resources required to construct the Project.

d. Preparing a more detailed compliance plan, consistent with North American Electric Reliability Corporation ("NERC") standards and certification requirements for transmission operators.

e. Advancing the interconnection process with SPP, which includes completing the necessary studies to sign an Interconnection Agreement with SPP and ITC Great Plains, LLC.

f. Receiving a certificate of public convenience and necessity on November 12, 2015 from the Illinois Commerce Commission, as described in Section V(F).

g. Adding Bluescape Resources Company, LLC ("Bluescape") as an investor in Clean Line Energy Partners LLC ("Clean Line"), the ultimate parent of Grain Belt Express. Bluescape is a private equity firm that is providing capital to be used for the development of the Project, as well as Clean Line's other transmission projects.

h. Conferring with the Staff of the Commission regarding appropriate inputs to production cost modeling of the wholesale power market impacts of the Project.

i. Revising certain aspects of the Proposed Route of the Project as a result of comments by landowners and others collected during public outreach sessions in 2016, as well as during the 2014 Case.

j. Establishing a Landowner Protocol that recognizes and respects the interests of landowners. The Landowner Protocol provides landowners with the ability to elect binding arbitration to determine easement compensation.

k. Performing updated county-wide market data studies with more recent land valuation information to determine the average per acre value for specific land types in each county. The updated market studies will set a current basis for the easement payments from Grain Belt Express to landowners.

l. Creating a decommissioning fund to be used in the remote event that Grain Belt Express must dismantle, demolish or remove all of the Project's facilities and structures.

m. Developing a Missouri Agricultural Impact Mitigation Protocol to avoid, minimize and mitigate impacts to cropland and other agricultural resources in Missouri.

6. Grain Belt Express is a limited liability company organized under the laws of the State of Indiana and is qualified to conduct business in the State of Missouri for the purpose of carrying on any lawful business purpose allowed under Missouri law, which includes constructing, owning, operating, managing and maintaining electric transmission facilities. Copies of its certificate of formation and its authorization to do business in Missouri as a foreign-chartered limited liability company are attached as **Exhibit 1**, pursuant to 4 CSR 240-2.060(1)(C). The principal office and place of business of Grain Belt Express is located at 1001 McKinney Street, Suite 700, Houston, Texas 77002.

7. If the Commission grants a CCN to Grain Belt Express, it will be a privately-held electrical corporation, similar to other public utilities that have received certificates from the Commission under Section 393.170.[3]

8. Grain Belt Express is a wholly owned subsidiary of Grain Belt Express Holding LLC, a Delaware limited liability company, which is a wholly owned subsidiary of Clean Line, a Delaware limited liability company. The primary owners of Clean Line are GridAmerica Holdings, Inc. ("GridAmerica"); Clean Line Investor, LLC; and Clean Grid Holdings, LLC.

9. GridAmerica is a subsidiary of National Grid USA, which is a subsidiary of National Grid plc. National Grid plc and its affiliates are one of the largest investor-owned utility companies in the world and have extensive experience building, owning and operating transmission networks in the United States and the United Kingdom. National Grid USA delivers electricity to more than three million customers in Massachusetts, New York and Rhode Island.

10. Clean Line Investor, LLC is a subsidiary of ZAM Ventures, LP, which focuses on long-term investments in the energy sector.

11. Clean Grid Holdings, LLC is a subsidiary of Bluescape, which manages investments in the energy industry, primarily in the United States. The management of Bluescape has substantial experience in the field of electric transmission.

12. Pursuant to 4 CSR 240-2.060(1)(K) and (L), Grain Belt Express states that it has no pending actions or final unsatisfied judgments or decisions against it from any state or federal agency or court that involve customer service or rates having occurred within three years from

[3] See Missouri Pub. Serv. Co. v. Platte-Clay Elec. Coop., 407 S.W.2d 883, 887 (Mo. 1966) (Missouri Public Service Company is "a privately owned public utility rendering electric service in Kansas City and other areas of Missouri …."). The Commission has issued a CCN to other private corporations, including Summit Natural Gas of Missouri, Inc. (a subsidiary of Summit Utilities, Inc.) and Raytown Water Company.

the date of this Application. Grain Belt Express has no annual reports or assessment fees that are overdue.

13. All pleadings, notices, orders and other communications and correspondence regarding this Application and proceeding should be directed to the undersigned counsel.

II. The Grain Belt Express Project

14. The Grain Belt Express Clean Line Project is an approximately 780-mile, overhead, multi-terminal ±600 kilovolt ("kV") HVDC transmission line ("HVDC Line") and associated facilities that will collect over 4,000 megawatts[4] ("MW") of low-cost, wind-generated power in western Kansas. The Project will deliver 500 MW into Missouri and 3,500 MW into Illinois, Indiana and states farther east. The Grain Belt Express Project will foster the construction of thousands of MWs of new wind generation facilities in Kansas by connecting that state's abundant, high capacity factor and affordable wind resource with the large and growing market for cost-effective, renewable energy in Missouri and other states in the region. In addition, the Missouri converter station will have bi-directional functionality, allowing Missouri utilities the opportunity to sell up to 500 MW of excess power into the energy markets operated by PJM. The additional revenue from these off-system sales can be used to reduce the cost of electricity for the end-use customers of these Missouri utilities.

15. Grain Belt Express estimates that the total cost of the Project will be approximately $ 2.35 billion,[5] with $ 525 million[6] of this estimate attributable to the portion of

[4] The capacity of the wind farms is likely to be slightly higher than the maximum delivery capacity of the line for two reasons. First, electric losses along the line mean that less power will be delivered to MISO and PJM than is converted in Kansas. Second, because multiple wind farms rarely produce at their maximum output simultaneously, additional wind farm capacity above 4,000 MW can increase the utilization of the line and, therefore, reduce the delivered cost of energy.

[5] This figure does not include the cost of network upgrades required to interconnect the Project to the electric transmission grid, which are estimated to be $550 million.

[6] This figure does not include the cost of network upgrades required to interconnect the Project to the transmission grid in Missouri, which is estimated to be $5-10 million.

the Project to be located in Missouri. Grain Belt Express will pay for the costs of the development, construction and operation of the Project, and will recover these costs by selling transmission service to wind generators and load-serving entities that use the line. Because Grain Belt Express will employ a participant-funded or "shipper pays" model, the cost to construct the Project will not be borne by load-serving entities or their ratepayers through the cost allocation processes of SPP, MISO or PJM. As a result, Missouri ratepayers will bear no risks related to the construction of the Project.

16. The Federal Energy Regulatory Commission ("FERC") has granted negotiated rate authority to Grain Belt Express to charge transmission service rates to direct users of the Project.[7] FERC oversees the Company's on-going process for allocating transmission capacity in a non-discriminatory manner. When completed, the Project will provide wholesale electric transmission service, which will not be subject to rate base, rate-of-return regulation by any state utility commission.

17. The Grain Belt Express Project will extend approximately 370 miles from near Dodge City, Kansas to the Kansas-Missouri border, where it will cross the Missouri River and continue approximately 206 miles through Missouri. It will then proceed approximately 200 miles in Illinois, and will finally interconnect with the Sullivan 765 kV substation in southwestern Indiana, near the Illinois/Indiana border.

18. The Project will have three converter stations. One converter station will be located in western Kansas, where new wind generating facilities will connect to the Project via AC lines. The two other converter stations in eastern Missouri and eastern Illinois, respectively,

[7] Grain Belt Express Clean Line LLC, Order Conditionally Authorizing Proposal and Granting Waivers, 147 FERC ¶ 61,098, No. ER14-409-000 (May 8, 2014).

will deliver electricity to the AC grid through interconnections with transmission owners in the systems of MISO and PJM.

19. In Missouri, Grain Belt Express proposes to construct the approximately 206-mile portion of the HVDC Line on a route that crosses the Missouri River south of St. Joseph and continues across the state in an easterly direction to south of Hannibal in Ralls County, where the HVDC Line will cross the Mississippi River into Illinois.

20. The Company proposes to construct a converter station and associated AC interconnecting facilities in Ralls County.

21. The Project will interconnect with the Ameren Missouri system in Ralls County along the Maywood-Montgomery 345 kV AC transmission line, which connects the Maywood 345 kV substation in Marion County with the Montgomery 345 kV substation in Montgomery County. This connection will be made via a single 345 kV circuit line from the converter station to a new AC switching station tapping the Maywood-Montgomery transmission line. The Missouri portion of the HVDC Line ("Missouri HVDC Line"), the converter station in Ralls County, and the associated AC transmission and interconnection facilities are referred to here as the "Missouri Facilities."

22. Grain Belt Express seeks a line CCN authorizing it to construct, own, operate, control, manage and maintain the Missouri Facilities. Attached as **Exhibit 2** is a description of the proposed route of the Missouri Facilities, including the Missouri HVDC Line ("Proposed Route") and the proposed site for the converter station. Grain Belt Express requests that the CCN issued by the Commission permit the construction of the Missouri HVDC Line in accordance with the Proposed Route, allowing for reasonable flexibility in the placement of the line's final route that may be required to address environmental, landowner, engineering and other considerations.

III. Granting a CCN for Grain Belt Express to Construct, Own, Operate, Control, Manage and Maintain the Missouri Facilities is Necessary or Convenient for the Public Service

23. The Missouri Facilities meet the statutory standard for approval set forth in Section 393.170, which gives the Commission the power to authorize the construction of electric plant in Missouri that is "necessary or convenient for the public service." The Commission generally applies the five criteria known as the Tartan factors in CCN cases[8]: (1) there must be a need for the service the applicant proposes to provide; (2) the applicant's proposal must be economically feasible; (3) the applicant must have the financial ability to provide the service; (4) the applicant must be qualified to provide the proposed service; and (5) the proposed service must be in the public interest. The Grain Belt Express Project meets each of these standards and is, therefore, necessary or convenient for the public service.

A. Need for the Service

24. Grain Belt Express has entered into a 225 MW Transmission Service Agreement, dated as of June 2, 2016, with the Missouri Joint Municipal Electric Utility Commission ("MJMEUC") which represents load-serving entities in Missouri. MJMEUC is a joint action agency authorized under Section 393.700, et seq. to operate as an electric utility for the benefit of Missouri municipal and cooperative electric utilities. Today MJMEUC has 67 members who serve approximately 347,000 retail customers and have a combined peak load of over 2,600 MW.

25. Of MJMEUC's total 225 MW transmission service, 200 MW is for service from Kansas to Missouri. In addition, MJMEUC has agreed to purchase 25 MW of capacity (with the option to purchase another 25 MW) for service from Missouri into PJM. MJMEUC estimates

[8] In re Entergy Arkansas, Inc., No. EA-2012-0321, Order Granting Certificate of Convenience and Necessity at 2 (July 11, 2012), citing In re Tartan Energy Co., 3 Mo. P.S.C.3d 173, 1994 WL 762882, No. GA-94-127 (1994). See State ex rel. Intercon Gas, Inc. v. PSC, 848 S.W.2d 593, 597-98 (Mo. App. W.D. 1993).

that its purchase of 200 MW from the Project will save its members $10 million annually, compared to alternative transmission service that could deliver wind energy to MJMEUC customers. Under the Transmission Service Agreement, Grain Belt Express will provide MJMEUC and its members with a steady supply of the most cost-effective electricity available, which is cheaper than the cost of alternative sources, whether renewable or non-renewable. The arrangement also reduces congestion risk because the delivery point for the power generated in western Kansas is in eastern Missouri near MJMEUC's load. The Transmission Service Agreement will reduce costs for MJMEUC customers, broaden MJMEUC's resource mix, and enable cost-effective compliance with present and future federal environmental regulations.

26. In addition, MJMEUC's purchase of 25 MW of transmission service (with an option to purchase an additional 25 MW) from Missouri to the PJM energy markets on the Grain Belt Express Project could allow MJMEUC to earn additional revenue from excess generation. This revenue can be used to offset other MJMEUC costs and, ultimately, to benefit MJMEUC's retail customers.

27. The open access transmission service to be offered by Grain Belt Express will allow Missouri utilities to meet the requirements of Missouri's Renewable Energy Standard ("RES") set forth in Section 393.1020, et seq., as well as the renewable portfolio standard ("RPS") requirements of other states served by the MISO and the PJM energy markets. Approximately 12-15 million megawatt hours ("MWh") per year of renewable electricity will be needed by 2021 for Missouri's investor-owned utilities to meet their RES requirements. The access to wind power provided by the Project will help to fulfill the objectives and requirements of the RES.

28. Because the Project can supply Missouri with 2.2-2.6 million MWh per year of renewable energy, and is capable of delivering 500 MW of power to the grid in Missouri at any

one time, it will meet the needs of other municipal and cooperative utilities that are not subject to Missouri's RES requirements. The Project also responds to the needs expressed by major commercial and industrial businesses that have adopted clean energy policies and supply targets.

29. Other states in the MISO and PJM regions also need access to low-cost renewable wind generation to fulfill their RPS requirements. Similar to Missouri's RES, RPS mandates and goals in these other states have been adopted as a result of public demand for cleaner sources of energy. Low-cost wind generation will fulfill these requirements in an economical and efficient manner. The Project will also fulfill the needs being created by the national trend toward renewable energy and a more diversified mix of energy resources.

30. Load-serving entities and other buyers will be able to purchase capacity from Grain Belt Express in order to benefit from low-cost wind generation in Kansas, which has high wind speeds and plentiful sites for wind development in the western part of the state. These load-serving entities and buyers will also be able to purchase the renewable energy delivered to the MISO and PJM systems. The Project will deliver low-cost renewable wind generation that will save consumers in Missouri and other states hundreds of millions of dollars compared to other more expensive sources of generation. Consequently, the Project will offer customers participating in the MISO and PJM energy markets access to low-cost Kansas wind energy that today is not readily available to them because of a lack of transmission infrastructure.

31. The capacity factors of Kansas wind are far superior to that of Illinois, Missouri and Iowa. The Project is designed to transmit renewable wind power to the converter stations in Missouri and eastern Illinois, unimpeded by the congestion that characterizes the grid between existing wind resources and the central region of MISO, including Missouri. In addition, the Missouri converter station will have bi-directional functionality, allowing Missouri utilities the opportunity to sell up to 500 MW of their excess power in the PJM energy markets.

32. During the first quarter of 2015, Grain Belt Express initiated an open solicitation process for customers to subscribe for capacity on the Project, pursuant to FERC requirements. To date, eleven shippers submitted 3,524 MW of requests for capacity to the Project's 500 MW delivery point in Missouri, or more than six times the available capacity of that point. The results of this open solicitation demonstrate a strong need for the new service that the Project will provide.

B. Economic Feasibility

33. The HVDC technology of the Grain Belt Express Project is the most cost-effective and efficient way to move large amounts of renewable energy over a long distance. High capacity factor wind generation from western Kansas is the cheapest form of renewable energy in the United States, and the Project's delivered energy cost to Missouri and neighboring states, including the cost of transmission, will be cheaper than alternatives to meet the demand for both renewable and non-renewable energy.

34. As noted above, the response to the Company's 2015 open solicitation process indicated a substantial interest by potential customers to subscribe for capacity on the Project. The extension of the renewable energy production tax credit[9] by Congress in December 2015 will further spur the development of wind facilities that will likely result in continued advances in wind turbine technology, higher wind capacity factors, lower production costs, and decreased prices to consumers. Because the Grain Belt Express Project will build a bridge between untapped, low-cost wind resources in western Kansas and the demand for renewable energy in Missouri and other states in the region, it is economically feasible.

[9] See Internal Revenue Code § 45(a)(5), (d)(1), 26 U.S.C. § 45 (2015).

35. Grain Belt Express has advanced the interconnection process with SPP, which includes completing the necessary studies to sign an Interconnection Agreement with SPP and ITC Great Plains, LLC. As an interregional transmission project that is consistent with the goals of FERC Order 1000,[10] the Grain Belt Express Project is entering the final phases of interconnection studies and agreements in the MISO and PJM regions.

36. Grain Belt Express and its investors will assume all of the financial risk of the Project, including any cost overruns. Once the Project reaches the point of beginning construction, it will be financed at the project level against the strength of its future, contracted revenues.

C. Financial Resources

37. The current development efforts of the Project are being financed by equity investors GridAmerica, ZAM Ventures and Bluescape, as described above. In order to finance the Project over the longer term, the Company will rely on revenue from contracts with transmission service customers like MJMEUC who purchase capacity on the HVDC Line. Project finance is a viable financing mechanism that is commonly used for electric generation projects, natural gas pipelines and other electric transmission projects. In the 2014 Case the Commission found that the Company met its burden of proof regarding its financial ability to provide the service it proposed.[11]

38. In the 2014 Case, the Staff of the Commission recommended the following financing conditions: Grain Belt Express will not install transmission facilities on easement property until (1) it has obtained commitments for funds in an amount equal to or greater than

[10] Order 1000, *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, F.E.R.C. Stats. & Regs. ¶ 31,323, 76 Fed. Reg. 49,842 (2011). Challenges to Order 1000, as clarified and reaffirmed in Orders 1000-A and 1000-B, were unsuccessful. South Carolina Public Serv. Auth. v. FERC, 762 F.3d 41 (D.C. Cir. 2014).

[11] Report & Order at 21, In re Grain Belt Express Clean Line LLC, No. EA-2014-0207 (2015).

the Project costs, and (2) the contracted transmission service revenue is sufficient to service the debt financing of the Project, taking into account any planned refinancing of debt. The Company accepted these conditions in the 2014 Case, and will accept them in this proceeding should the Commission grant this Application.

D. Qualifications

39. The management team of Grain Belt Express has extensive experience developing, constructing and operating a variety of energy infrastructure projects. The Company will also rely on the substantial expertise of its principal strategic investor GridAmerica and its affiliates, which comprise one of the largest investor-owned utilities and most experienced transmission operators in the world. The Kansas Corporation Commission, the Indiana Utility Regulatory Commission, and the Illinois Commerce Commission have each affirmed the Company's qualifications to construct, finance, and operate the Project. In the 2014 Case the Commission found that the Company met its burden of proof regarding its qualifications to provide the service it proposed.[12]

E. Public Interest

40. The Grain Belt Express Project will serve the public interest of Missouri and the surrounding region in many ways.

41. *Low-Cost Energy.* The Project will offer low-cost Kansas wind energy to customers in Missouri, as well as others in the MISO and PJM energy markets that is not readily available to them today because of the lack of transmission infrastructure. Continuing improvements in wind turbine technology and the recent extension of the wind energy production tax credit, coupled with the increasing ability of RTOs to manage the dispatch of

[12] Id.

wind generation combine to make the Project's service economically attractive to customers. The decision by MJMEUC to agree to purchase 200 MW of transmission service from Kansas to Missouri in order to provide low-cost wind energy from the Project is expected to save its members $10 million annually. The Project will reduce wholesale electricity prices and the cost to serve load in Missouri and neighboring states which, in turn, can be passed on to end-use customers. Recent production cost studies conducted on behalf of the Company confirm this.

42. *Renewable Energy.* Because the Project will deliver renewable wind energy, it will provide load-serving entities with a cost-effective way to meet Missouri's RES requirements, current and potential federal and state emissions mandates, as well as the growing consumer demand for renewables. By delivering over 18 million MWh of clean energy each year, the Project will decrease reliance on fossil-fueled power plants, which will reduce emissions of carbon dioxide, sulfur dioxide, nitrogen oxides and mercury, as well as decrease the use of water to cool thermal power plants. The Project will meet the needs of municipal and cooperative utilities that are not subject to Missouri's RES requirements, and respond to requests by major commercial and industrial businesses that have adopted clean energy supply targets.

43. *Low Compliance Costs.* In 2015 the U.S. Environmental Protection Agency issued its rule entitled "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units," 80 Fed. Reg. 64,662 (Oct. 23, 2015), codified at 40 C.F.R. Part 60 and known as the Clean Power Plan. Under the rule's mass-based compliance option, Missouri must achieve by 2022 an interim emission goal of 500,555,464 short tons of carbon dioxide, a carbon reduction of approximately 20%. Under the rate-based option, it must achieve an interim emission goal of 1,490 pounds of carbon dioxide per net MWh, a carbon reduction of

approximately 26%.[13] On February 9, 2016, the Supreme Court of the United States stayed the effect of the rule pending disposition of the petitions for review now before the U.S. Court of Appeals for the District of Columbia, and any petition for a writ of certiorari.[14] If the Clean Power Plan is upheld by the courts, the Grain Belt Express Project will provide the most efficient, low-cost and beneficial means overall for electric utilities in Missouri to comply with its requirements. Although Missouri's state compliance plan is currently on hold, if the Clean Power Plan becomes effective, low-cost renewable power from the Project will provide a public benefit.

44. Apart from the Clean Power Plan, existing environmental regulations that are not subject to a judicial stay regulate sulfur dioxide, nitrous oxide, mercury, cooling water, particulate matter, and other power plant emissions. The Project will permit load-serving entities in Missouri to comply with these regulations at a reasonable cost.

45. *Economic Benefits.* The Project will bring significant economic benefits to Missouri, according to a June 2016 study conducted by the Missouri Economic Research and Information Center (MERIC) of the Department of Economic Development. The construction of the Grain Belt Express Project will create over 1,500 jobs in Missouri during the construction phase, with an estimated $246 million in new personal income and $476 million in new gross domestic product. During its first year of operation, the Project will support over 90 jobs, which is expected to produce $17.9 million in new personal income and $9.1 million in new gross domestic product. Thereafter, the Project is expected to support as many as 28 permanent jobs in Missouri, with $2.6 million in new personal income and $4.2 million in new gross domestic product. Most of the major suppliers for the Project are headquartered in or operate

[13] See Tables 2-3 to Subpart UUUU, 40 C.F.R. Part 60, Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (Oct. 23, 2015).
[14] West Virginia v. Environmental Protection Agency, 136 S. Ct. 1000 (2016).

manufacturing plants in Missouri. When completed, the Project's Missouri Facilities will provide an additional source of new property tax revenues to the political subdivisions where the facilities are located. The estimated increase in annual property taxes for the eight counties that the Project will cross exceeds $7.2 million. These additional taxes will benefit school districts, fire districts, public libraries, and health and ambulance services.

46. *Business Model.* The Company was established to become an efficient, low-cost transmission supplier of renewable energy that provides a valuable public service to its customers at a price set by the free market. Grain Belt Express will not rely on the regulated monopoly business model that has characterized public utility regulation for the past hundred years. This is in contrast to the majority of the companies regulated by this Commission that were organized as private corporations to provide a public service under a legal system that granted them quasi-monopoly status coupled with an obligation to serve captive retail customers.

47. Grain Belt Express is based on an entirely different business model. It is a participant-funded, "shipper pays" transmission line whose services will be provided to the wholesale energy market at freely negotiated rates. Its costs will not be recovered through an RTO cost allocation process overseen by FERC.[15] All of the benefits of the Project's service will be made available to the public without broadly charging transmission costs to load-serving entities or their customers. Only the users of the HVDC Line will pay for the costs of the Project. If the Project is not built, no ratepayer will bear any of its costs.

48. *Reliability.* The Missouri Facilities include a converter station to interconnect with Ameren's Maywood-Montgomery 345 kV transmission line. This interconnection will

[15] FERC has stated: "Commission precedent distinguishes merchant transmission projects from traditional public utilities in that developers of merchant projects *assume all of the market risk of the project* and *have no captive customers* from which to recover the cost of the project." Grain Belt Express Clean Line LLC, 147 FERC ¶ 61,098, n.1 (2014) (citations omitted) (emphasis added).

enhance the reliability of the electric transmission network in Missouri by connecting geographically diverse parts of the electric grid and by providing a new source of electricity for Missouri.

49. *Interregional Infrastructure Benefits.* The Project is consistent with the goals and objectives of FERC Order 1000, and addresses the current lack of interregional transmission development between SPP, MISO and PJM. Despite FERC's efforts, RTOs have not yet developed effective protocols for such interregional development because of different planning criteria and assumptions, as well as different cost allocation methodologies. Interregional projects are beneficial as they will provide a market for power produced in one area, stimulating the development of generation, and will increase the supply of power in another area, exerting downward pressure on wholesale and retail prices.

50. Interregional transmission projects will also provide operational and reliability benefits by providing a path to import power during an emergency or when local intermittent resources are unavailable. HVDC projects like the Grain Belt Express are valuable during transmission outages because converters control the flow of power over a line and can manage overloading if other parts of the transmission system fail.

51. The Grain Belt Express Project would be the first major interregional transmission project to connect low-cost renewable energy in SPP with load centers in MISO and PJM, in support of the reliability and economic goals of FERC Order 1000. The Project would accomplish this without Missouri or other utility ratepayers bearing any of the construction or operational expenses through RTO cost allocation.

52. *Land-Use Issues.* Grain Belt Express has adopted and will implement a Missouri Agricultural Impact Mitigation Protocol to avoid, minimize and mitigate impacts from the Project to cropland and agricultural resources in Missouri. This plan incorporates specific

mitigation actions and commitments, including the deployment of an Agricultural Inspector during the construction phase, payments to landowners for damage caused to their property, the repair of all damage caused to farms and ranches along the Project route, and the restoration of impacted soils. The Company will work closely with landowners and tenants to ensure the effective implementation of this Missouri Agricultural Impact Mitigation Protocol throughout the construction and operation of the Project.

53. There are three primary components to the compensation that Grain Belt Express will offer to landowners whose property will be subject to the Project's right-of-way: (a) an easement payment, (b) structure payments, and (c) crop or damages payments.

54. As a result of discussions with landowners, tenants, government agencies, and non-governmental organizations, 16 modifications have been made to the proposed route of the Project which are reflected in the 2016 Routing Study Addendum, attached to the Direct Testimony of Company witness James G. Puckett.

IV. Grain Belt Express Witnesses

55. Support for this filing is provided in the direct testimony of the following witnesses:

(1) Michael P. Skelly, Clean Line's President and Chief Executive Officer, and Grain Belt Express' President: Mr. Skelly provides an overview of Clean Line and the Grain Belt Express Project. He discusses the impact of the Project on the development of wind generation, the delivery of renewable energy to the transmission grid, and private investment in transmission infrastructure. He also reviews the new facts that Grain Belt Express is presenting in this case.

(2) David Berry, Clean Line's Chief Financial Officer and Executive Vice President: Mr. Berry describes the nature of the service offered by the Project, the investors in

Clean Line, the need for and the benefits offered by the Project, and the economic feasibility and financing of the Project.

(3) Dr. Wayne Galli, Clean Line's Executive Vice President – Transmission & Technical Services: Dr. Galli describes the physical and operating characteristics of the Project, the plans and schedule for construction, and potential vendor contracts. He explains the process by which wind energy will be collected in western Kansas, the Missouri converter station, as well as the status of the Company's interconnection agreements and related studies in SPP, MISO and PJM.

(4) Mark O. Lawlor, Clean Line's Director of Development for the Grain Belt Express Project: Mr. Lawlor discusses the Company's extensive public outreach activities, including contacts with local, state, and federal authorities, local businesses, and landowners prior to submitting this Application. He also describes the process that led to the selection of the Proposed Route, as well as the Company's Transmission Service Agreement with MJMEUC and the other municipalities who have expressed an interest in joining that Transmission Service Agreement. Finally, he describes the economic benefits of the Project, including the results of the economic impact analysis conducted by the Missouri Economic Research and Information Center (MERIC) of the Department of Economic Development.

(5) Deann Lanz, Clean Line's Vice President, Land: Ms. Lanz explains how the Landowner Protocol recognizes and respects the interests of landowners, including through its Code of Conduct for right-of-way acquisition agents, the Missouri Agricultural Impact Mitigation Protocol, the approach to landowner communication and negotiations (including a binding arbitration process), the landowner compensation policy, and the establishment of a decommissioning fund to dismantle and remove the Project's equipment and structures at its retirement.

(6) James G. Puckett, Manager, Geospatial Analysis & Cartography, The Louis Berger Group, Inc. ("Louis Berger"): Mr. Puckett describes the Proposed Route and discusses in detail the process undertaken to identify the proposed location of the Missouri Facilities. He sponsors the Missouri Route Selection Study, as well as the 2016 Study Addendum which describes the modifications made to the Proposed Route since the 2014 Case.

(7) Suedeen Kelly: Ms. Kelly is a former Chair of the New Mexico Public Service Commission and a former FERC Commissioner. She explains why a participant-funded business model, like the Project, is a market-driven solution to transmission expansion. She reviews the facts demonstrating that there is a need for the Project, why it is economically feasible and in the public interest, and discusses why the Project fulfills the goals of FERC Order 1000 that encourages interregional transmission projects and the resolution of inter-RTO seams issues.

(8) James Arndt, Ph.D., Merjent, Inc.: Dr. Arndt specializes in environmental permitting and land use issues related to large infrastructure projects such as electric transmission lines and pipelines. He discusses relevant industry standards, and the likely agricultural and environmental impacts of the Project. He finds that the Project will not result in significant detrimental impacts to the Missouri property that it will cross, and that the mitigation measures proposed by Grain Belt Express are consistent with standard industry practices and will effectively address any impacts that do occur.

(9) William H. Bailey, Ph.D., Exponent, Inc.: Dr. Bailey has spent the past 30 years researching and surveying evidence regarding biological, environmental and health effects associated with electric and magnetic fields ("EMF"). He concludes that the levels of static (DC) EMF and extremely low frequency EMF associated with the Project pose no known risk to human health.

(10) Thomas F. Shiflett, Quanta Services, Inc.: Mr. Shiflett, Executive Vice President of Quanta's Electric Power Division, worked for many years at its subsidiary PAR Electric in Kansas City, Missouri. He specializes in energy construction management with particular expertise in electric transmission projects. Mr. Shiflett discusses PAR Electric's role as the engineering, procurement and construction manager of the Project, and the qualifications of PAR Electric and Grain Belt Express to build the Project. He will explain how the Project will be built and how landowner relationships will be managed during and after construction. He will also describe the Company's storm and outage restoration plans.

(11) J. Neil Copeland, GDS Associates, Inc.: Mr. Copeland has experience in economic modeling and analysis of energy markets. He supervised a PROMOD economic market study of the effect of the Grain Belt Express Project on energy prices in Missouri and the MISO market, and has concluded that the Project will lower adjusted production costs, as well as demand and variable fuel costs. He testifies that this study also demonstrates that the Project will lower emissions and water consumption, and will not increase congestion on the MISO grid.

(12) Edward C. Pfeiffer, P.E., Quanta Technology, LLC: Mr. Pfeiffer explains the results of a Loss of Load Expectation analysis that he conducted, which measured the reliability impacts of the Project upon Missouri, as well as the SPP, MISO and PJM systems. He describes and quantifies the reliability benefits that the Project will provide to Missouri.

(13) Prescott Hartshorne, National Grid USA: Mr. Prescott describes the financial and operational support that National Grid USA and affiliates have provided and will continue to provide to Grain Belt Express. He explains why the Project is economically feasible, and why the Company is qualified to provide the proposed service.

(14) Wayne Wilcox, Randolph County Commission: Commissioner Wilcox states why he supports the Project, why it is in the public interest, and what benefits it will bring to Randolph County and to Missouri.

(15) Richard Trenago, Randolph County Assessor: Mr. Trenago states why he supports the Project and why it is in the public interest. He describes the increased property tax revenues that the Project will provide to Randolph County and the other Missouri counties through which the Project passes.

V. Description of the Planning and Development for the Missouri Facilities

A. Project Financing

56. Consistent with 4 CSR 240-3.105(1)(B)3, Grain Belt Express states that the Project will initially be financed with funds from Clean Line's equity investors. As long-term transmission service agreements are signed with transmission customers, project-specific financing arrangements will be entered into with lenders for debt capital secured by the revenue stream from the transmission capacity contracts. Additional infusions of capital may come from existing and/or new equity investors. These sources of capital will allow Grain Belt Express to construct the Project.

B. The Transmission Facilities

57. Consistent with 4 CSR 240-3.105(1)(B)2, the Company states that it plans to use three types of structures for the Project: lattice, lattice mast, and tubular steel monopole. The structures chosen will be based on specific conditions at particular locations or in particular segments of the Project. Most structures are expected to be between 110-to-150 feet tall, with taller structures likely required at river crossings and in certain other situations where longer span lengths are required. Schematics of these structures are illustrated in the Missouri Route Selection Study attached as Schedule JGP-1to the Direct Testimony of Mr. Puckett.

58. The converter station in Ralls County will occupy a site of approximately 40-to-65 acres, and will utilize a variety of high-voltage and low-voltage equipment with electrically conductive and insulating materials.

59. Construction of the HVDC Line will require initial clearing and continuous management of vegetation in order to maintain clearances, as well as access points in accordance with the National Electrical Safety Code ("NESC") and NERC standards. The Project and its elements will adhere to all applicable NESC requirements and will be developed based on multiple loading and ambient condition cases.

60. Grain Belt Express will comply with those provisions of 4 CSR 240-23.010 (Electric Utility Reliability Monitoring and Reporting Submission Requirements), 4 CSR 240-23.020 (Electric Corporation Infrastructure Standards), and 4 CSR 240-23.030 (Electrical Corporation Vegetation Management Standards and Reporting Requirements) that are relevant to the Company's operations as an electrical corporation that will provide transmission service only.

61. Grain Belt Express will coordinate with state, federal and local agencies and authorities to obtain the necessary permits and consents prior to construction of the Project.

C. Route Selection

62. Grain Belt Express has engaged the services of a number of firms having specialized expertise to assist in selecting the Proposed Route. The Company has retained Louis Berger, an international consulting firm providing engineering, architecture, construction management and environmental planning services. The Company has also retained POWER Engineers, Inc. ("POWER"), a recognized engineering consulting firm that focuses on the electric power industry and that has performed work in all parts of the country including Kansas,

Missouri and Illinois. Louis Berger and POWER have been integrated into the Company's team that developed the Proposed Route.

63. A Clean Line multi-disciplinary group, including individuals from Louis Berger and POWER, performed extensive public outreach activities in conjunction with preparing the Missouri Route Selection Study and determining the Proposed Route of the Missouri HVDC Line. In collaboration with Louis Berger, Grain Belt Express conducted a series of community roundtable meetings in Missouri to obtain input on routing opportunities and constraints, as well as a series of public open house meetings designed to elicit input from residents and landowners along several potential routes. Grain Belt Express also obtained routing information from state and federal agencies, as well as public interest groups. The Company conducted the public open houses and obtained stakeholder participation in order to minimize and mitigate potential adverse impacts of the Project, as reflected in both the Missouri Route Selection Study and the 2016 Study Addendum. Grain Belt Express carefully considered all inputs received when selecting the Proposed Route.

64. The Direct Testimony of Mr. Puckett explains how this input was taken into account in his detailed discussion of the route selection process and the Company's approach to related issues including environmental matters. **Exhibit 2** describes the Proposed Route and the location of the converter station. His testimony also describes the modifications made to the Proposed Route since the Report & Order in the 2014 Case was issued.

D. Right-of-Way

65. The typical width of the final HVDC Line right-of-way will be 150-to-200 feet. Landowners will be able to use the HVDC Line right-of-way for most agricultural purposes (including growing crops under ten (10) feet in height), provided it does not interfere with the construction or operation of the Project by Grain Belt Express and is not hazardous to the

landowner, the Project or to the public generally. No structures will be allowed in any portion of the right-of-way. Trees and brush in the right-of-way will be trimmed or removed as necessary. Herbicides may be used to control vegetation in the right-of-way, except in the case of certificated organic farms or upon request by the landowner.

66. Easements will be procured from landowners prior to construction. The elements of compensation for a voluntary grant of an easement are threefold. Grain Belt Express will: (1) offer an easement payment equal to 110% of the average fee sales in the applicable county; (2) offer either an annual or one-time payment for each transmission line structure located on a landowner's property for the life of the Project; and (3) offer compensation for certain impacts that are directly attributable to the construction or maintenance of the Project, including damage to crops, field repair, and temporary or permanent impacts to any center pivot irrigators. In its transmission line easements, Grain Belt Express will provide landowners with indemnification protections and with certain releases of liability.

67. The Company's easement compensation is unusual in that payments are based on the fee simple market value of the land that is subject to the easement, not simply the easement market value. Most utilities proposing to take easements offer to pay landowners the market value of the easement acquisition, not the higher fee value of the property.

68. Grain Belt Express proposes to offer landowners a binding arbitration process if it is unable to negotiate an easement payment with a landowner whose property is located on the Proposed Route.

E. Interconnection with the Ameren Missouri System

69. The Project's interconnection with the 345 kV transmission line between the Maywood and Montgomery substations will be constructed after the completion of all required MISO interconnection studies. Through a new AC switching station, the Project's

interconnection will tap the existing Maywood-Montgomery line owned by Ameren Missouri. The interconnection facilities will be designed in accordance with the requirements set forth in the NESC.

F. Project Approvals and Schedule

70. The Kansas Corporation Commission granted Grain Belt Express public utility status on December 6, 2011, determining that there was a need for the Project and that it was in the public interest.[16] On November 7, 2013, it granted Grain Belt Express a siting permit authorizing the Company to construct the 370-mile Kansas portion of the Project.[17] On May 22, 2013, Grain Belt Express received public utility status from the Indiana Utility Regulatory Commission,[18] authorizing the Company to construct and operate the Project in Indiana.

71. On November 12, 2015 the Illinois Commerce Commission granted the Company a certificate of public convenience and necessity, stating that the Project would promote the development of a competitive electricity market that operates efficiently, is equitable to all customers, and is the least cost means of satisfying those objectives.[19] It accepted the Company's assertion that it "bears all the risk that the Project will succeed or fail based on whether a market exists for its services and will not pass on any costs to captive ratepayers."[20] The Illinois Commission found that Grain Belt Express was capable of managing and supervising the construction process, as well as financing the proposed construction without significant adverse financial consequences.

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[16] Order Approving Stipulation & Agreement and Granting Certificate, In re Application of Grain Belt Express Clean Line LLC for a Limited Certificate of Public Convenience, Docket No. 11-GBEE-624-COC (Kan. Corp. Comm'n, Dec. 7, 2011).
[17] Order Granting Siting Permit, In re Application of Grain Belt Express Clean Line LLC for a Siting Permit for the Construction of a High Voltage Direct Current Transmission Line, Docket No. 13-GBEE-803-MIS (Kan. Corp. Comm'n, Nov. 7, 2013).
[18] Order, Petition of Grain Belt Express Clean Line, LLC, Cause No. 44264 (Ind. Util. Reg. Comm'n, May 22, 2013).
[19] Order, Grain Belt Express Clean Line, LLC, No. 15-0277 (Ill. Comm. Comm'n, Nov. 12, 2015) at 232-33.
[20] Id. at 131.

72. The Illinois Commerce Commission noted that "there are considerable economic benefits associated with bringing Kansas wind power to market and that there are no viable alternatives to the Project as the means to accomplish that task in a less expensive manner."[21] It concluded "that the Project will be needful and useful to the public as it will provide an opportunity for the delivery of more renewable energy into Illinois …."[22]

73. Construction of the Project is scheduled to begin as early as 2018 with completion expected to occur by 2021.

VI. Filing Requirements

74. Pursuant to 4 CSR 240-3.105(1)(B)1, **Exhibit 3** to this Application is a list of all presently identifiable electric and telephone lines of regulated and non-regulated utilities, railroad tracks and underground facilities,[23] which Grain Belt Express has determined the proposed Missouri HVDC Line will cross. The Company will supplement this exhibit with any additional facilities as they become known to it.

75. All 4 CSR 240-3.105(1)(D) governmental approvals required for the construction and operation of the Project in Missouri will be provided. If they are unavailable when this Application is filed, the Company will furnish such approvals once they have been acquired per 4 CSR 240-3.105(2).

VII. Request for Additional Waivers/Variances, Availability of Records, and Timely Disposition

76. The Missouri Facilities will not provide retail service to end-use customers and will not be rate-regulated by the Commission. Accordingly, Grain Belt Express requests the Commission to waive the rate schedule filing requirement of 4 CSR 240-3.145 and the annual

[21] Id.
[22] Id.
[23] Underground facilities are defined in Section 319.015.

reporting requirement of 4 CSR 240-3.165. The Company agrees to file with the Commission the annual report that it files with FERC. Grain Belt Express also requests the Commission to waive the depreciation study requirement of 4 CSR 240-3.175, and the reporting requirements of 3.190(1), (2) and (3)(A)-(D) for good cause.

77. Regarding 4 CSR 240-10.010(3), Grain Belt Express plans to maintain its accounts, records, memoranda, books and papers associated with the Grain Belt Express Project and the Missouri Facilities at its offices in Houston, Texas, and not in Missouri. Grain Belt Express will make such records available to the Commission upon reasonable notice at its offices in Texas and will additionally produce copies of those portions of its books and records requested by the Commission in Missouri upon reasonable notice.

78. Because the Missouri Facilities will not provide retail service to end-use customers and will not be rate-regulated by the Commission, good cause exists to waive these requirements, and no public utility will be affected by their waiver. See 4 CSR 240-2.060(4).

79. Grain Belt Express requests that the Commission consider and approve this Application at its earliest convenience, with a decision issued no later than May 15, 2017. Many of the facts contained in this case were presented to the Commission in the 2014 Case. Staff is familiar with these facts and the issues raised in this proceeding, as are most of the parties likely to intervene. This Application commences the last state utility regulatory approval proceeding that is needed before the Project can move forward, given the approvals that have been granted by the utility commissions of Kansas, Illinois and Indiana. Therefore, Grain Belt Express respectfully requests that this case be completed in a timely manner.

WHEREFORE, Grain Belt Express Clean Line LLC respectfully requests the Commission issue an order by May 15, 2017 that grants Grain Belt Express a certificate of convenience and necessity:

(1) To construct, own, operate, control, manage, and maintain the Grain Belt Express Missouri Facilities, including an HVDC transmission line in Buchanan, Clinton, Caldwell, Carroll, Chariton, Randolph, Monroe and Ralls Counties along the Proposed Route specified in **Exhibit 2** to the Application, and to allow for reasonable flexibility in the placement of the line's final route that may be required to address landowner requests, survey results, and environmental, engineering and other routing considerations.

(2) To construct, own, operate, control, manage, and maintain a converter station in Ralls County and associated AC facilities, including an AC switching station and related AC transmission lines, to interconnect with the Maywood-Montgomery 345 kV transmission line.

Finally, Grain Belt Express requests that the Commission waive the reporting and filing requirements of 4 CSR 240-3.145, 4 CSR 240-3.165, 4 CSR 240-3.175 and 4 CSR 240-3.190(1), (2) and (3)(A)-(D) for good cause shown.

Respectfully submitted,
/s/ Karl Zobrist

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August 30, 2016

Attorneys for Grain Belt Express Clean Line LLC

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Application was served upon the parties listed below by email or U.S. Mail, postage period, this 30th day of August 2016.

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/s/ Karl Zobrist
Attorney for Grain Belt Express Clean Line LLC

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-Montgomery 345 kV Transmission Line	)))))))	Case No. EA-2016-0358

AFFIDAVIT

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

I, Michael P. Skelly, being duly sworn according to law, state that I am President of Grain Belt Express Clean Line LLC ("Grain Belt Express"), that I am authorized to make this affidavit on behalf of Grain Belt Express, and that the facts set forth in the foregoing Application are true and correct to the best of my knowledge, information, and belief.

Michael P. Skelly

Subscribed and sworn before me this 29th day of August, 2016.

NANCY BEMIS
Notary Public, State of Texas
Comm. Expires 02-05-2019
Notary ID 11483156

Notary Public

My commission expires: _____

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