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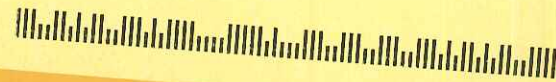
Missouri Public  
Service Commission

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**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI**

In the Matter of the Application of Grain )  
Belt Express LLC for an Amendment to its )  
Certificate of Convenience and Necessity )  
Authorizing it to Construct, Own, Operate, ) File No. EA-2023-0017  
Control, Manage, and Maintain a High )  
Voltage, Direct Current Transmission Line )  
and Associated Converter Station )

**ORDER DIRECTING NOTICE, SETTING INTERVENTION DEADLINE,  
SETTING TIME FOR RESPONSES, AND DIRECTING FILING**

Issue Date: September 1, 2022

Effective Date: September 1, 2022

On August 24, 2022, Grain Belt Express LLC filed an application seeking an order (a) taking administrative notice of the record in File No. EA-2016-0358; (b) amending its certificate of convenience and necessity granted in File No. EA-2016-0358 as described in its application and supporting testimony; and (c) approving certain modifications to the conditions on Grain Belt Express's certificate of convenience and necessity granted in File No. EA-2016-0358.<sup>1</sup> Grain Belt Express also filed a motion requesting a waiver of the requirement to give 60-days' notice before filing its application with the Commission.

Grain Belt Express states in its application that the material changes to the engineering or project design from the granted certificate are as follows:

- a. Relocating the Missouri converter station from Ralls County to Monroe County and increasing the capacity of the Missouri converter station from 500 MW to 2500 MW;

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<sup>1</sup> In its application, Grain Belt Express states that for the high voltage direct current (HVDC) portion of the line, no material changes to the route, right-of-way, or facility design are anticipated as a result of the requested amendments.

On August 12, 2022, Norman Fischel, Missouri Landowners Alliance, and Eastern Missouri Landowners Alliance dba Show Me Concerned Landowners, filed motions to intervene. The Commission will consider those applications as filed. No further request for intervention is needed from Mr. Fischel, Missouri Landowners Alliance, or Eastern Missouri Landowners Alliance dba Show Me Concerned Landowners. The Commission will also set a time for responses to these and any other requests for intervention.

The Commission will also set a time for responses to Grain Belt Express's request for waiver of the 60-day notice requirement in 20 CSR 4240-4.017(1).

**THE COMMISSION ORDERS THAT:**

1. The Commission's Data Center shall provide a copy of this order to the county commissions of Audrain, Buchanan, Callaway, Clinton, Caldwell, Carroll, Chariton, Randolph, Monroe, and Ralls Counties, Missouri.

2. The Commission's Public Policy and Outreach Department shall make notice of this order available to the members of the Missouri General Assembly representing Audrain, Buchanan, Callaway, Clinton, Caldwell, Carroll, Chariton, Randolph, Monroe, and Ralls Counties, Missouri, and to the media serving those counties.

3. The Commission's Data Center shall provide a copy of this order to each party to Commission File No. EA-2016-0358.

4. The Commission's Data Center shall provide notice of this order and the application to each of the utilities listed on Page 2 of Schedule AB-4 to the Direct Testimony of Andrew Burke filed on August 31, 2022.

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI**

In the Matter of the Application of Grain Belt )  
Express LLC for an Amendment to its Certificate )  
of Convenience and Necessity Authorizing it to )  
Construct, Own, Operate, Control, Manage, and ) File No. EA-2023-0017  
Maintain a High Voltage, Direct Current )  
Transmission Line and Associated Converter )  
Station )

**APPLICATION TO AMEND EXISTING CERTIFICATE  
OF PUBLIC CONVENIENCE AND NECESSITY**

COMES NOW Grain Belt Express LLC (“Grain Belt Express”) and, under authority of and in accordance with Section 393.170.1 RSMo., 20 CSR 4240-2.060, 20 CSR 4240-20.045, and the Commission’s March 20, 2019 Report & Order on Remand, makes this application to the Missouri Public Service Commission (“Commission”) to amend its existing certificate of public convenience and necessity (“CCN”) to construct, install, own, operate, maintain, and otherwise control and manage an approximately 800-mile, overhead, multi-terminal ±600 kilovolt (“kV”) high-voltage, direct current (“HVDC”) transmission line and associated facilities including converter stations and alternating current (“AC”) connector lines (the “Project”).

**I. Overview of Application**

1. This Application is an amendment to the CCN issued in 2019 in File No. EA-2016-0358, granting Grain Belt Express authority to construct, own, operate, control, manage, and maintain the Project. The CCN was granted to Grain Belt Express with the understanding that any material changes to the engineering or project design would require an updated application for Commission approval. This Application seeks Commission approval of the following material changes to the design and engineering of the Project:

## II. Information About the Applicant and Prior Proceedings

4. Grain Belt Express is a limited liability company (“LLC”) organized under the laws of the State of Indiana. Grain Belt Express was formed in 2010 as a Delaware LLC and converted to an Indiana LLC in February 2013. Grain Belt Express’ principal offices are located at One South Wacker Drive, Suite 1800, Chicago, IL 60606.

5. Grain Belt Express is a wholly-owned subsidiary of Invenergy Transmission LLC (“Invenergy Transmission”), a Delaware limited liability company, which is a wholly-owned subsidiary of Invenergy Renewables LLC (“Invenergy Renewables”), also a Delaware limited liability company. Invenergy Transmission is an affiliate company of Invenergy LLC, which is an Illinois limited liability company.

6. Grain Belt Express is an electrical corporation and public utility regulated by this Commission.<sup>1</sup> On August 30, 2016, in File No. EA-2016-0358, Grain Belt Express filed an Application for a line CCN pursuant to Section 393.170.1,<sup>2</sup> seeking authorization to construct, own, operate, control, manage, and maintain the Missouri portion of the Project (the “2016 Application”). After conducting an evidentiary hearing in March 2017 and hearing oral argument on August 3, 2017, the Commission determined that it could not lawfully issue a CCN because Grain Belt Express had not obtained the necessary county assents under Section 229.100. See Report & Order at 13-15 (Aug. 16, 2017).

7. Accompanying the August 16, 2017 Report & Order was the Concurring Opinion of four Commissioners who stated that but for the appellate decision they believed they were obligated to follow, they would have granted the 2016 Application because the Project was

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<sup>1</sup> File No. EA-2016-0358, Report & Order on Remand, pp. 37-38 (hereinafter “CCN Order”).

<sup>2</sup> All citations are to the Missouri Revised Statutes, as amended, unless otherwise noted.

12. The Commission subsequently approved Invenergy Transmission's acquisition of Grain Belt Express and the Project in File No. EM-2019-0150, effective September 21, 2019.<sup>3</sup> Invenergy Transmission closed on its acquisition of Grain Belt Express in early 2020.

13. Grain Belt Express has made significant progress on the development of the Project since its acquisition in 2020, as further discussed in the Direct Testimony of Shashank Sane. In summary, Grain Belt Express has accomplished the following:

- a. Acquired 72% of all easements required for the Kansas and Missouri portion of the Project.
- b. Satisfied, ahead of schedule, Kansas Corporation Commission's established deadlines for easement acquisitions as a condition of retaining siting authority in Kansas.<sup>4</sup>
- c. Achieved approvals from the Indiana Utility Regulatory Commission to authorize Invenergy Transmission to acquire, own, and operate the Project in Indiana.<sup>5</sup>
- d. Worked with various stakeholders in support of Illinois legislation permitting Grain Belt Express to file for a certificate of public convenience and necessity ("CPCN") at the Illinois Commerce Commission ("ICC").
- e. Met all prerequisites and prepared and filed its Application for a CPCN at the ICC, Docket No. 22-0499, filed on July 26, 2022.
- f. Worked in cooperation with various agricultural and landowner groups culminating in the enactment of House Bill 2005.<sup>6</sup>

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<sup>3</sup> File No. EM-2019-0150, Amended Report and Order.

<sup>4</sup> KCC Docket No. 13-GBEE-803-MIS, Order Granting Joint Motion to Replace Sunset Provisions with Settlement Deadlines, ¶ 11 (September 26, 2019).

<sup>5</sup> IURC Cause No. 45294, Order from the Commission (Jan. 2, 2020).

<sup>6</sup> Available at <https://house.mo.gov/billtracking/bills221/hlrbillspdf/3627S.07T.pdf>.

The Grain Belt Express Project is an approximately 780-mile, overhead, multiterminal +600 kilovolt (“kV”) HVDC transmission line (“HVDC Line”) and associated facilities that will collect over 4,000 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.<sup>9</sup>

16. The CCN Order approved the Certificated Project based on the foregoing descriptions, including AC interconnecting facilities to be constructed between the converter station and the point of interconnect with the existing AC system.<sup>10</sup>

17. The Commission’s findings in the CCN Order regarding the HVDC portion of the Certificated Project remain accurate and should not be relitigated. There is no need for the Commission to revisit its findings regarding the route, right-of-way, or facility design of the HVDC portion of the Certificated Project, as the Amended Project does not involve material modifications to any of those items.

18. The Certificated Project remains viable, feasible and in the public interest, and Grain Belt Express is continuing to develop the Certificated Project. For the HVDC portion of the line (which excludes the Tiger Connector, discussed in greater detail below), no material changes to the route, right-of-way, or facility design are anticipated as a result of the requested amendments. Development for the HVDC route is ongoing, consistent with the CCN Order. However, Grain Belt Express submits that the Certificated Project with the requested amendments (the “Amended Project”) is preferable, in the public interest, and will meet or exceed the Tartan Factors, as discussed below.

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<sup>9</sup> *Id.* at ¶ 14.

<sup>10</sup> CCN Order, pp. 9-10; CCN Order Attachment 1 at Section III.3 (discussing the “Grain Belt-owned portion of the AC electric transmission line connecting the Grain Belt proposed Missouri conversation to the AC grid”).

20. As explained in this Application and the associated testimony, approving the proposed amendments is necessary and convenient for the public service and the Amended Project satisfies the Tartan Criteria.

i. *Amended size and location of converter station*

21. Grain Belt Express proposes to increase the size of the Missouri converter station from 500 MW to 2500 MW. Grain Belt Express has previously acknowledged that changing the size of the Missouri converter station constitutes a “material change” as that term was used in the CCN Order.<sup>12</sup> The increased size of the converter station is necessary to serve the demonstrated demand for geographically diverse renewable energy, as provided by Grain Belt Express. The demand for services provided by Grain Belt Express is discussed below in Sections V.C. and VI.B. and the Direct Testimony of Shashank Sane.

22. Grain Belt Express proposes to move the location of the converter station from Ralls County to Monroe County, adjacent to the currently certificated HVDC route, for optimal location relative to the POIs in Callaway County. The modified location of the converter station and the Tiger Connector are necessary to deliver the power into Callaway County, as the Certificated Project’s POI in Ralls County is not sufficiently robust to handle the increased injection of power. Further, the POIs at and near the McCredie Substation are necessary to connect to the three major power grids that serve Missouri (SPP, AECI, and MISO) and allow for expanded access to the power delivered by Grain Belt Express, and additional optionality for Grain Belt Express and its customers. The necessity for and benefits of interconnecting at and near the McCredie Substation are discussed in the Direct Testimony of Carlos Rodriguez.

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<sup>12</sup> File No. EC-2021-0059, Tr. Vol. 1, 95:5-8 (Testimony of Kris Zadlo, former Vice President of Invenergy Transmission LLC).



protection. Typical span lengths will be range between 800 and 1,000 feet. The insulator assemblies which will support the conductors will be v-string. The v-string insulator assembly is intended to minimize the conductor movement due to wind within the right-of-way.

26. In order to refine the Proposed Route for the Tiger Connector, landowner notices were sent the week of July 11, 2022, and newspaper notices began running during that same time frame. Public meetings to discuss the Tiger Connector were held on July 26 and 27 in Audrain and Callaway Counties, respectively.

27. In addition to the public meetings, Grain Belt Express has established a webpage dedicated to the Tiger Connector,<sup>14</sup> established a dedicated email address for Tiger Connector routing questions, created a voicemail option for Tiger Connector questions, mailed various notices to landowners and county officials notifying them of Project details. The public outreach effort for the Tiger Connector is further discussed in Section III of the Direct Testimony of Kevin Chandler and Schedule AB-2, attached to the Direct Testimony of Andrew Burke.

28. The Proposed Route and the process for selecting the Proposed Route is discussed in the Direct Testimony of Andrew Burke and Schedule AB-2, which contains the Route Selection Study.

29. Grain Belt Express has established a strong track record of working with landowners along with certificated HVDC route in Kansas and Missouri and will apply the same approach to working with landowners along the Tiger Connector route. Grain Belt Express will continue to abide by the Missouri Landowner Protocols, Code of Conduct, and Agricultural Impact Mitigation Protocols, as established in File No. EA-2016-0358, subject to the requested limited modifications discussed below in Section VII of this Application.

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<sup>14</sup> <https://grainbeltexpress.com/tiger-connector.html>

32. Phasing the Project will allow Missouri to realize the benefits of the Project sooner, without being dependent on land acquisition efforts in Illinois. This includes the economic, reliability and public interest benefits discussed elsewhere in this Application and the supporting testimony, as well as additional payments to landowners in Missouri who have signed easement agreements with Grain Belt Express.

iv. *Non-Material Changes*

33. In addition to the proposed amendments that qualify as “material changes to the design and engineering,” there are additional modifications that do not materially modify the design and engineering of the Certificated Project in Missouri. Those changes include increasing the overall capacity of the transmission line from 4,000 MW to 5,000 MW and improvements to the technology used for the converter, conductor, and HVDC structures as discussed in the Direct Testimonies of Carlos Rodriguez and Aaron White. These improvements do not change the right-of-way or route of the Certificated Project and do not result in material changes to the design and engineering of the Certificated Project.

34. In addition, as discussed in the Direct Testimony of Kevin Chandler, the total expected length of the HVDC transmission line has increased slightly because of more accurate survey results and Grain Belt Express working with landowners during the micro-siting process to minimize landowner impact. The total length of the HVDC line is now approximately 800 miles total with approximately 214 miles in Missouri, compared to the approximately 780 miles total with approximately 206 miles in Missouri as the line was described in the 2016 Application. The current CCN permits minor deviations to the location of the line not exceeding 500 feet as a result of surveying, final engineering and design, and landowner consultation without triggering the “material change” provisions. Grain Belt Express uses this flexibility to respond to landowner requests regarding siting, which has contributed to the slight increase in length of the line.

<b>Kevin Chandler</b>	<ul style="list-style-type: none"> <li>• Update on negotiations and right-of-way acquisition with landowners on existing HVDC route</li> <li>• Public outreach efforts and notice to landowners regarding the Tiger Connector</li> <li>• Description of land acquisition for the Tiger Connector</li> <li>• Limited Modifications to Existing Conditions</li> </ul>
<b>Andrew Burke, WSP</b>	<ul style="list-style-type: none"> <li>• Proposed Route for the Tiger Connector</li> <li>• Route determination process</li> </ul>
<b>Aaron White</b>	<ul style="list-style-type: none"> <li>• Grain Belt Express is qualified to construct and operate the Amended Project</li> <li>• Grain Belt Express' plans to use local resources</li> <li>• Project development timeline</li> <li>• Update on plans and specifications of the HVDC portion of the Project</li> <li>• Plans and specifications for the Tiger Connector</li> <li>• Update on costs of the Project</li> <li>• Plans for operating and maintaining the Project and plans for restoration of service after unplanned/forced outages</li> </ul>
<b>Rolanda Shine</b>	<ul style="list-style-type: none"> <li>• Update on the financial ability of Grain Belt Express</li> <li>• Update on the financing plan for the Amended Project</li> </ul>
<b>Jonathon Monken, Converge</b>	<ul style="list-style-type: none"> <li>• National security value of Grain Belt Express to Missouri and the Midwest</li> </ul>

**V. The Proposed Amendments Further Support the Commission's Need and Public Interest Findings in the CCN Order**

36. This Application and the supporting testimony demonstrate that the Commission can and should rely on its prior findings in File No. EA-2016-0358 that the Project is needed and that the Project promotes the public interest, and further find that the Amended Project enhances and expands the Certificated Project's need and public interest benefits.

grow. Accordingly, all of these findings remain accurate and are further supported by the proposed amendments.

B. The Commission's Prior Public Interest Findings

39. The Commission made the following findings regarding public interest in the CCN Order. As discussed in the Direct Testimony of Mark Repsher (regarding lower energy production costs), Kevin Chandler (regarding mitigation of impacts on landowners) and Shashank Sane (regarding policy objectives), all of these findings remain accurate and are further supported by the proposed amendments.

The Grain Belt Project will lower energy production costs in Missouri under future energy scenarios developed by MISO and will have a substantial and favorable effect on the reliability of electric service in Missouri, particularly through its effect on wind diversity in the region. Geographic diversity in wind resources inevitably helps to reduce system variability and uncertainty in regional energy systems. In addition, the Project will provide positive environmental impacts, since displacement of fossil fuels for wind power will reduce emissions of carbon dioxide, sulfur dioxide, and nitrogen oxide, and reduce water usage in Missouri.<sup>18</sup>

Any negative impacts of the Project on the land and landowners will be mitigated by (a) a landowner protocol to protect landowners; (b) superior compensation payments; (c) a binding arbitration option for easement negotiations; (d) a decommissioning fund; and (e) an agricultural impact mitigation protocol to avoid or minimize negative agricultural impacts.<sup>19</sup>

It is the Commission's responsibility to balance the interests of all stakeholders, including the affected landowners, to determine what is in the best interest of the general public as a whole. The evidence in the case demonstrated that the Grain Belt Project will create both short-term and long-term benefits to ratepayers and all the citizens of the state. In the Commission's view, the broad economic, environmental, and other benefits of the Project to the entire state of Missouri outweigh the interests of the individual landowners. Many of the landowners' concerns will be addressed through carefully considered conditions placed on the CCN.<sup>20</sup>

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<sup>18</sup> CCN Order, p. 46.

<sup>19</sup> CCN Order, p. 46.

<sup>20</sup> CCN Order, p. 47.

Amended Project provides *more* benefits to Missouri. The Amended Project will be capable of delivering up to 2,500 MW of power into the MISO and AECI grids at delivery points in Missouri, as opposed to 500 MW into the MISO market under the Certificated Project.

42. Just as with the Certificated Project, the Amended Project will (a) allow large amounts of renewable energy from southwestern Kansas to access the MISO markets and compete to serve customer load, (b) support development of wind and solar facilities where the resources are such that electricity can be generated at significantly lower cost than are currently available in Missouri, (c) enable low-cost renewable energy to access the Missouri electricity markets and reduce wholesale and retail electric prices, and (d) help customers in Missouri meet their various renewable energy and carbon reduction standards.

43. Additionally, per Lazard's Levelized Cost of Energy Analyses from November 2018<sup>23</sup> and October 2021<sup>24</sup>, over that time period, the cost of solar has continued to decline (dropping from \$36-\$44 in Nov. 2018 to \$28-\$37 in Oct. 2021). Further, the solar production of generation in southwestern Kansas is not strongly correlated with the production of wind and solar generators in Missouri and Illinois. As a result, integrating wind and solar generation resources in southwestern Kansas with Missouri and Illinois wind and solar generation facilities—which the Project will make possible—will reduce the overall variability of renewable generation serving Missouri and Illinois, increase the reliability of renewable generation as a supply source to Missouri and Illinois markets, and reduce the costs of renewable generation integration into the Missouri and Illinois supply portfolio.

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<sup>23</sup> Available at <https://www.lazard.com/media/450784/lazards-levelized-cost-of-energy-version-120-vfinal.pdf>, at p.2.

<sup>24</sup> Available at <https://www.lazard.com/media/451905/lazards-levelized-cost-of-energy-version-150-vf.pdf>, at p.2.

projected to exceed the record amount from 2021.<sup>26</sup> Meeting this demand will require increased access to geographically diverse renewable resources and increased transmission capacity, as would be achieved by the Amended Project.

47. The Amended Project will better achieve the Certificated Project's objectives to be a multigenerational energy project. Despite the superior renewable generation resources available in southwestern Kansas, prospects for the addition of new renewable generation facilities in the area are currently limited because of the lack of adequate long-distance, inter-regional transmission infrastructure to bring electricity to load and population centers, such as Missouri and Illinois. For new, low-cost renewable generation to be constructed in southwestern Kansas to meet the demand for renewable resources in Missouri and other states, additional long-distance transmission capacity between these areas must be built. The Amended Project will provide this needed long-distance transmission capacity.

48. There has been a demonstration of additional demand for the Project, bearing in mind the additional capacity of the overall Project and the expanded delivery into Missouri of the Amended Project. First, Grain Belt Express has entered Memorandums of Understanding ("MOUs") with major commercial and industrial customers, and electric utilities, each of which has expressed interest in acquiring transmission capacity from the Project. In addition to the MOUs, both Ameren Missouri and Evergy have announced carbon emission reduction goals, which further demonstrate demand for expanding the delivery capability of the Project, as discussed in greater detail in the testimony of Shashank Sane.

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<sup>26</sup> Utility Dive, "Corporate clean energy procurement on track for another record year after adding 11 GW in 2021," available at <https://www.utilitydive.com/news/corporate-clean-energy-procurement-ceba-report/623926/>.

to 2029. The AECI interconnect, as part of the Amended Project, could be a potential transmission source for this additional energy need.

51. Severe weather events are becoming more common and more extreme, with severe events challenging nearly every part of the U.S. power grid in the last decade alone. This uptick in severe weather events sharpens the need to increase transmission capacity at a regional level, as achieved in the Amended Project. For example, during Winter Storm Uri in February 2021, more than 4.5 million people in Texas lost power (some for as long as four days) while being exposed to below-freezing temperatures for over six days. At least 210 people died.<sup>29</sup> Each additional 1 GW of transmission ties could have saved in excess of \$100 million for customers served in the great plains by SPP and in the southern part of the geographic area served by MISO and could have kept the heat on for hundreds of thousands of Texans.<sup>30</sup>

52. The south-central U.S. served by MISO and SPP also faced emergency circumstances but were able to mitigate disaster by importing power from PJM and MISO respectively.<sup>31</sup> Such capacity transfer, while far from entirely sufficient, demonstrated the importance of capacity transmission and interconnection between ISOs/RTOs. In a recent Notice Inviting Post-Technical Conference Comments (Docket No. AD21-11-000, January 7, 2022), the Federal Energy Regulatory Commission (“FERC”) noted the importance of being able to import and export energy between regions to address climate change and extreme weather events.

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<sup>29</sup> FERC, NERC and Regional Entity Staff Report, *The February 2021 Cold Weather Outages in Texas and the South Central United States*, at 7 (Nov. 16, 2021) (hereinafter, “FERC, *The Feb. 2021 Cold Weather Outages*”), available at <https://www.ferc.gov/media/february-2021-cold-weather-outages-texas-and-south-central-united-states-ferc-nerc-and>.

<sup>30</sup> American Council on Renewable Energy, *Transmission Makes the Power System Resilient to Extreme Weather*, at 2 (July 2021), available at [https://acore.org/wp-content/uploads/2021/07/GS\\_Resilient-Transmission\\_proof.pdf](https://acore.org/wp-content/uploads/2021/07/GS_Resilient-Transmission_proof.pdf).

<sup>31</sup> FERC, *The Feb. 2021 Cold Weather Outages* at 14.

54. Section IV of Shashank Sane's Direct Testimony provides additional detail on the Project need from the perspective of reliability and resiliency challenges presented by extreme weather.

55. More specifically, the Guidehouse Report (Schedule AP-2) and Direct Testimony by Anthony Petti demonstrate that the Amended Project will enhance reliability and resiliency for the regions served, including Missouri. As set forth in Schedule AP-2, the Amended Project will mitigate high energy prices during extreme weather events, reduce procurement obligations and enhance system restoration capabilities.

56. Russia's recent invasion of Ukraine has prompted new concerns about national security and serves as a reminder that accelerating the pace of electrification of the U.S. vehicle fleet and renewable energy deployment can reduce the nation's dependence on global fossil fuel markets, which can be subject to unpredictable price spikes and the influence of unsavory autocratic leaders.<sup>39</sup> Major new transmission lines such as the Certificated Project are necessary to build new renewable energy in a quantity sufficient to reduce the state and national exposure to global energy supplies and prices. The Amended Project will further this objective by significantly increasing transmission capacity regionally. The national security benefits of the Project are discussed in the Direct Testimony of Jonathon Monken and Schedule JM-2.

57. The Amended Project increases a number of quantifiable benefits to Missouri and the region, including:

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<sup>39</sup> Rocky Mountain Institute, *From Deep Crisis, Profound Change*, available at <https://rmi.org/insight/from-deep-crisis-profound-change/>.



e. Contracting opportunities for businesses located in Missouri – Grain Belt Express has entered into a Memorandum of Understanding with Hubbell Power Systems (“Hubbell”) to supply conductor hardware and insulators for the Project. Hubbell currently has a plant and distribution center in Centralia, Missouri that can be used for the Project. Should the Project be approved as amended, Grain Belt Express will necessarily provide for additional contracting opportunities for businesses in the area.<sup>44</sup>

f. Grain Belt has also executed a Letter of Intent with Prysmian as a preferred supplier of conductor for the Project. Prysmian is the world’s largest wire and cable manufacturer with revenues worth over 13 billion dollars in 2021. Prysmian will supply roughly 23 million feet of steel core for the transmission line conductor. Prysmian will use commercially reasonable efforts source aluminum rod used in the conductor for the Project with aluminum from the Magnitude 7 aluminum smelter near New Madrid, MO.<sup>45</sup>

g. On July 11, 2022, Invenergy Transmission coordinated with PAR/Quanta to host a supplier social event in St. Louis, MO where representatives provided a presentation on the scope, size, services and resources that will be needed to construct the Project. Attendees included suppliers who offer a variety of services across the route area and state-wide. Invitations were sent to about 50 suppliers, and about 40 individuals attended, representing 30 supplier companies. Grain Belt Express will seek to continue to maximize the use of local contractors and suppliers where practicable.<sup>46</sup>

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<sup>44</sup> See Direct Testimony of Aaron White for more on Project contracting.

<sup>45</sup> See *id.*

<sup>46</sup> See *id.*

Missouri, as demonstrated by the vast majority of large utilities having net-zero equivalent targets or moving to comply with aggressive carbon emission reduction mandates. This evidence is discussed above in Section V.C. as well as in the Direct Testimony of Shashank Sane.

62. Moreover, as discussed in the Direct Testimony of Mark Repsher, the Amended Project is projected to lower energy and capacity costs in Missouri by approximately six-point-one percent (6.1%) over the 2027-2066 period, resulting in over \$17.6 billion of savings for Missouri residents, on an undiscounted basis. In addition, the Amended Project is projected to result in \$7.6 billion in social benefits from avoided emissions in the 2027-66 period.

B. The Proposed Amendments are Needed on a Reliability and Resiliency Basis

63. Invenergy's consultant, Guidehouse, performed in-depth research and analysis to substantiate specific value streams that the Project might generate to benefit electric customers in regions where Grain Belt Express will add incremental electric transmission transfer capability. In its report, attached as Schedule AP-2 to the Direct Testimony of Anthony Petti. Guidehouse's analysis estimates the reliability and grid resilience values that can be generated by the Project. Guidehouse concludes that the Project will provide certain reliability values, including the potential for reduced generation procurement obligations, and a hedge against future generation retirements. Regarding resilience values, Guidehouse concludes that the Project will provide mitigation of high energy prices during extreme weather events, the value of avoided risk of load shedding, avoided High Resource Auction Prices, Transmission system restoration capability, and HVDC operational flexibility.

64. Government and industry sources, such as the North American Electric Reliability Corporation ("NERC") and the Department of Energy ("DOE") have recognized that there is a strong need to expand and strengthen the overall transmission grid, particularly to support the

electricity production by 2030.<sup>52</sup> This includes a target of procuring carbon-free power on a 24/7 basis to support national defense missions, which will require long-range, cross-regional transmission with enhanced controllability to meet the DOD's real-time demand. The Amended Project will allow for greater supply of electricity for the national defense. The national security benefits of the Project are discussed further in the Direct Testimony of Jonathon Monken and Schedule JM-2.

66. As noted in Section V.C. of this Application, the Amended Project will also serve to strengthen Missouri's electrical infrastructure against supply shocks caused by extreme weather and foreign conflicts.<sup>53</sup>

#### C. Grain Belt Express is Qualified to Provide the Proposed Service

67. In the Commission's CCN Order, the Commission found that "Grain Belt and Invenergy together have the qualifications ... to develop, construct, and operate the Project," citing Invenergy's management team's extensive experience in developing, constructing and operating transmission and energy infrastructure projects and Invenergy's impressive record of development and construction of energy projects, including hundreds of miles of transmission lines, substations and transformers.<sup>54</sup> And in the Commission's September 11, 2019 Report and Order approving

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<sup>52</sup> <https://www.defense.gov/News/Releases/Release/Article/2921646/dod-gsa-announce-rfi-to-gather-information-for-supplying-247-carbon-pollution-f/>

<sup>53</sup> See 18-22.

<sup>54</sup> CCN Order at 43. In the Commission's Findings of Fact, it referenced, among other things, that Invenergy's senior management executives, each with more than 25 years of experience in the energy generation industry, have worked together for more than two decades; Invenergy's project management team has extensive experience in construction of energy generation projects, contract negotiation, material procurement, right-of-way issues, utility interconnections, and construction of electrical transmission and substations (*id.* at ¶ 57, p. 20); and that since 2001, Invenergy has built all required transmission and distribution lines, generator step-up transformers, and substations for its facilities in numerous regions, including within the regions managed by SPP, MISO and PJM. Invenergy developed, permitted and constructed this infrastructure across various terrains, state and local jurisdictions, and in vastly differing environmental and regulatory conditions. This experience has resulted in over 392 miles of high-voltage transmission lines, over

70. Grain Belt Express has already engaged the following experienced firms to perform tasks in connection with the development and construction of the Amended Project: (i) WSP to assist in route development for the Tiger Connector portion of the Amended Project; (ii) Contract Land Staff, LLC, to assist in easement and right-of-way acquisition; (iii) PAR Electric/Quanta Services to assist in construction-related development consulting activities for the Amended Project; (iv) POWER Engineers, Inc. to provide transmission line engineering support and to serve as the Owner's Engineer for the Amended Project, providing additional project management expertise and oversight services on the owner's behalf; and (v) Hatch Associates Consultants Inc. to assist in developing models of the HVDC converter stations and to assist in impact studies relating to the converter stations.

71. Grain Belt Express will have a dedicated operations organization to oversee the operations and maintenance activities associated with the Amended Project. This organization will utilize in-house personnel to plan, manage and schedule the required maintenance on the HVDC and transmission facilities. The Amended Project will also contract with a firm or firms experienced in maintaining transmission facilities to provide operational and maintenance services for the Amended Project when it is in service. These firms will be required to have sufficient maintenance resources in place along the route of the Amended Project in Kansas, Missouri, Illinois and Indiana to ensure timely responses to any operational or service issues. Further, in connection with its current grant of authority by FERC to negotiate rates for transmission service, Grain Belt Express has committed to turn over functional control of the Amended Project to an RTO (which will be SPP, MISO or PJM), which will operate the transmission line pursuant to a

75. Grain Belt Express continues to have access to the necessary financial resources to carry out the necessary development work for the Amended Project prior to engaging in project-specific financings for the construction of the Amended Project. Invenergy Renewables has sufficient capital resources to provide the funding necessary to enable Invenergy Transmission and its subsidiaries to undertake the initial development and permitting work for the Amended Project.

76. Once the Amended Project reaches an advanced stage of development and licensing, Grain Belt Express can enter into project-specific financing arrangements with investors and lenders to secure the capital needed to complete development and construction of the projects and place them into operation. As discussed above, Invenergy Renewables has developed over 191 large-scale clean power projects in the United States and globally, totaling 30 GW and representing \$47 Billion in completed transactions. As a result of this track record and the relationships established through the experience of Invenergy Renewables, Grain Belt Express will have access to significant amounts of expertise and capital.

77. The projected cost to construct the Amended Project and place it into operation is approximately \$4.95 billion. This figure encompasses the entire Amended Project cost including the Kansas, Missouri, Illinois and Indiana segments, but not including any estimated network upgrade costs for RTO interconnections for which Grain Belt Express will be responsible. The projected cost to construct Phase I of the Amended Project and place it in operation is approximately \$3.52 billion, including the costs of the Tiger Connector. The projected cost to construct Phase II of the Amended Project and place it in operation is approximately \$1.43 billion dollars. A portion of the Kansas converter station may be built out with Phase II in which case the proportional amount would change.

reductions within the State as compared to the Certificated Project. PA Consulting summarized its analysis in a Report titled “Missouri Interstate Transmission Need: The Public Benefit of Grain Belt Express” (referred to herein as the “PA Report”). The PA Report refers to the Certificated Project as the “Status Quo Case” and the Amended Project as the “Expanded GBX Case.”

81. PA Consulting found that the Amended Project offers the following advantages.
  - a. Comparatively stronger dedicated clean solar and wind resources in western Kansas (as compared to relatively lower quality renewable resources in eastern service territories) are transmitted directly via efficient, controllable HVDC technology to eastern service territories, thereby lowering energy costs in MISO and SPP states, including Missouri.
  - b. Dedicated solar and wind resources transmitted by the Amended Project displace more emissions-intensive generation in the Eastern Interconnection, including Missouri, helping local utilities and customers achieve their decarbonization goals.
  - c. The Amended Project increases the geographic diversity of renewable resources feeding the Eastern Interconnection via an HVDC line that can be controlled by MISO and SPP system operators, increasing the reliability and resiliency of a grid becoming more intermittent as it quickly decarbonizes.
82. Specifically, PA Consulting’s analysis finds that the Amended Project will:
  - a. Collectively lower energy and capacity costs in Missouri by approximately 6.1% (over \$17.6 billion, on an undiscounted basis) over the 2027-66 period;
  - b. Reduce 2027-66 emissions of CO<sub>2</sub>, SO<sub>2</sub>, and NO<sub>x</sub> in Missouri by 9.3%, 19.2%, and 17.2%, respectively, enhancing local utilities’ abilities to meet their climate and reliability goals while also delivering local air quality and health benefits; and

to be recovered through a merchant business model and not through SPP or MISO regional transmission cost allocation.

86. Section I of CCN Order Attachment I prohibits Grain Belt Express from installing transmission facilities on easement property in Missouri until it has obtained commitments for funds in an amount equal to or greater than the total cost to build the entirety of the multi-state transmission project. As part of this Application, Grain Belt Express is seeking to modify that condition to permit the construction of Phase I prior to Phase II, but Grain Belt Express will still be required to have full financing in place for the respective phase of the Project before construction begins on that phase.<sup>60</sup> Accordingly, Grain Belt Express will continue to bear all financial risk of the Amended Project.

F. The Service Offered by the Amended Project will Promote the Public Interest

87. With regard to the public interest of the Project, the Commission found the following in File No. EA-2016-0358:

There can be no debate that our energy future will require more diversity in energy resources, particularly renewable resources. We are witnessing a worldwide, long-term and comprehensive movement towards renewable energy in general and wind energy specifically. Wind energy provides great promise as a source for affordable, reliable, safe, and environmentally-friendly energy. The Grain Belt Express Project will facilitate this movement in Missouri, will thereby benefit Missouri citizens, and is, therefore, in the public interest.<sup>61</sup>

88. As Mr. Sane testifies in his Direct Testimony, this statement is still accurate, and more so. As discussed above under Section V.C., the purpose of and types of benefits provided by the Amended Project are the same as the Certificated Project. The Amended Project increases

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<sup>60</sup> See *infra*, Section VII.

<sup>61</sup> CCN Order, p. 47.

modifications to the Landowner Protocol are discussed in more detail in Mr. Chandler's Direct Testimony.

#### **VIII. Miscellaneous Filing Requirements**

92. In addition to the general information stated above, this Application and the associated testimony satisfies the filing requirements of 20 CSR 4240-2.060(1) and 20 CSR 4240-20.045(6) as follows:

93. Grain Belt Express' Certificate of Good Standing from the Missouri Secretary of State is attached hereto as **Appendix A**.

94. Grain Belt Express has no pending actions or final unsatisfied judgments or decisions against it from any state or federal court or agency within the past three (3) years that involve customer service or rates and has no overdue or unpaid annual reports or assessment fees.

95. The description of the proposed route and site of construction for the Tiger Connector is provided in the Direct Testimony of Andrew Burke and Schedule AB-2, which contains the Route Selection Study. Additionally, the public engagement, coordination with local, state and federal agencies, and the environmental and cultural impacts of the Project are discussed in the Direct Testimony and Schedules of Kevin Chandler and Jen Stelzleni. Real estate requirements and the easement acquisition process is discussed in the Direct Testimony of Kevin Chandler. A legal description of the proposed route for the Tiger Connector is included as Schedule AB-3, attached to Andrew Burke's testimony.

96. A list of all electric, gas, and telephone conduit, wires, cables, and lines of regulated and nonregulated utilities, railroad tracks, and each underground facility, as defined in Section 319.015, RSMo., which the proposed Tiger Connector will cross, is provided as Schedule AB-4 to Andrew Burke's Direct Testimony.



of 20 CSR 4240-20.045(6)(K), as related to the Tiger Connector, is attached to Kevin Chandler's Direct Testimony as Schedule KC-3.<sup>62</sup>

#### **IX. Other Matters**

104. To be clear, Grain Belt Express affirms that it continues to actively develop the Certificated Project under the existing CCN and has not abandoned or otherwise relinquished its existing CCN by filing this Application to Amend or by any other means. Because “[t]he Commission has no authority to terminate a CCN,”<sup>63</sup> the existing CCN remains in full effect during the pendency of the Commission's review of this Application.

105. This Application is filed as an amendment to the existing CCN because, as discussed throughout this Application and the supporting testimony, the general purpose of the Project is not changing. Additionally, there are no material modifications to the route, right-of-way, or facility design of the currently certificated HVDC portion of the Project in Missouri. If Grain Belt Express were to file for a new CCN, the Commission and Grain Belt Express would likely be required to reexamine the entire HVDC portion of the Project under 20 CSR 4240-20.045(6)—including a new routing study, public hearings, and facility design. Such approach would be extremely inefficient and would create significant and harmful uncertainty for the Project and the landowners to revisit that portion of the Project when there are no material changes.

106. Further, the original CCN contemplated AC interconnection facilities, so the Tiger Connector is not a “new” project, but rather, a modified portion of the existing Project. It cannot be considered in isolation from the existing Project or from the request to change the size and

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<sup>62</sup> Grain Belt Express is filing confidential and public versions of Schedule KC-3. The confidential version contains names and addresses of landowners and is confidential pursuant to 20 CSR 4240-2.135(2)(A)(1).

<sup>63</sup> File No. EC-2021-0059, Report and Order, p. 14 (August 4, 2021).

110. Grain Belt Express is not seeking expedited treatment of this Application, but for the purposes of planning, requests an order from the Commission by May 31, 2023, which is in line with a typical timeline for processing a CCN application. The importance of receiving an order from the Commission by May 31, 2023 is discussed in the Direct Testimony of Mr. Sane.

**X. Conclusion**

WHEREFORE, Grain Belt Express respectfully requests the Commission: (a) take administrative notice of the record in File No. EA-2016-0358; (b) grant its request to amend the CCN as described in this Application and the supporting testimony; (c) approve the limited modifications to existing conditions on Grain Belt Express' CCN as described in this Application and the supporting testimony; and (d) take such other action as it determines the law requires in order to approval all aspect of the Amended Project.

Respectfully submitted,

/s/ Andrew O. Schulte

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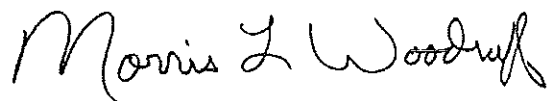
ATTORNEYS FOR GRAIN BELT EXPRESS LLC

STATE OF MISSOURI

OFFICE OF THE PUBLIC SERVICE COMMISSION

I have compared the preceding copy with the original on file in this office and I do hereby certify the same to be a true copy therefrom and the whole thereof.

WITNESS my hand and seal of the Public Service Commission,  
at Jefferson City, Missouri, this 1<sup>st</sup> day of September, 2022.



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Morris L. Woodruff  
Secretary

**MISSOURI PUBLIC SERVICE COMMISSION**

**September 1, 2022**

**File/Case No. EA-2023-0017**

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