BEFORE THE STATE CORPORATION COMMISSION 
OF THE STATE OF KANSAS

In the Matter of the Joint Application of
Invenergy Transmission LLC, Invenergy
Investment Company LLC, Clean Line Energy
Partners LLC, Grain Belt Express Clean Line
LLC, and Grain Belt Express Holding LLC for
an Order Approving the Acquisition by
Invenergy Transmission LLC of Grain Belt
Express Clean Line LLC.

Docket No. 19-GBEE-253-ACQ

TESTIMONY OF SHASHANK SANE
EXECUTIVE VICE PRESIDENT, INVENERGY LLC
ON BEHALF OF GRAIN BELT EXPRESS LLC

IN SUPPORT OF MOTION TO AMEND UNANIMOUS SETTLEMENT AGREEMENT

MARCH 10, 2023
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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Shashank Sane. I am the Executive Vice President of Transmission for Invenergy LLC (“Invenergy”). My business address is One South Wacker Drive, Suite 1800, Chicago, IL 60606.

Q. Please describe your educational and professional background.

A. I received my Bachelor of Finance & International Business degree from the New York University Stern School of Business in 2003. I received my Master of Business Administration degree from the Northwestern University Kellogg School of Management in 2011.

I began my career in investment banking with Lehman Brothers, where I worked from 2003 to 2009. After completing my MBA at Northwestern University, I joined Oliver Wyman as a management consultant focusing on the energy industry. I joined Invenergy in 2013 and have remained there since that time. During my nine years with Invenergy I have led various functions including corporate finance, strategy, distributed energy and, since the beginning of 2021, transmission.

Q. Have you previously testified before the regulatory commission of any state or the Federal Energy Regulatory Commission?


Q. What are your duties and responsibilities in your present position?
A. Grain Belt Express LLC ("Grain Belt Express"), the Movant in this proceeding, is a limited liability company organized under the laws of the State of Indiana. 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 and its affiliate company, Invenergy, are global leaders in renewable energy and transmission development. Invenergy and its affiliates are providing project management support for Grain Belt Express, including overseeing the financing, design, engineering and construction of the Grain Belt Express transmission line project ("Project") pursuant to agreements with Grain Belt Express.

In my current role as Executive Vice President of Transmission for Invenergy, I oversee the development of all of the transmission projects by Invenergy or its affiliates. In that role, I am overseeing development of the entire Project from Kansas to Indiana.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to support Grain Belt Express’ Motion to Amend the Unanimous Settlement Agreement ("Motion") filed contemporaneously with this testimony.1 My testimony supports Grain Belt Express’ request to amend the Financing Requirement. Amending the Financing Requirement is necessary because Grain Belt Express plans to construct the Project in two phases. Grain Belt Express plans to phase the Project because of extremely strong demand for the Project’s energy and delays in permitting and land acquisition in Illinois. The phasing of the Project and the proposed

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1 Grain Belt Express’ Motion to Amend the Unanimous Settlement Agreement, Docket No. 19-GBEE-253-ACQ (Mar. 10, 2023) (19-253 Motion to Amend).
amendments to the Financing Requirement are in the public interest because they provide the same assurances as the existing Financing Requirement—specifically, they ensure installed transmission facilities will be used. Further, the amendments are in the public interest because they allow the benefits of the Project to accrue sooner than would otherwise occur. My testimony will also update the Commission on the Project’s progress and describe several updates to the Project’s configuration.

Q. How is your testimony being organized?

First, I will begin by discussing the Kansas Corporation Commission’s (“Commission”) prior determinations with respect to the Project. Second, I will set forth Grain Belt Express’ proposed amendments to the Financing Requirement, which is set forth at Paragraph 9.a. of the Unanimous Settlement Agreement (“Settlement Agreement”) filed in this Docket on May 1, 2019. Third, I will discuss how the amended Financing Requirement serves the public interest. Finally, for the benefit of the Commission’s and the public’s awareness, I will provide a general status update regarding the Project.

II. THE PROJECT’S PRIOR APPROVALS BEFORE THE COMMISSION AND THE AMENDED FINANCING REQUIREMENT

Q. Could you briefly describe the Commission’s findings in Docket Nos. 11-GBEE-624-COC and 13-GBEE-803-MIS?

A. In granting Grain Belt Express’ request for a CCN in Docket No. 11-GBEE-624-COC (the “11-624 Docket”), the Commission found substantial competent evidence had been provided to support the grant of a CCN for the Project contemplated by Grain Belt Express. The Commission also found that “the need for long-distance multi-state transmission projects such as the Grain Belt Express . . . will promote the development of

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2 11-624 Order, ¶ 17.
wind generation facilities in Kansas, which will provide benefits to Kansas and other areas of the country.”3 The Commission further found that “it is in the public interest to promote the development of wind energy resources, which is vital to economic growth in the state . . . [and] promotes both Kansas’ wind energy resources and introduces diversity in the transmission line system,”4 and that “there is not another public utility that is providing this service.”5

Then, in approving Grain Belt Express’ siting permit in Docket No. 13-GBEE-803-MIS (the “13-803 Docket”), the Commission again found that the proposed Project provides benefits to electric customers both inside and outside of Kansas, and it provides economic development benefits in Kansas.6 As noted previously, the Commission stated that, “it is physically necessary to build a transmission facility that runs between southwest Kansas to eastern Kansas if one wishes to sell wind energy from southwester Kansas to markets east of Kansas,”7 finding that, without this Project, “hundreds of millions of economic development dollars would not be spent in Kansas, and the potential for large scale wind farm development would be lost.”8 The following Commission findings in the 13-803 Order regarding the benefits of the Project for Kansas are still valid:

a. The Project will facilitate the development and export of wind resources from western Kansas to load and population centers in Missouri, Illinois, Indiana, and states farther east, without duplicating existing transmission service or facilities.9

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3 11-624 Order, ¶ 50.
4 11-624 Order, ¶ 53.
5 11-624 Order, ¶ 57.
7 13-803 Order, p. 13, ¶ 32.
9 13-803 Order, p. 8, ¶ 21; p. 10, ¶ 24; p. 21, ¶ 57.
b. The Project will displace other, less environmentally friendly sources of energy, and will provide economic benefits to Kansas in the form of landowner contracts, more jobs from the construction of the line and increased employment in wind-related industries in Kansas, increased production of wind turbine components and additional tax revenue for local and State governments.\(^\text{10}\)

c. The proposed line will expand renewable generation resources and transmission infrastructure in Kansas using HVDC technology, which allows for better control and transfer of significantly more power with less power loss over long distances, and utilizes narrower rights of way, shorter structures, and fewer conductors.\(^\text{11}\)

d. The Project will benefit wholesale competition in the electricity market.\(^\text{12}\)

e. The Project promotes current and past policy initiatives in Kansas which support wind development and construction of transmission.\(^\text{13}\)

Q. **Could you briefly summarize this Docket’s history?**

A. The Motion, filed simultaneously herewith, provides an accurate account of the prior pleadings, orders, and procedures in this docket which led to the development and approval of the Settlement Agreement.\(^\text{14}\) The relevant docket history that concerns my testimony is the Settlement Agreement reached by Staff of the Commission (“Staff”), Grain Belt Express Clean Line LLC (prior name of Grain Belt Express), and Invenergy Transmission LLC.\(^\text{15}\) The Commission concluded that the Settlement Agreement satisfied all applicable

\(^{10}\) 13-803 Order, pp.9-10, ¶ 22, 23; p. 13, ¶ 33.

\(^{11}\) 13-803 Order, pp. 8-9, ¶ 22.

\(^{12}\) 13-803 Order, p. 10, ¶ 24; p. 13, ¶¶ 34, 35.

\(^{13}\) 13-803 Order, pp. 11-12, ¶ 28.

\(^{14}\) 19-253 Motion to Amend, p. 1–3.

\(^{15}\) See generally Unanimous Settlement Agreement, Docket No. 19-GBEE-253-ACQ (May 11, 2019).
Merger Standards and Settlement Standards, and therefore, granted Grain Belt Express authority to construct the Project.\(^{16}\)

Q. Did the Commission find the Settlement Agreement to be in the public interest?

A. Yes. The Commission found that the acquisition, as conditioned by the Settlement Agreement, is in the public interest reasoning:

The Unanimous Settlement Agreement is in the public interest because Invenergy’s acquisition of GBE increases the likelihood that the GBE Project will be constructed, and the Commission has previously found that the GBE Project is in the public interest. Invenergy’s acquisition of GBE does not significantly alter the GBE Project, and therefore, the benefits identified in the Commission’s prior orders have not significantly changed. These benefits include the merchant model cost-recovery plan, billions of dollars of economic development in Kansas, and the development of environmentally friendly sources of energy.\(^{17}\)

Q. The purpose of your testimony is to support an amendment to the Settlement Agreement, correct?

A. Yes.

Q. Do you propose specific amendments to the Financing Requirement?

A. Yes. We are requesting that the Commission approve an amendment to Paragraph 9.a.i–iv of the Financing Requirement to state:

a. GBE will not install transmission facilities on easement property in Kansas until it has obtained commitments for funds in an amount equal to or greater than the total cost to build the entirety of this multi-state transmission project Phase I of the Project (“Financing Requirement”). For purposes of this condition, “Phase I” is defined as the portion of the Project consisting of a converter station and associated facilities in Ford County, Kansas, the HVDC transmission line between such Kansas converter station and a converter station in Missouri, and AC facilities connecting such Missouri converter station to one or more points of delivery in Missouri. To allow the Commission to verify compliance with this condition, GBE shall file the


\(^{17}\) 19-253 Order, p. 12–13, ¶ 27.
following documents with the Commission at such a time as GBE is prepared to begin to construct electric transmission facilities in Kansas:

i. On a confidential basis, equity and loan and/or other debt financing agreements and commitments entered into or obtained by GBE or its parent company for the purpose of funding Phase I GBE’s multistate transmission project that, in the aggregate, provide commitments for the total project Phase I cost.

ii. An attestation by an officer of GBE that GBE has not, prior to the date of the attestation, installed transmission facilities on Phase I easement property; or a notification that such installation is scheduled to begin on a specified date.

iii. A statement of the total multi-state transmission project Phase I cost, broken out by the categories of engineering, manufacturing and installation of converter stations; transmission line engineering; transmission towers; conductor; construction labor necessary to complete the project Phase I; right-of-way acquisition costs; and other costs necessary to complete the project Phase I, and certified by an officer of GBE.

iv. A reconciliation statement certified by an officer of GBE showing that (1) the agreements and commitments for funds provided in subsection (i), above, are equal to or greater than the total project Phase I cost provided in subsection (iii), above; and (2) the contracted transmission service revenue is sufficient to service the debt financing of the project Phase I (taking into account any planned refinancing of debt).

Deletions are in red and struck through. Additions are underlined and in red for visibility.

For the purposes of my testimony, I will refer to the above amendments as the “Amended Financing Requirement.” A clean version of the Amended Financing Requirement is set forth in the Motion.18

Q. **What is Phase I of the Project as referenced in the Amended Financing Requirement?**

A. Phase I of the Project will consist of a converter station and associated facilities in Ford County, Kansas, the HVDC transmission line between such Kansas converter station and

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18 Motion to Amend, p. 5–6.
a converter station in Missouri, and AC facilities connecting such Missouri converter
station to one or more points of delivery in Missouri. More specifically, the converter
station in Kansas will interconnect to ITC’s Saddle 345 kV substation, which will break
the 345 kV double circuit line between the Clark County substation and the
Spearville/Ironwood substations in Ford County in southwestern Kansas, near Dodge City.
From the converter station near Dodge City, Kansas, the HVDC transmission line will
traverse approximately 375 miles to the Kansas-Missouri border. The HVDC transmission
line will cross the Missouri River south of St. Joseph and enter Missouri. From there, the
HVDC transmission line will traverse approximately 156 miles to a converter station in
Monroe County, Missouri.

The converter station in Missouri is proposed to be interconnected with the MISO
system along the Ameren 345 kV AC transmission line connecting the McCredie
substation and the Montgomery substation, near the McCredie 345kV substation. The
proposed connection will be made via a single 345 kV circuit from the converter station to
a tap point along the Ameren 345 kV transmission line. The proposed converter station
will also interconnect with the Associated Electric Cooperative, Inc. (“AECI”) system at
the McCredie 345 kV substation. The proposed connections will be made via an
approximately 40-mile 345 kV double circuit from the converter station in Monroe County
to the two points of interconnection (“POIs”) at and near AECI’s McCredie 345 kV
substation. This 345 kV AC transmission line is referred to as the “Tiger Connector.”
Grain Belt Express is currently seeking approval of the Tiger Connector before the MPSC.

**Q. Are there any other phases of the Project? If so, please describe them.**

**A.** Yes. Phase II is the only other phase of the Project. Phase II of the Project will begin at the Monroe County, Missouri converter station and then traverse an additional approximately 58 miles in Missouri to the Illinois border. The Project will then cross the Mississippi River and enter Illinois.

The Proposed Route in Illinois will continue approximately 207 miles through Illinois to the Indiana border. The 207-mile Proposed Route in Illinois consists primarily of an HVDC transmission line and includes approximately three to eight miles of an AC transmission line. The AC line will run from a converter station proposed in Clark County, Illinois—where current will be converted between DC and AC—to the Indiana border. The Project will then traverse approximately two miles in Indiana to terminate at AEP’s Sullivan 345 kV substation in southwestern Indiana. This final POI, which is approximately two miles into Indiana, will provide direct access to the 765 kV network in PJM via two 345/765 kV transformers in the AEP 765 kV Sullivan substation.

**Q. When will full-scale construction of the Project begin?**

**A.** Subject to continuing land acquisition and financing, Grain Belt Express is targeting beginning construction of Phase I of the Project near the end of 2024, which is the earliest possible start of construction. Grain Belt Express is targeting to begin construction on Phase II of the Project 18 months to two years after Phase I.
Q. Please provide additional details on the construction timeline for Phase I.

A. Grain Belt Express is currently advancing Phase I detailed engineering along with other pre-construction activities which include but are not limited to right-of-way acquisition, environmental permitting, utility crossing agreements, and road use agreements. Detailed structural design and full-scale tower testing is currently ongoing and is anticipated to be completed by mid-year 2023. Grain Belt Express will begin tower procurement activities upon completion of the tower testing. Initial material sourcing activities for the conductor, line hardware, and insulator assemblies have begun. Limited geotechnical investigations have been performed with additional investigations anticipated to further inform design and construction of tower foundations. Structure locations and access to structures has been developed at a desktop level. Engineering and construction teams began micro-siting structure locations during the fourth quarter of 2022. Objectively the micro-siting of structures and access will further minimize impacts to landowners, land resources, and the environment. Material procurement and micro-siting activities will continue throughout 2023 and shall be advanced such to allow for the targeted construction start previously stated.

With respect to vendor agreements, in December 2022, Grain Belt Express entered into a supplier agreement with Siemens Energy (“Siemens”), in which Siemens will support the final integrated design on the HVDC converter stations located in Ford County, Kansas and Monroe County, Missouri. Detailed engineering for the converter stations will begin in 2023 following the initial engineering studies to be performed by the converter station vendor. The procurement of the converter station main components is currently anticipated to begin in 2024.
Additionally, Grain Belt Express has entered into a Memorandum of Understanding with Hubbell Power Systems to supply conductor hardware and insulators. While Grain Belt Express is still in the process of finalizing selection of all vendors and suppliers, the selection of the aforementioned contractors and other contractors selected for the Phase I portion of the Project will guide selection of contractors for the Illinois portion.

Q. What are the benefits to building the Project in two phases?

Constructing the Project in two phases is in the public interest of Kansas because it will allow the benefits of Phase I to accrue much earlier than would otherwise be possible. The regulatory approval process in Illinois had been subject to extensive delays because of now-resolved appeals of the ICC’s 2015 decision to grant a CPCN to Grain Belt Express Clean Line LLC in ICC Docket 15-0277. As a result, in July 2022, Grain Belt Express filed a new application for a CPCN in Docket No. 22-0499. On March 8, 2023, in that docket, the ICC issued Grain Belt Express a certificate to construct the Illinois portion of the project.

With that certificate Grain Belt Express can now begin land acquisition in Illinois. Given that land acquisition in Kansas and Missouri has taken approximately 2.5 years (and is still subject to ongoing negotiations), it is reasonable to project a similar timeline for Illinois land acquisition efforts. Therefore, phasing the Project will allow Kansas and Missouri to realize the benefits of the Project sooner, without being dependent on land acquisition efforts in Illinois. This includes the majority of the economic, reliability and public interest benefits discussed in the Certificate Docket, the Line Siting Docket, and this Docket.\(^{20}\)

\(^{20}\text{See infra pp. 3–5.}\)
Q. How does phasing the Project affect the financing of the Project?

A. It only affects the financing of the Project in that Phase I and Phase II of the Project will now be financed separately.

Q. How will the financing of each Phase work?

A. Grain Belt Express will use project financing as previously approved in this Docket. As a reminder, after advancing development and permitting activities to a status at which developers of wind and solar generation facilities and other potential customers of the transmission line are willing to enter into commercial agreements for an undivided interest (purchase or lease) or long-term contracts for transmission capacity on the Project, Grain Belt Express will enter such contracts with interested parties that satisfy necessary creditworthiness requirements. Grain Belt Express will then raise debt capital using the aforementioned contracts as security for the debt. Grain Belt Express may also raise additional equity capital.

In the context of phasing, Grain Belt Express will be project financing each Phase separately. As each Phase of the Project approaches the beginning of construction, Grain Belt Express will enter Phase-specific financing arrangements with investors and lenders to secure the capital needed to complete development and construction of each Phase of the Project and place it into operation.

In addition to obtaining state regulatory approvals, Grain Belt Express will need to enter contracts for a portion of the transmission capacity on each Phase prior to obtaining full financial commitments for the Project. The exact percentage of capacity that needs to be under contract prior to obtaining full financing commitments for each Phase will depend

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21 See 19-253 Order, p. 4, ¶ 12.
on the price, counterparty creditworthiness and terms in years of the signed transmission contracts.

III. **THE AMENDED FINANCING REQUIREMENT IS IN THE PUBLIC INTEREST**

Q. Why does the Commission need to take action in this docket?

A. The first sentence of the current Financing Requirement states:

> GBE will not install transmission facilities on easement property in Kansas until it has obtained commitments for funds in an amount equal to or greater than the total cost to build the entirety of this multi-state transmission project (“Financing Requirement”).

In other words, the existing Financing Requirement places a requirement for full financing of the entire Project before installing transmission facilities on easement property. Given the expected timeline for land acquisition in Illinois and the phasing of the Project, as described above, the benefits of the Project will be unnecessarily delayed if the Financing Requirement is not modified.

Q. What is the purpose of the existing Financing Requirement?

A. The Financing Requirement set forth in Paragraph 9.a. of the Settlement Agreement resulted from negotiations between Staff, Grain Belt Express Clean Line, and Invenergy Transmission, and is intended to ensure that Grain Belt Express confirms its financial ability to construct and operate a useful project before any transmission facilities are installed on easement property in Kansas.

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22 Direct Testimony of Justin T. Grady In Support of the Unanimous Settlement Agreement on behalf of Commission Staff, 19-GBEE-253-ACQ, at 12 (May 1, 2019) (Paragraph 9.a.i–iv “addresses Staff’s concerns because it will require GBE to prove that it has the financial ability to complete the project (including evidence of contracted transmission service revenues sufficient to cover any debt financing of the project) before it begins any construction activities. Staff views this condition positively because it addresses a largely theoretical concern about the ability of a special purpose entity to finance future activities without the financial resources of its parent and addresses that concern with a concrete requirement to prove that GBE can finance the project before it begins construction.”).
Q. **How does the Amended Financing Requirement serve that same purpose?**

A. The Amended Financing Requirement continues to require Grain Belt Express to prove its financial ability before installing transmission facilities on easement property in Kansas, except that it need only acquire full financing for Phase I of the Project. All of the safeguards—and the purposes for those safeguards—contained in Paragraph 9.a.i–iv continue to exist, except, again, they apply to Phase I.

Q. **What are the advantages of the Amended Financing Requirement?**

A. The Amended Financing Requirement ensures that installed Phase I transmission facilities are used and allows the benefits of the Project to accrue sooner than would otherwise occur.

Q. **How does the Amended Financing Agreement ensure Phase I is completed?**

A. Phase I being independently economically viable ensures that Phase I will be completed. Phase I is independently economically viable because, upon completion, it will be operational and capable of delivering power into Missouri. As described above, Phase I will be capable of delivering power into Missouri via its interconnections with the MISO system along the Ameren 345 kV AC transmission line connecting the McCredie substation and the Montgomery substation and with the AECI system at the McCredie 345 kV substation.

Not only do these circumstances ensure that Phase I will be completed, they also ensure that Phase I by itself will allow large amounts of renewable energy to be built in southwest Kansas and to access the MISO markets and AECI system and compete to serve customer load without impacting Kansas ratepayers.

Q. **Why is it in the public interest for the Commission to issue an order in this docket to amend the Financing Requirement?**
A. Again, the purpose of the Financing Requirement is to ensure installed Phase I facilities are used. The requested modification ensures that continues to be the case, but also permits benefits of the Project to accrue sooner than would otherwise occur. As well, the Amended Financing Requirement will protect Grain Belt Express’ investors and customers, Kansas ratepayers and the landowners whose properties will be crossed by the transmission line.

Q. **How will the Amended Financing Requirement protect landowners?**

A. The Amended Financing Requirement will prevent any possibility that Grain Belt Express begins construction of the Project and installs structures on easements but later abandons them because of insufficient funds to complete the Project. However, in addition to the protection provided by the Amended Financing Requirement, this scenario is extremely unlikely because private investors are themselves highly motivated to prevent any possibility of an incomplete project. A typical condition on closing of any amount of project financing is that the sponsor (in this case, Invenergy Transmission) has obtained sufficient financing to complete the Project and that the lenders and their advisors have verified achievement of this condition. Thus, the proposed requirement formalizes a requirement which already exists in the practice of the capital markets.

Q. **How does the Amended Financing Requirement protect Grain Belt Express’ customers?**

A. Grain Belt Express’ customers can be assured that once the Project begins construction, there is sufficient financing in place to complete it. Customers can make their own financial commitments to build wind and solar (and other renewable energy) generation projects with the confidence that Grain Belt Express will be able to complete the Project as planned.
Q. How does the Amended Financing Requirement protect Grain Belt Express’ investors and lenders?

A. The proposed requirement protects the investors and lenders against the risk that Grain Belt Express would begin construction of the Project but be unable to complete it due to inability to raise sufficient additional capital to complete construction. The financing requirement will ensure that Grain Belt Express has raised sufficient capital to complete construction of the Project before starting construction—although, as I noted earlier, investors and lenders typically create such assurance through their own due diligence and by including conditions in their financing commitments.

Q. What impact does the Amended Financing Requirement have on the Commission’s reasoning in the 19-253 Order that the Settlement Agreement is in the public interest?

A. It does not have an impact. Again, the Commission reasoned:

The Unanimous Settlement Agreement is in the public interest because Invenergy’s acquisition of GBE increases the likelihood that the GBE Project will be constructed, and the Commission has previously found that the GBE Project is in the public interest. Invenergy’s acquisition of GBE does not significantly alter the GBE Project, and therefore, the benefits identified in the Commission’s prior orders have not significantly changed. These benefits include the merchant model cost-recovery plan, billions of dollars of economic development in Kansas, and the development of environmentally friendly sources of energy. All of these benefits remain true today. The Project continues to be benefitted by Invenergy’s acquisition, the merchant model cost-recovery plan, the creation of billions of dollars of economic development in Kansas, and the development of environmentally friendly sources of energy. The Amended Financing Requirement simply allows the benefits to accrue sooner than they would otherwise occur.

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23 19-253 Order, p. 12–13, ¶ 27.
IV. PROJECT UPDATES

Q. Is there anything else you would like to discuss?

A. Yes. For the benefit of the Commission’s and the public’s awareness, I would like to provide a general status update regarding the Project.

Q. What updates do you have for the Project?

A. As Grain Belt Express has developed the Project, there has been increased demand in the MISO and PJM markets for electricity supplied by renewable resources—and more specifically wind and solar generation. To meet that demand, Grain Belt Express has updated the Project design—primarily in Missouri—in the following ways:

- Increasing the Missouri converter station size (from 500 to 2500 MW) and modifying its location (from Ralls to Monroe County).
- Moving the AC tie line from Ralls County to Monroe, Audrain and Callaway Counties. The AC tie line will be approximately 40 miles, traversing south from the converter station in Monroe county, through Audrain County, and terminating in Callaway County at points of interconnection (“POIs”) at and near the McCredie Substation (the “Tiger Connector”).

Other improvements and updates to the Project 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.
- The use of voltage sourced converter (“VSC”) technology instead of line-commuted converters (“LCC”), which allows for current to flow in any direction by controlling the voltage of the converter.
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, compared to the approximately 780 miles total as the line was previously described in this Docket.

The improvements do not change the right-of-way, route of the Project, types of poles, average pole spacing, or other concerns previously considered in the 11-624 Docket and 13-803 Docket. With respect to the increased length of the Project, the additional line mileage in Kansas is negligible. The negligible line mileage increase in Kansas is the result of landowner negotiations and design constraints, which are all within the approved route corridor.

From my perspective, the updates are improvements in the design, technology, and engineering of the Project, which are typical as a project progresses from the permitting phase to construction phase and is a beneficial process for any transmission project.

Q. Does this conclude your testimony?
A. Yes.
VERIFICATION

STATE OF ILLINOIS   )
COUNTY OF COOK    )
) ss.

I, Shashank Sane, being duly sworn, on oath state that I am the Executive Vice President, Transmission for Invenergy LLC, that I have read the foregoing testimony and know the contents thereof, and that the facts set forth therein are true and correct to the best of my knowledge and belief.

By: __________________________
    Shashank Sane

The foregoing pleading was subscribed and sworn to before me this March 10, 2023.

______________________________
Notary Public

My Commission Expires:

Nov. 16 2026

KRYSTLE OLISZEWICZ
Official Seal
Notary Public - State of Illinois
My Commission Expires Nov 16, 2026
CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing document was served upon the parties listed on the official service list by email, this 10th day of March, 2023.

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