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Andrew Burke
Direct Testimony
File No. EA-2023-0017

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MISSOURI PUBLIC SERVICE COMMISSION

FILE NO.

EA-2023-0017

DIRECT TESTIMONY

OF

ANDREW BURKE

ON

BEHALF OF

GRAIN BELT EXPRESS LLC

AUGUST 24, 2022

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1 **I. INTRODUCTION**

2 **Q. Please state your name, present position and business address.**

3 A. My name is Andrew Burke. I am the Senior Planner/GIS Specialist for WSP USA,
4 Inc. (“WSP”). My business address is 10 Al Paul Lane, Suite 103, Merrimack, New Hampshire
5 03054.

6 **Q. What are your duties and responsibilities in your present position?**

7 A. I oversee GIS services and the application of geospatial technology for WSP clients.
8 I am also an environmental scientist and planner by training and experience. I serve as the project
9 manager for WSP for the Grain Belt Express transmission line project (the “Project”) and as a
10 member of the Routing Team (which is defined below). As a member of the Routing Team, I was
11 directly involved in the development and analysis of routes, public outreach efforts, coordination
12 with state and federal agencies, comparison of alternate routes and preparation of the Grain Belt
13 Express Route Selection Study attached as Schedule AB-2.

14 **Q. Please describe your educational and professional background.**

15 A. My educational and professional background is contained in my curriculum vitae,
16 which is attached as Schedule AB-1.

17 **Q. What is the purpose of your testimony?**

18 A. I am testifying on behalf of Grain Belt Express LLC (“Grain Belt Express”), which
19 is requesting that the Missouri Public Service Commission (“Commission”) amend its existing
20 certificate of public convenience and necessity (“CCN”) to construct, install, own, operate,
21 maintain, and otherwise control and manage an approximately 800-mile, overhead, multi-terminal
22 ±600 kilovolt (“kV”) high-voltage, direct current (“HVDC”) transmission and associated facilities
23 including converter stations and alternating current (“AC”) connector lines (the “Project”). Grain

1 Belt Express engaged WSP to conduct the routing study for the Tiger Connector portion of the
2 Project.¹

3 Specifically, the purpose of my testimony is to describe the development of the Proposed
4 Route (as defined below) for the Tiger Connector and present the Route Selection Study, identified
5 as Schedule AB-2.

6 **Q. Are you sponsoring any schedules or exhibits as part of your direct testimony?**

7 A. Yes, I am sponsoring the following exhibits/schedules:

- 8 • Schedule AB-1 – Burke Curriculum Vitae
- 9 • Schedule AB-2 –Route Selection Study
- 10 • Schedule AB-3 – Legal Description of Proposed Route
- 11 • Schedule AB-4 – List of Utilities Crossed by Proposed Route

12
13 **Q. Can you describe the Proposed Route?**

14 A. Yes. Schedule AB-2 is the Route Selection Study showing the Proposed Route for
15 the Tiger Connector. Schedule AB-3 provides the legal description of the Proposed Route.
16 Schedule AB-4 provides a list of utilities that are in the vicinity of the Proposed Route.²

¹ In Schedule AB-2, the Route Selection Study, the term “Project” refers to the Tiger Connector, as WSP was engaged to conduct the route selection study for the Tiger Connector. Throughout the remainder of Grain Belt Express’ testimony and application, the term “Project” refers to the entire Grain Belt Express transmission line project.

² 20 CSR 4240-20.045 requires the applicant to provide a “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 construction will cross.” Given that the Proposed Route is subject to further refinement, we have provided an over inclusive list of such facilities. As the Proposed Route is further refined, Grain Belt Express can provide an updated list of facilities that are actually crossed by the Tiger Connector.

1 **II. TIGER CONNECTOR ROUTE SELECTION STUDY**

2 A. Overview of Route Selection Study

3 **Q. Who conducted the route determination process for the Tiger Connector?**

4 A. The Route Selection Study was conducted by an interdisciplinary routing team.
5 Members of the Routing Team have experience in transmission line route planning and selection;
6 natural resource impact assessment; land use assessment and planning; cultural resource
7 identification and assessment; impact mitigation and transmission line engineering; design and
8 construction. Appendix A of the Route Selection Study lists the 2022 Routing Team members,
9 their business affiliation and their respective areas of responsibility.

10 **Q. Could you provide an overview of the route development process for the**
11 **Proposed Route?**

12 A. Beginning in March 2022, Grain Belt Express conducted an extensive, methodical,
13 multi-level public outreach and information collection process to determine the Proposed Route
14 for the Tiger Connector. The route determination process involved an extensive governmental and
15 public outreach process to engage as many stakeholders as possible, provide them with information
16 on the Tiger Connector, and obtain their input relating to the route development process and related
17 matters (including permitting requirements and other concerns of federal and state departments
18 and agencies and of local governments). The route selection process entails the analysis of current
19 geography and land use, environmental and socioeconomic setting, the Tiger Connector’s
20 construction requirements, the political climate, regulatory requirements, and Tiger Connector
21 schedule considerations. Once a focused study area is identified, detailed constraint and
22 opportunity data was collected to identify potential route candidates. Constraint and opportunity
23 data is collected in three main categories: land use, ecology, and technical
24 (engineering/constructability. This data is utilized to identify potential route segments. When

1 evaluating potential route segments, the Routing Team attempted to avoid constraints, built-up
2 areas, residences, wetlands, forested areas, center pivot irrigation, and, where practical, to follow
3 existing developed corridors such as roads and existing transmission and distribution lines.

4 **Q. At a broad level, describe the stages of how the route is selected.**

5 A. We begin the “Study Area”, which is generally made up of the area between the
6 end points, which, in this case, were the proposed converter station site in southern Monroe
7 County, Missouri and a point near the McCredie Substation in Callaway County, Missouri. The
8 Study Area, and each subsequent step is refined by our ongoing data gathering efforts. Our next
9 stage is to identify “Conceptual Routes” which are developed using general routing and technical
10 guidelines. From there, we develop “Potential Routes” that incorporates in site specific
11 information, data, and incite gained from coordination with regulatory agencies. Potential Routes
12 are then shown to the public at Public Meetings. Based on public feedback, Potential Routes are
13 narrowed to a “Refined Potential Route Network.” From there, the Refined Potential Route
14 Network is analyzed and narrowed to “Alternative Routes.” Last, using all the data gathered, be
15 compare and contrast positive and negative aspects of the Alternative Routes and identify a
16 “Proposed Route” that minimizes the effect of the Tiger Connector on the natural and human
17 environment, while avoiding circuitous routes, extreme costs, and non-standard design
18 requirements. I describe elements of the process stages in more detail below and throughout the
19 Route Selection Study.³

³ See Section 2 of the Routing Study for details on the routing process; Section 4 of the Routing Study for information on route development, and Sections 5 and 6 of the Routing Study for details on how the Proposed Route was chose out of the Study area.

1 **Q. Can you provide a brief timeline of the routing process?**

2 A. Yes. Invenergy began formal project design of the Tiger Connector in March 2022.

3 Soon after, Invenergy contracted with WSP to support the siting, public outreach, and regulatory

4 process for the Tiger Connector. Throughout the spring/summer of 2022, the Routing Team began

5 evaluating routing concepts to connect the proposed HVDC converter station located along the

6 approved Grain Belt Express HVDC Route, the existing McCredie Substation located off County

7 Road 231 in Callaway County, and a proposed interconnection substation adjacent to Highway FF

8 in Callaway County, Missouri. Using siting criteria and guidelines outlined in Section 2.3 of the

9 Route Selection Study, Staff from WSP and Invenergy (collectively, the Routing Team), refined

10 the conceptual routes into Potential Routes in June 2022 (consisting of 23 links that could be

11 combined in different ways to create a complete route). In July 2022, the Routing Team hosted

12 Public Meetings (see Section 3.2.1 of the Route Selection Study) to present the Potential Routes

13 to the public. Based on landowner and community members feedback during the open house

14 meetings, the Routing Team formed a Refined Potential Route Network and identified Alternative

15 Routes. After analyzing and comparing the Alternative Routes, a Proposed Route was selected.

16 The attached report presents the process, activities, analysis, and decision rationale for selection

17 of the Proposed Route.⁴

18 **Q. Please explain the guidelines that WSP follows in conducting a route selection**
19 **study.**

20 A. The overall goal of the Route Selection Study is to identify a Proposed Route that

21 minimizes the overall effect of the transmission line on the natural and human environment, avoids

22 unreasonable and circuitous routes and unreasonable costs, and minimizes special design

⁴ See Routing Study at Section 1.3 for more detail.

1 requirements. Routing guidelines help the Routing Team reach that goal by setting forth general
2 principles that guide the development of alignments considered in the study.

3 The Routing Team considered two types of Routing Guidelines: General Guidelines and
4 Technical Guidelines. General Guidelines establish a set of principles that guide the development
5 of alignments with respect to area land uses, sensitive features, and considerations of economic
6 reasonableness.⁵ Technical Guidelines provide the Routing Team with technical limitations
7 related to the physical limitations, design, ROW requirements, or reliability concerns of the Tiger
8 Connector infrastructure.⁶

9 B. Public Outreach

10 **Q. How did Grain Belt Express facilitate public feedback for the routing study?**

11 In July 2022, the Routing Team held four Public Meetings in Audrain County and Callaway
12 County. The number of potentially affected landowners in Monroe County was less than 25, so a
13 Public meeting was not held in that county in accordance with regulatory requirements. However,
14 landowners in Monroe County were notified by letter of the four Public Meetings in Audrain and
15 Callaway counties. All potentially affected landowners and other stakeholders were informed of
16 the Public Meetings by mailed invitations and local newspaper advertisements.

17 Each Public Meeting lasted two hours and included informational boards, large area table
18 maps, and members of the Routing Team who were available to discuss the Tiger Connector and
19 answer questions. Each attendee was encouraged to complete a comment card form with their
20 name and contact information along with space to provide written feedback or questions. In
21 addition to the comment cards, each attendee was given a Tiger Connector handout with key

⁵ See Routing Study at Section 2.3.1 for more detail.

⁶ See Routing Study at Section 2.3.2 for more detail.

1 information, including a Tiger Connector description, timeline, overview map of the Tiger
2 Connector project area, routing process steps, and a diagram of typical structure types.⁷

3 **Q. Was there a virtual meeting option?**

4 A. Yes, to increase access to the Public Meeting materials and input opportunities, a
5 supplemental virtual meeting was open for a period of time overlapping the physical open house
6 meetings. The virtual meeting was hosted on the Grain Belt Express website,
7 www.grainbeltexpress.com/Tiger-Connector and a pop-up message was added to the homepage
8 when the virtual meeting was live that provided a quick link to the virtual meeting site. The virtual
9 meeting was self-paced and was accessible anytime July 25th through August 5th.

10 C. Identification of the Proposed Route

11 **Q. How did Grain Belt Express determine the Proposed Route?**

12 A. The rationale for the Proposed Route is included in Section 6 of the Route Selection
13 Study. The Proposed Route—Alternative Route B—better met the overall goal of minimizing
14 impacts on the natural, human, and historic resources, while making the best use of aligning with
15 existing divisions of land by paralleling parcel boundaries, field lines, and existing infrastructure.
16 The selection of this route is reasonable and sound because: (1) development of the Alternative
17 Routes integrated input from government agencies, local officials, and the general public into route
18 development, analysis, and selection; and (2) it is the route that best minimizes the overall effect
19 of the Tiger Connector transmission line on the natural and human environment while avoiding
20 circuitous routes, unreasonable costs, and special design requirements.⁸

⁷ More information about the form and substance of the Public Meetings can be found in Section 3.2 of the Routing Study.

⁸ See Sections 4 and 5 of the Routing Study for a discussion on how route selection was conducted.

III. CONCLUSION

1

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Q. Does this conclude your testimony?

3

A. Yes, it does.

**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)

AFFIDAVIT OF ANDREW BURKE

1. My name is Andrew Burke. I am the Senior Planner/GIS Specialist for WSP USA, Inc. (“WSP”). My business address is 10 Al Paul Lane, Suite 103, Merrimack, New Hampshire 03054.

2. I have read the above and foregoing Direct Testimony and the statements contained therein are true and correct to the best of my information, knowledge, and belief.

3. Under penalty of perjury, I declare that the foregoing is true and correct to the best of my knowledge and belief.



Andrew Burke
Senior Planner/GIS Specialist
WSP USA, Inc.

Date: 8/24/22