

Exhibit No.:
Issue(s): Transmission Line
Design
Witness: Justin D. Wenk
Type of Exhibit: Direct Testimony
Sponsoring Party: Ameren Transmission
Company of Illinois
File No.: EA-2025-0222
Date Testimony Prepared: May 1, 2025

MISSOURI PUBLIC SERVICE COMMISSION

FILE NO. EA-2025-0222

DIRECT TESTIMONY

OF

JUSTIN D. WENK

ON

BEHALF OF

AMEREN TRANSMISSION COMPANY OF ILLINOIS

**St. Louis, Missouri
May 2025**

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	PURPOSE OF TESTIMONY	2
III.	OVERVIEW OF THE TRANSMISSION LINE DESIGN AND WORK	2
IV.	CONCLUSION.....	5

DIRECT TESTIMONY

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JUSTIN D. WENK

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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Justin D. Wenk. My business address is One Ameren Plaza, 1901 Chouteau Avenue, St. Louis, Missouri 63103.

Q. What is your position with Ameren Missouri?

A. I am a transmission line design engineer.

Q. What are your responsibilities as Transmission Line Design Engineer?

A. My responsibilities as a transmission line design engineer include but are not limited to designing electric transmission lines over 100kV in accordance with industry standards and company standards.

Q. Please describe your educational background and employment experience.

A. In 2012, I completed a Bachelor of Science Degree in Civil Engineering from the University of Missouri Columbia. I have been a licensed professional engineer in the state of Missouri since 2016. I have been employed by Ameren since October 2012. During the years 2012 through 2016, I worked in the civil structural group performing foundation design for transmission lines and substations, and substation site grading. Since 2016 and continuing through the present, I work in the transmission line design group self-performing and/or managing large capital programs. These capital projects include transmission line rebuilds, line reconductors, and individual structure replacements.

Q. Have you previously testified before the Missouri Public Service Commission?

A. No.

II. PURPOSE OF TESTIMONY

Q. What is the purpose of your direct testimony?

A. The purpose of my direct testimony is to support Ameren Transmission Company of Illinois' ("ATXI") request for a Certificate of Convenience and Necessity ("CCN") authorizing ATXI to construct, operate, and maintain the Missouri portion of a transmission line referred to as the Grand Towers Crossing Project. ATXI proposes to initially construct in collaboration with Citizens Electric Corporation ("Citizens") an approximately 4-mile, 138-kilovolt ("kV") transmission line ("Transmission Line") to connect Citizens' existing Wittenberg substation in Perry County, Missouri, across the Mississippi River to a new substation near Ameren Illinois' existing Grand Tower substation in Jackson County, Illinois. Joint development of this project with Citizens will support ATXI's future construction of a 345-kV line from Illinois to Missouri. My testimony will provide an overview of the line design and related work that ATXI will undertake as part of the initial and future construction of the Transmission Lines.

Q. Are you sponsoring any schedules with your testimony?

A. Yes, I am sponsoring the following:

Schedule JDW-01: Plan and Profile

Schedule JDW-02: General structure type configuration

Schedule JDW-03 (Parts A and B): River Crossing Profile

Schedule JDW-04: Reconfiguration of Wittenberg Substation

III. OVERVIEW OF THE TRANSMISSION LINE DESIGN AND WORK

Q. Please provide an overview of the proposed Transmission Line.

1 A. The new Jenkins – Wittenberg 138-kV line will be constructed on a 150-foot right
2 of way in Missouri, with galvanized steel monopoles on foundations. Initially, only the 138-kV
3 circuit will be installed on the monopole section of line. The line, however, is designed so that a
4 345-kV circuit could be installed at a later date when ATXI has final justification for and has
5 received approval to construct the line. Due to the complexity of the river crossing, the river
6 crossing structures will either be lattice towers or tubular towers. Because of the complexities
7 associated with river crossing construction, however, both the 138-kV and future 345-kV circuits
8 will be installed on the river crossing for this Project. The river crossing will be constructed on a
9 600-foot-wide easement, which is necessary to support construction and maintenance activities.
10 **Schedule JDW-01** depicts both the route and the profile of the proposed transmission line.

11 **Q. Would you describe the Transmission Line in more detail in terms of its**
12 **design?**

13 A. Yes. As I have stated, the structures will be designed for the initial 138-kV
14 construction and future 345-kV construction needs. The lines will meet or exceed the National
15 Electric Safety Code 2017, currently adopted by the State of Missouri, National Electric Safety
16 Code 2023, and Ameren specific design standards. The design of the monopoles and river crossing
17 towers are depicted in **Schedule JDW-02**. Foundations will be site specific designed based on
18 soil borings taken at each location. For the river crossing, these foundations may be driven piles
19 with a pile cap, drilled piers with a pier cap, or drilled piers. For the steel monopole section, the
20 foundation will be drilled piers ranging in diameter from 8 to 12 feet, depending on design
21 requirements for each monopole.

22 **Q. What is the design with regard to the crossing of the Mississippi River?**

1 A. To cross the Mississippi River, ATXI will be required to coordinate with the Army
2 Corps of Engineers, Local Levee Districts, United States Coast Guard, Federal Aviation Authority,
3 and other state and federal agencies to obtain the necessary permits. These permits will set
4 additional clearance requirements and safety devices required to be installed. At our current design,
5 ATXI is proposing a four-tower river crossing, anchor – tangent – tangent – anchor. Anchor towers
6 will be designed to withstand the full design tensions of the conductors and shield wires, and
7 tangent towers will lift the conductors and shield wires tall enough to provide clearance for the
8 crossing. The anchor towers in Missouri and Illinois are approximately 170ft. The tangent tower
9 in Missouri and Illinois is approximately 470 feet. **Schedules JDW-03A and JDW-03B** depict the
10 proposed river crossing design, showing tower lights, marker balls, avian diverters, low bridge
11 deck height, the 9psf wire blow out over river crossing, as well as the 600-foot easement on plan
12 view.

13 **Q. How is the Project designed to connect to the existing Wittenberg Substation?**

14 A. Citizens Electric has requested ATXI connect the new Jenkins – Wittenberg 138-
15 kV line to the existing Grand Tower – Wittenberg 138-kV position at Wittenberg Substation.
16 Citizens Electric will relocate their 138-kV Grand Tower – Wittenberg line to a new position at
17 Wittenberg. **Schedule JDW-04** depicts the reconfiguration of the Wittenburg Substation; the
18 Jenkins-Wittenburg 138 kV line is depicted by the blue and orange-colored lines.

19 **Q. What work will be required for the Illinois portion of the Transmission Line**
20 **for the Project to be placed in-service?**

21 A. In Illinois, Ameren Illinois will construct the river crossing to connect with ATXI's
22 river crossing in Missouri. In addition, Ameren Illinois will construct roughly a half mile of steel
23 monopole line to connect the river crossing into the new Jenkins 138-kV substation.

3 A. Yes. Based upon my review of his testimony, all known costs associated with the
4 Transmission Line are reflected in the Project costs identified in the direct testimony of ATXI
5 witness Eric Paulek.

6 IV. CONCLUSION

7 Q. Does this conclude your direct testimony?

8 A. Yes, it does.