

Exhibit No.:
Issue(s): Routing
Witness: Dan Schmidt
Type of Exhibit: Direct Testimony
Sponsoring Party: Ameren Transmission
Company of Illinois
File No.: EA-2021-0087
Date Testimony Prepared: April 28, 2021

MISSOURI PUBLIC SERVICE COMMISSION

FILE NO.

EA-2021-0087

DIRECT TESTIMONY

OF

DAN SCHMIDT

ON

BEHALF OF

AMEREN TRANSMISSION COMPANY OF ILLINOIS

**St. Louis, Missouri
April 28, 2021**

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DIRECT TESTIMONY

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1 **I. INTRODUCTION**

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

3 A. My name is Dan Schmidt. I am a Senior Project Manager with HDR Engineering,
4 Inc. (“HDR”). My business address is 1601 Utica Avenue South, Suite 600, St. Louis Park,
5 Minnesota 55416.

6 **Q. Please describe your education and professional background.**

7 A. A summary of my educational background and professional experience is attached
8 as an Appendix to my testimony.

9 **Q. Please describe HDR.**

10 A. HDR is an employee-owned firm founded in 1917 that provides engineering,
11 architecture, and environmental consulting services. HDR has provided engineering and
12 environmental services on over 25,000 miles of transmission lines nationwide. HDR has
13 performed routing studies for more than fourteen electric transmission line projects with voltages
14 of 345 kV or more in the last five years. These projects total over 1,500 miles of transmission lines
15 across the U.S. Ameren Transmission Company of Illinois (“ATXI”) retained HDR as a consultant
16 to perform a routing analysis for the Transmission Line (as that term is defined below) and to
17 support the public outreach activities that were integrated into the route selection process for the
18 Transmission Line. HDR is also assisting ATXI in consulting with certain relevant state and
19 federal agencies regarding the Transmission Line.

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

21 A. The purpose of my testimony is to support ATXI’s request for a Certificate of
22 Convenience and Necessity to construct, operate and maintain an approximately 15-mile, 138
23 kilovolt transmission line (“Transmission Line”) and a substation in Cape Girardeau County

1 (“Whipple Substation”) to improve energy reliability in Perry and Cape Girardeau Counties,
2 Missouri, and the surrounding area. The Transmission Line and the Whipple Substation are
3 referred to together as the “Project,” as more fully addressed by in Sean Black’s direct testimony.

4 My testimony introduces the Routing Study, attached hereto as Schedule DS-01, and
5 provides a high-level overview of the route selection methodology and analysis of environmental
6 and other potential impacts (*e.g.*, agriculture, residences, etc.) that factored into the routing of the
7 Transmission Line. ATXI witness and HDR employee Emily Hyland goes into more detail on the
8 public engagement aspects of the project in her direct testimony.

9 **Q. What is Schedule DS-01?**

10 A. Schedule DS-01 is the Routing Study that HDR prepared for the Transmission Line.
11 It describes in detail the processes, criteria, data, and information that were used to select ATXI’s
12 proposed route for the Transmission Line (the “Proposed Route”) and explains why this specific
13 route was chosen for the Transmission Line.

14 **Q. Are you sponsoring any other schedules as part of your direct testimony?**

15 A. No, I am not.

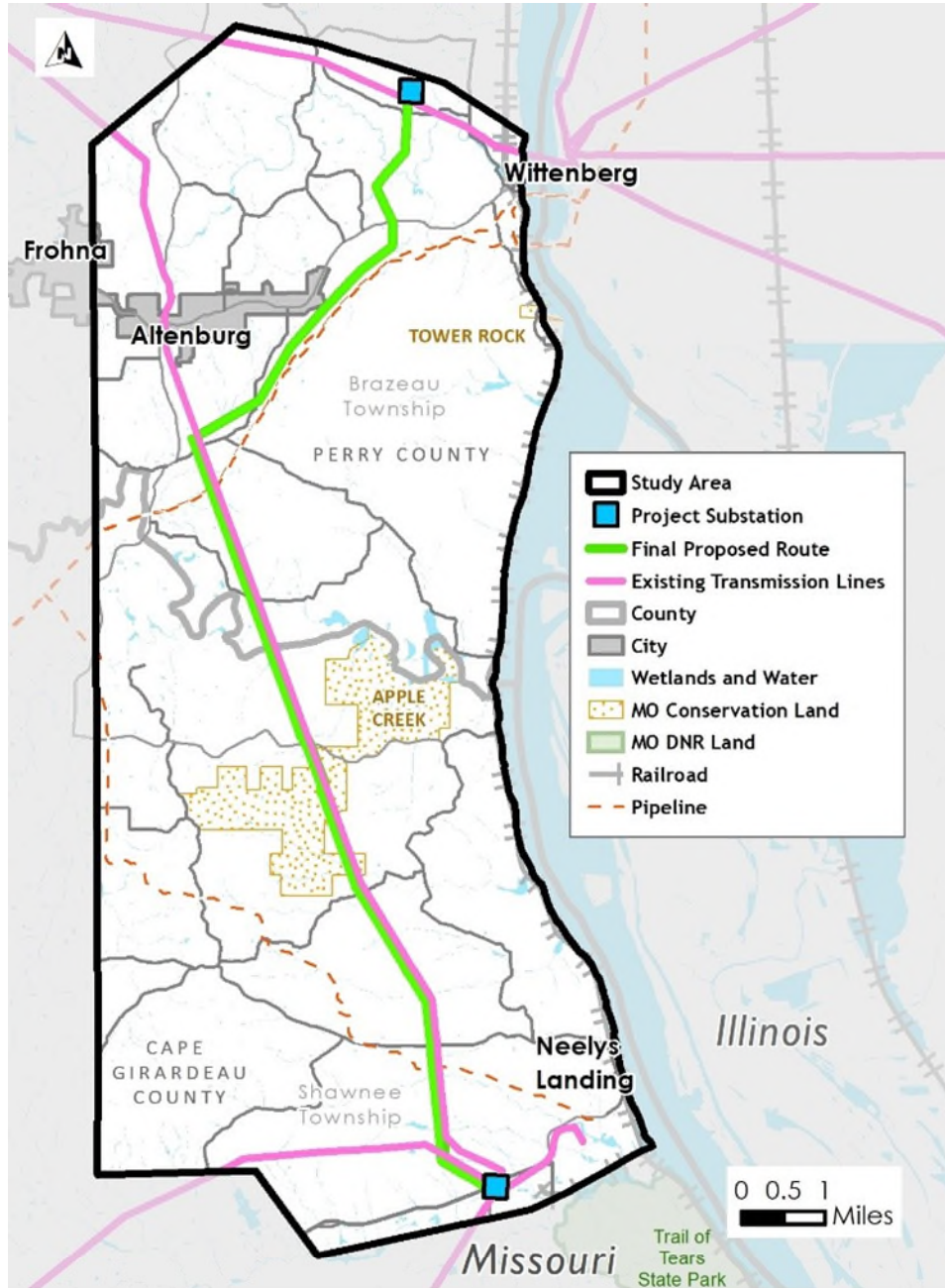
16 **II. TRANSMISSION LINE ROUTE SELECTION**

17 **Q. Has ATXI identified a route for the Transmission Line?**

18 A. Yes. ATXI has identified a Proposed Route. **Figure 1** below shows the Proposed
19 Route.

1

Figure 1



2

3 **Q. Have you viewed the Proposed Route in person?**

4 A. Yes, the routing team and I drove most of the accessible roads within a 72.4 square
 5 mile area in Perry and Cape Girardeau Counties, located between the substations to which the
 6 Transmission Line will connect (the “Study Area”) as we were beginning the process in March

1 2020. Several employees of Ameren Services Company (“Ameren Services”) did additional
2 windshield reviews in September, October and December 2020 to assist in understanding the Study
3 Area.

4 Q. **Please provide an overview of the route selection process.**

5 A. ATXI, working with its project partners, Citizens Electric Cooperative (“Citizens”)
6 and Wabash Valley Power Alliance (“Wabash Valley”), established the connector points for the
7 Transmission Line (*i.e.*, the substations to which the Transmission Line will connect), identified
8 preliminary routes and gathered some initial data. ATXI then engaged HDR. HDR worked with
9 other members of a designated routing team to identify the Study Area, develop proposed narrowed
10 corridors, preliminary route alternatives, and then the Proposed Route for the Transmission Line.
11 HDR and the routing team also managed the public and agency outreach process, as discussed in
12 detail by my colleague, Ms. Hyland. The routing team analyzed potential impacts to
13 “Sensitivities” in the defined Study Area, the degree to which routes took advantage of existing
14 “Opportunities,” adherence to the Technical Guidelines for the Transmission Line, engineering
15 and cost considerations, and adherence to applicable statutes and regulations. These terms will be
16 defined later in my testimony.

17 The routing team also reviewed and considered feedback received from stakeholders
18 during the public involvement process. The goal of the route selection process was to identify the
19 routes that best minimize potential impact to Sensitivities, best use existing Opportunities, and
20 adhere to the Technical Guidelines and statutory requirements.

21 The route selection process consisted of these major steps:

- 22 1. Study Area Identification
- 23 2. Community Representative Forum

- 1 3. Identification of Potential Route Corridors
- 2 4. Public and Agency Engagement – Phase 1
- 3 5. Identification of Preliminary Route Alternatives
- 4 6. Public and Agency Engagement– Phase 2
- 5 7. Identification of Proposed Route with Route Options
- 6 8. Public and Agency Engagement – Phase 3
- 7 9. Proposed Route Determination.

8 **Q. What was your role in the routing team?**

9 A. I acted as a coordinator for the routing team that included subject experts from
10 Ameren Services and HDR covering engineering, real estate, construction, vegetation
11 management, public involvement and environmental review.

12 **Q. What did Study Area identification involve?**

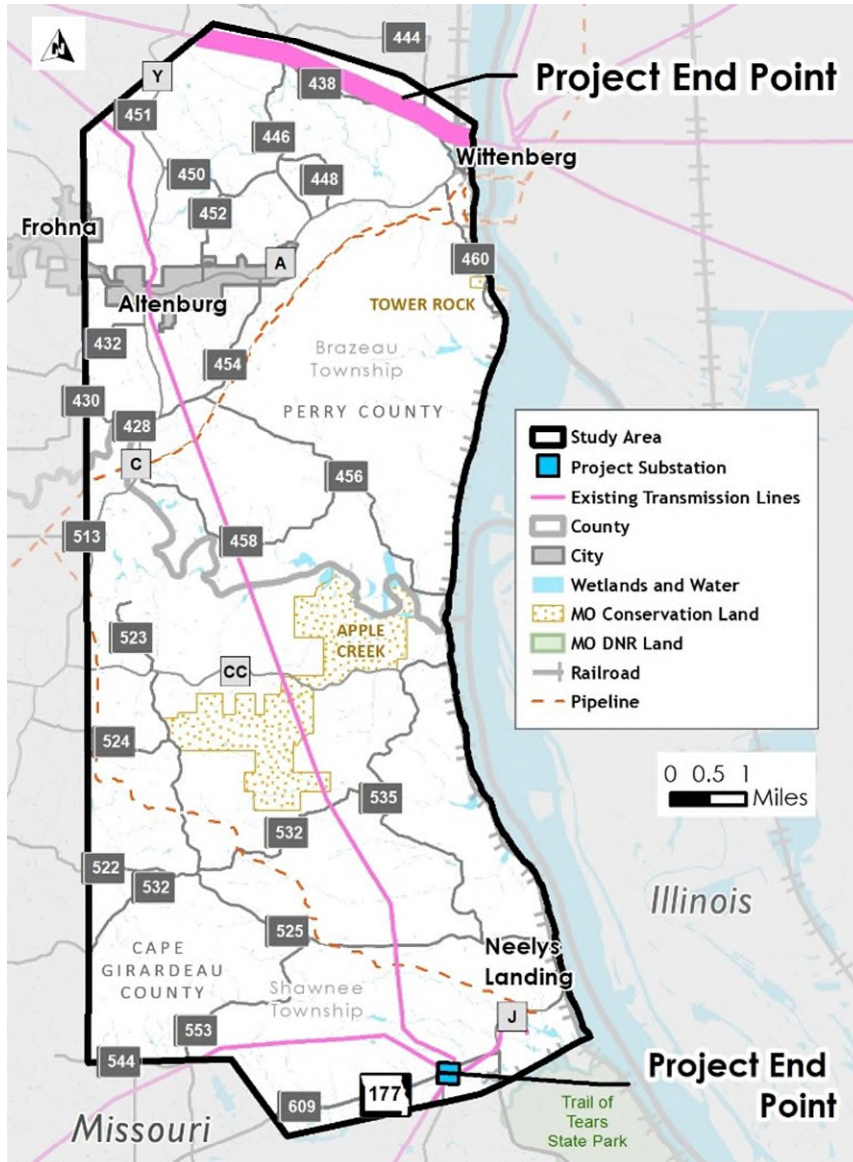
13 A. The initial Study Area was developed by delineating an area between the two
14 project endpoints. The intent of the Study Area is to delineate an area where feasible routes could
15 be located. General landscape features were reviewed, and a reasonable area was developed.

16 **Q. How did ATXI select the boundaries of the Study Area?**

17 A. A Study Area was created based upon the project endpoints: Whipple Substation
18 in the south and a new substation to be developed by Wabash Valley along their existing 138kV
19 line near Whittenburg, Missouri in the north. The two endpoints generally served as the north and
20 south boundaries of the Study Area. The Mississippi river was the eastern boundary due to the
21 cost of river crossings. The western boundary was delineated to provide flexibility in developing
22 routes. The Study Area encompassed approximately 72.4 square miles (46,350 acres) and included

1 parts of two counties, several communities, two conservation areas, several creeks and an existing
2 69kV transmission line owned by Wabash Valley. **Figure 2** below shows the Study Area.

3 **Figure 2**



4
5 **Q. After identifying the Study Area, what came next?**

6 A. Once this Study Area was identified, the next step was to gather data within the
7 Study Area.

8 **Q. What was involved in the initial data gathering?**

1 A. Once the Study Area was developed, the routing team collected additional data
2 within the Study Area based on transmission line siting experience, federal and state regulations,
3 and stakeholder feedback. The routing team obtained data from various online data sources
4 including: Missouri Department of Transportation (“MODOT”), Missouri Department of Natural
5 Resources (“MDNR”), Missouri Geologic Survey, United States Fish and Wildlife Service
6 (“USFWS”), Federal Aviation Administration (“FAA”), United States Department of Agriculture
7 (“USDA”), Esri, and Homeland Infrastructure Foundation - Level Database. In addition, ATXI
8 obtained a copy of Perry and Cape Girardeau County parcels from a third-party vendor to aid in
9 identifying private property owners. Where spatial data was not available, the routing team used
10 recent aerial photography and relied on past industry experience to assess current land use and
11 locations of residences. In addition, the routing team performed a windshield survey of the Study
12 Area in March 2020 to verify the existing data and collect other information not available online.
13 Data were updated and revised throughout the route development process as needed.

14 **Q. What routing criteria did the routing team identify?**

15 A. The routing criteria include environmental siting criteria, which are referred to as
16 Sensitivities and Opportunities, as well as Technical Guidelines and statutory requirements.

17 **Q. What are “Opportunities”?**

18 A. Opportunities include certain pre-existing linear infrastructure or features such as
19 existing rights-of-way, roads, transmission lines, property lines, and field lines. Co-locating
20 transmission lines parallel to these features may reduce impacts to Sensitivities.

21 **Q. What are “Sensitivities”?**

22 A. Sensitivities are natural or man-made environmental resources or conditions that
23 might limit electric transmission line development. Examples of Sensitivities include residences,

1 certain agricultural practices, schools, public lands, conservation areas, wetlands, and streams.
2 Some Sensitivities are subject to licensing or permitting requirements, or regulatory restrictions
3 on construction (e.g., nature preserves), while others present difficulties that would be impractical
4 to mitigate (e.g., restricted airspace around public airports or navigation facilities). Other
5 Sensitivities such as historic building or structures, forest resources, steep slopes and karst
6 topography were included as Sensitivities as a result of the public input process. However, I
7 caution that listing a feature as a Sensitivity does not imply that it must be avoided. Instead, a goal
8 of the routing process was minimizing impacts to Sensitivities collectively.

9 **Q. How did the routing analysis evaluate potential impacts to Sensitivities?**

10 A. The Routing Study evaluated potential impacts to Sensitivities differently for each type
11 of Sensitivity. For example, the potential impact to a residence was measured by the distance from
12 the route to the residence while the potential impact to a feature such as wooded area was measured
13 by the acreage of trees within the route right-of-way. The Routing Study (Schedule DS-01)
14 includes a full list of the criteria and the metrics used in evaluating the potential routes.

15 **Q. What are “Technical Guidelines”?**

16 A. Technical Guidelines are specific engineering, cost, and construction-related
17 requirements and objectives of the Transmission Line. Examples of Technical Guidelines include
18 structure type, distance between structures (span length), structure height, number and location of
19 angle structures, number and location of dead-end structures, and objectives such as reducing non-
20 standard structure designs and minimizing right-of-way clearing. Technical Guidelines for the
21 Transmission Line were identified through: (1) technical expertise of Ameren Services staff, (2)
22 applicable codes and standards, including the National Electrical Safety Code (“NESC”), (3) North

1 American Electric Reliability Corporation (“NERC”) reliability standards, and (4) ATXI and
2 industry best practices.

3 **Q. What are “Statutory Requirements”?**

4 A. Statutory Requirements are the conditions that are required by law for obtaining
5 approvals, licenses, or permits for engaging in a certain activity. For example, the U.S. Army
6 Corps of Engineers Section 404 permit for impacts to wetlands or waters of the U.S. may limit the
7 locations of structures.

8 **Q. Has the FAA reviewed routes of the Transmission Line?**

9 A. The FAA regulates potential obstruction to airspace in and around airports. The
10 closest regulated airport is 2.1 miles to the southeast (Grand Tower Heliport) in Perry County and
11 4.1 miles to the southwest (Mooseberry Airport) in Cape Girardeau County. During the routing
12 process, public comments identified an emergency helipad located between Altenburg and Frohna
13 that is approximately 1.4 miles north of the where the Proposed Route leaves the 69kV corridor.
14 A review of known aviation navigation facilities was completed, and none were identified near or
15 within the Study Area. Once structure locations and heights are better defined, ATXI will request
16 a review of the route by the FAA. Because the closest airport is over 2 miles away from the
17 Proposed Route and the structures are expected to be less than 200 feet tall, ATXI does not expect
18 the FAA to be involved with approvals of the project.

19 **Q. Were the routing criteria weighted?**

20 A. No. The routing team considered routing criteria holistically when evaluating a
21 potential route or comparing several potential routes. The routing team did not use quantitative
22 weighting or a ranking system for the route selection process. Based on stakeholder feedback, the
23 routing criteria are updated to reflect the important issues to the community. The updated routing

1 criteria are used to determine a route that minimizes overall potential impacts to Sensitivities while
2 adhering to the other routing criteria.

3 **Q. What was the next step in the route selection process?**

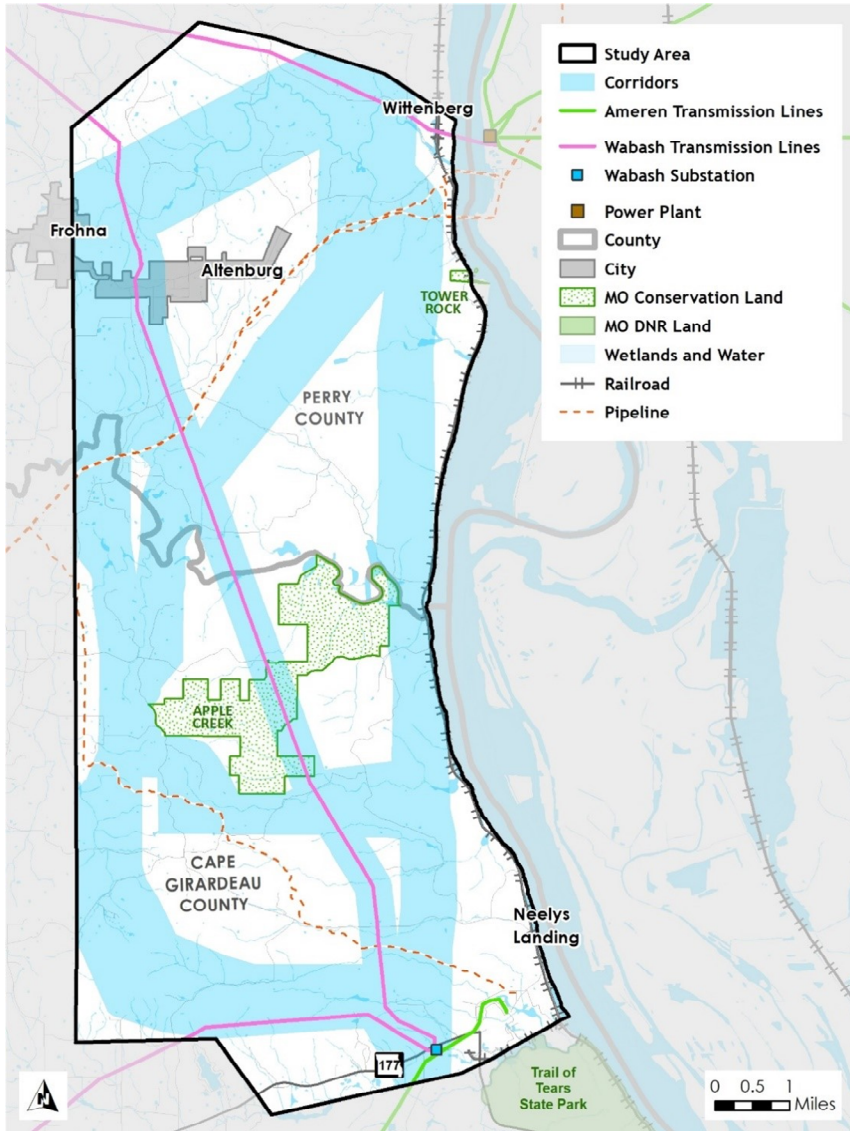
4 A. ATXI held a Community Representative Forum (“CRF”) as described in Emily
5 Hyland’s testimony with community leaders and solicited feedback opportunities and sensitivities
6 within the Study Area. Using the information obtained in the data gathering stage and the CRF
7 meetings, potential route corridors were developed within the Study Area. These are narrowed
8 areas within the Study Area based on collected data, possible Opportunities, minimized length and
9 cost, and minimized potential impacts to Sensitivities.

10 **Q. What were the next steps?**

11 A. ATXI presented the potential route corridors to the public through a number of
12 public outreach efforts in August 2020 (Phase 1 of the public engagement). **Figure 3** below shows
13 the potential route corridors.

1

Figure 3

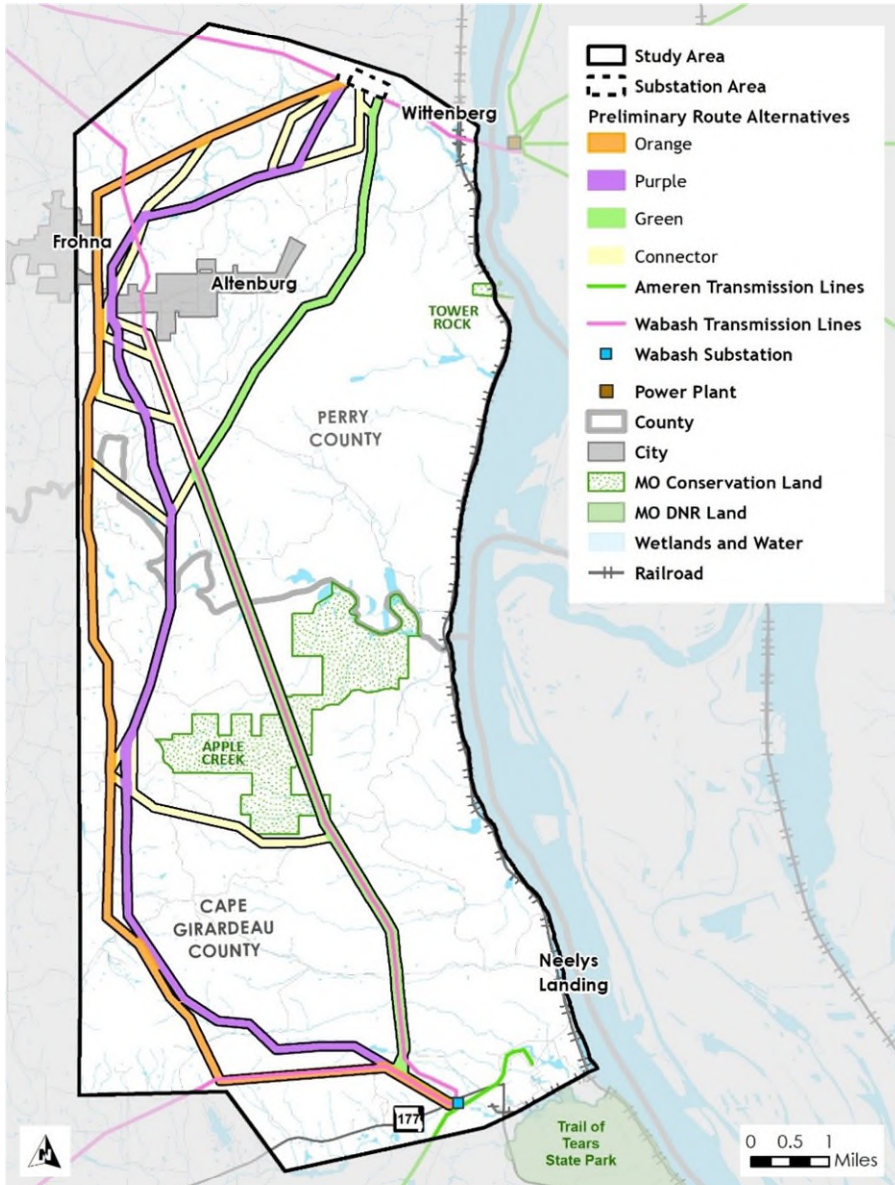


2

3 The public provided numerous comments on the routes and locations of sensitivities within
4 the Study Area, as discussed in Ms. Hyland’s testimony. After considering input from public and
5 agency meetings, the routing team further analyzed the Study Area and potential route corridors
6 and developed Preliminary Route Alternatives (“PRAs”). These are narrowed areas ranging from
7 0.5-mile-wide along the 69kV corridor up to 1.6 miles wide, that attempted to minimize impacts
8 to Sensitivities. The PRAs were shared with the public and agencies during outreach efforts in
9 October 2020 (Phase 2 of the public engagement). The PRAs are shown in **Figure 4** below.

1

Figure 4



2

3

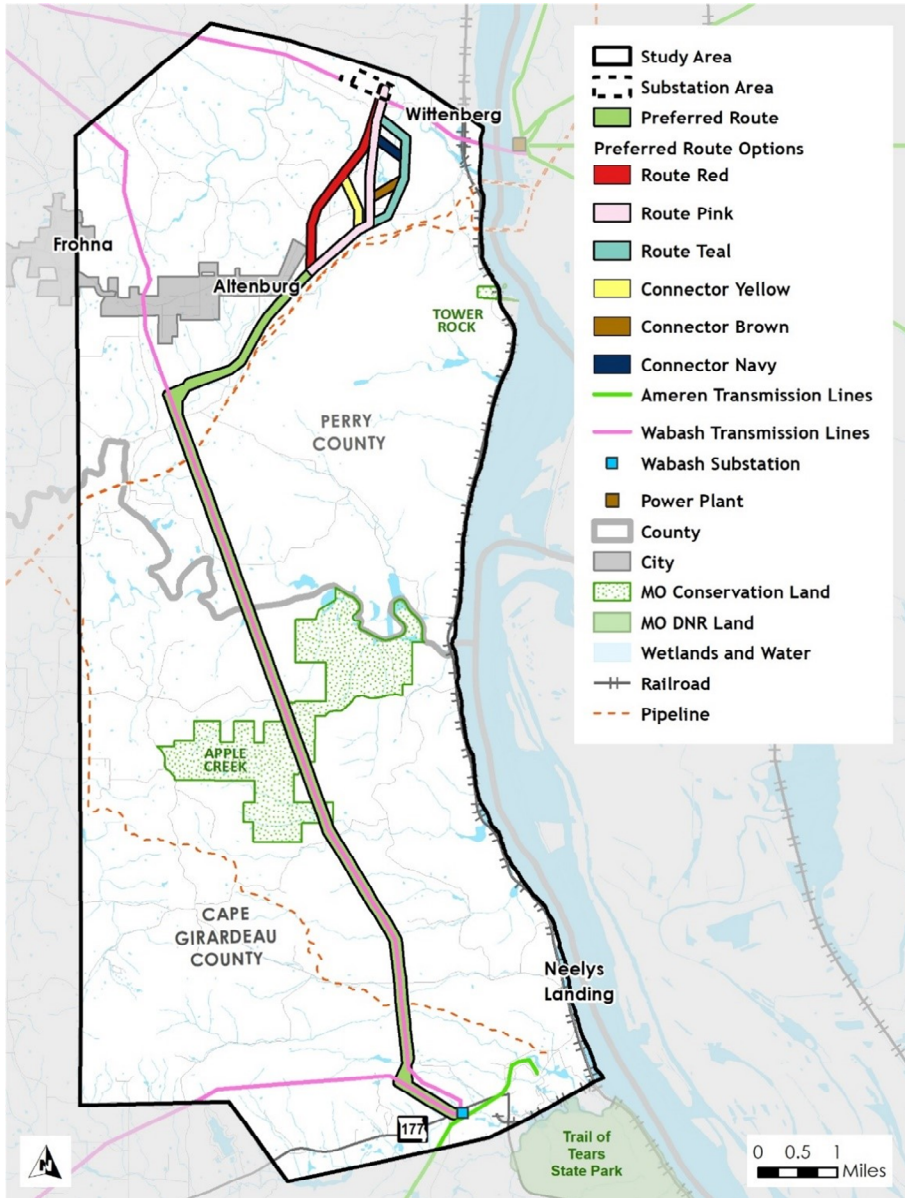
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5

After receiving further input from the public, landowners and agencies, the routing team developed a Proposed Route with Route Options. **Figure 5** below shows the Proposed Route with Route Options.

1

Figure 5



2

3 This included a single preferred route in the southern portion of the Project with several
 4 route options in the far northern portion of the Project. The route options provided ATXI flexibility
 5 in considering multiple options while gathering and analyzing additional data and comments.
 6 ATXI's efforts regarding public outreach, as well as the modifications made based on public
 7 feedback are covered in detail in Ms. Hyland's testimony.

1 **Q. After soliciting public feedback, what was the next step in your routing**
2 **analysis?**

3 A. ATXI identified the Proposed Route and completed the Routing Study. The
4 Routing Team reviewed all comments collected during the virtual Community Representative
5 Forums, Virtual Public Meetings, Telephone Public Meeting, Virtual Open Houses, email, mail,
6 and phone calls and—using our routing criteria—determined the Proposed Route. The Proposed
7 Route addresses landowner comments and engineering requirements, maximizes utilization of
8 Opportunities, and minimizes impacts to Sensitivities.

9 **Q. What were the results of the Routing Study?**

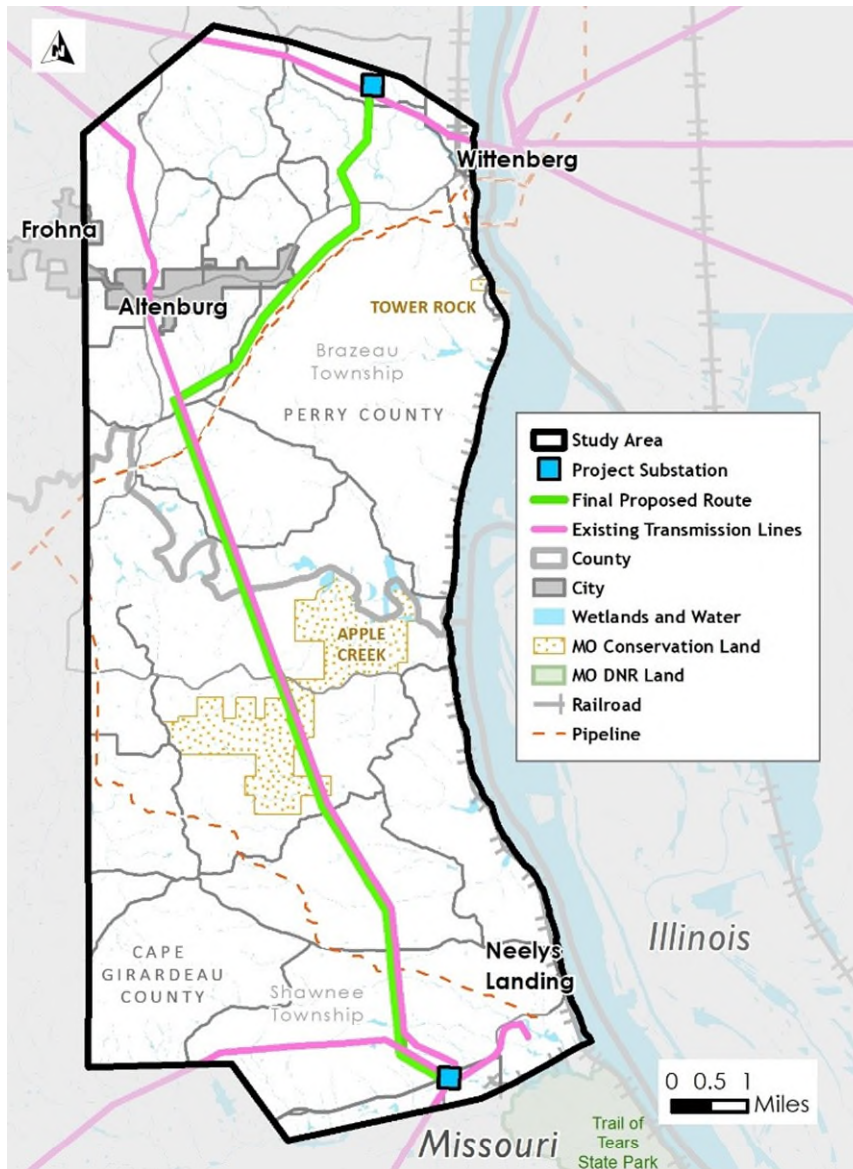
10 A. From the Routing Study, the Proposed Route emerged as the optimum location for
11 the Transmission Line because it maximizes use of existing opportunities and minimizes impacts
12 to Sensitivities. Over 65% of the Proposed Route follows existing transmission line corridors.
13 Distance to homes is maximized while providing a cost-effective route. Landowner and
14 stakeholder concerns were addressed through route changes that minimized impacts to the
15 landowners and stakeholders. The Proposed Route is intended to be cost effective, while best
16 meeting the routing criteria. The Proposed Route also incorporates feedback that was received
17 from landowners and stakeholders. The Proposed Route was determined by reviewing route
18 suggestions and comments provided throughout the outreach and routing phases and adhering to
19 the routing criteria.

20 **Q. Please describe the Proposed Route.**

21 A. From the Whipple Substation at the southern end of the line, the Proposed Route
22 follows the south side of an existing Wabash Valley 69kV transmission line to the northwest for
23 approximately 0.8 miles before turning north to follow the west side of another Wabash Valley

1 69kV transmission line for approximately 9.2 miles. North of Perry County Road 454 (*a.k.a.*
2 Dresden Road), the Proposed Route turns northeast then north for approximately 5.3 miles to the
3 new Wabash Valley owned Wittenberg Substation, as show below in **Figure 6**.

4 **Figure 6**

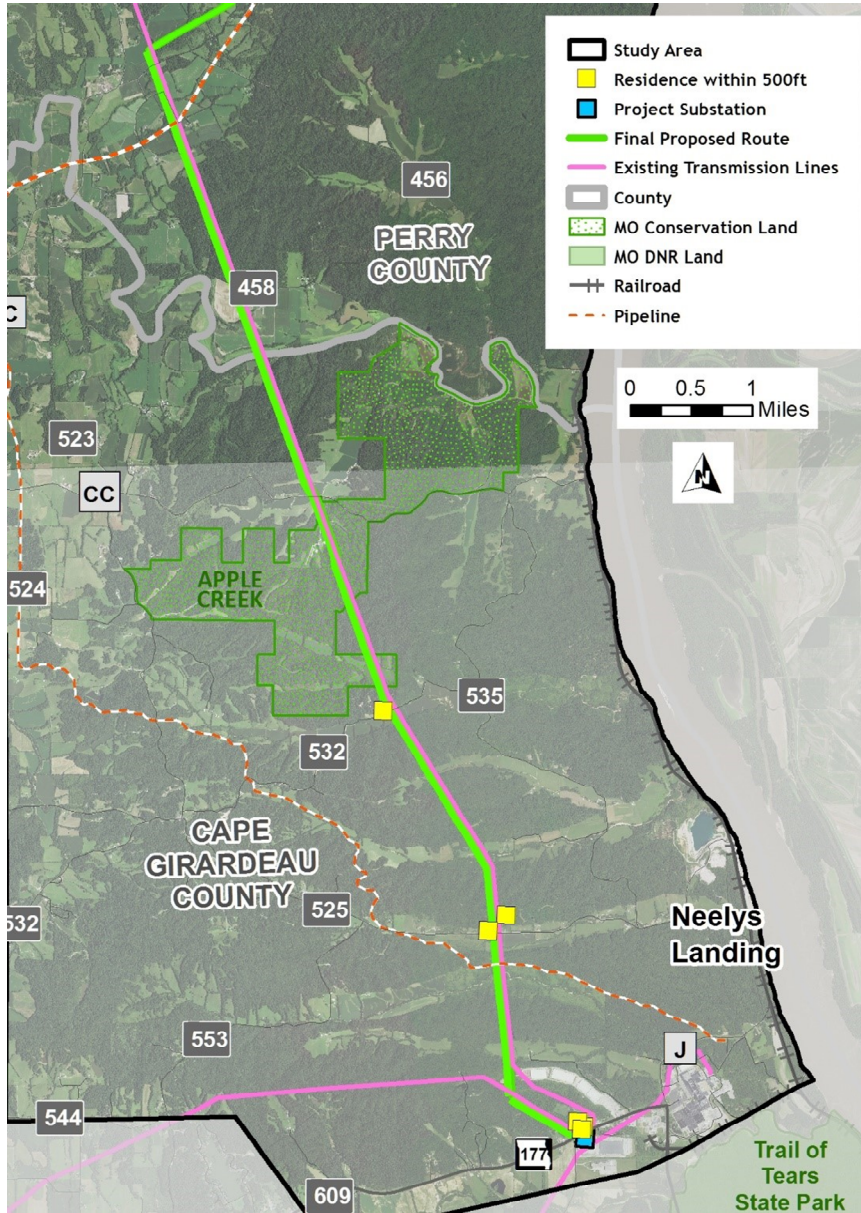


5
6 **Q. Please describe in further detail where the Proposed Route parallels existing**
7 **transmission line corridors.**

1 A. From the Whipple Substation, the Proposed Route heads north across State
2 Highway 177 then follows the south side of an existing Wabash Valley 69kV transmission line to
3 the northwest for approximately 0.8 miles before turning north to follow the west side of another
4 Wabash Valley 69kV transmission line for approximately 9.2 miles. For most of this part of the
5 route, the right-of-way (“ROW”) will be adjacent to the ROW of the existing 69 kV line. The
6 Proposed Route crosses three local or county roads and has six (6) homes with 500 feet, the closest
7 being 302 feet. In order to follow the existing 69 kV transmission line, the Proposed Route crosses
8 Apple Creek and 1.25 miles of the Apple Creek Conservation Area, which contains the Apple
9 Creek Conservation Area Shooting Range. At the shooting range, the Proposed Route and the
10 existing 69 kV line will shift to the east for approximately 0.75 miles to minimize impacts on the
11 shooting range. In the area where the lines are shifted, the additional ROW required will decrease
12 to from 125 feet to 90 feet. **Figure 7** below shows the Proposed Route and where it parallels an
13 existing transmission line. **Figure 8** below shows the area near the shooting range where the
14 Proposed Route and the existing 69 kV line will shift to the east.

1

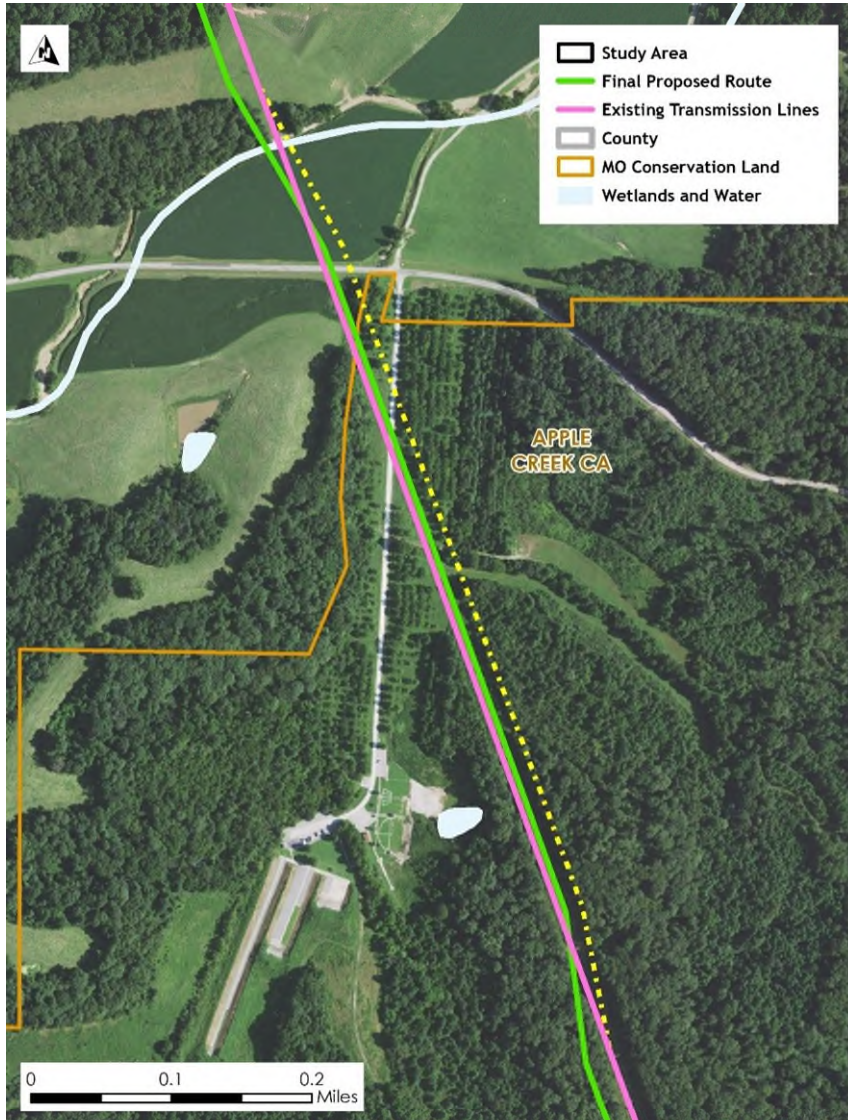
Figure 7



2

1

Figure 8



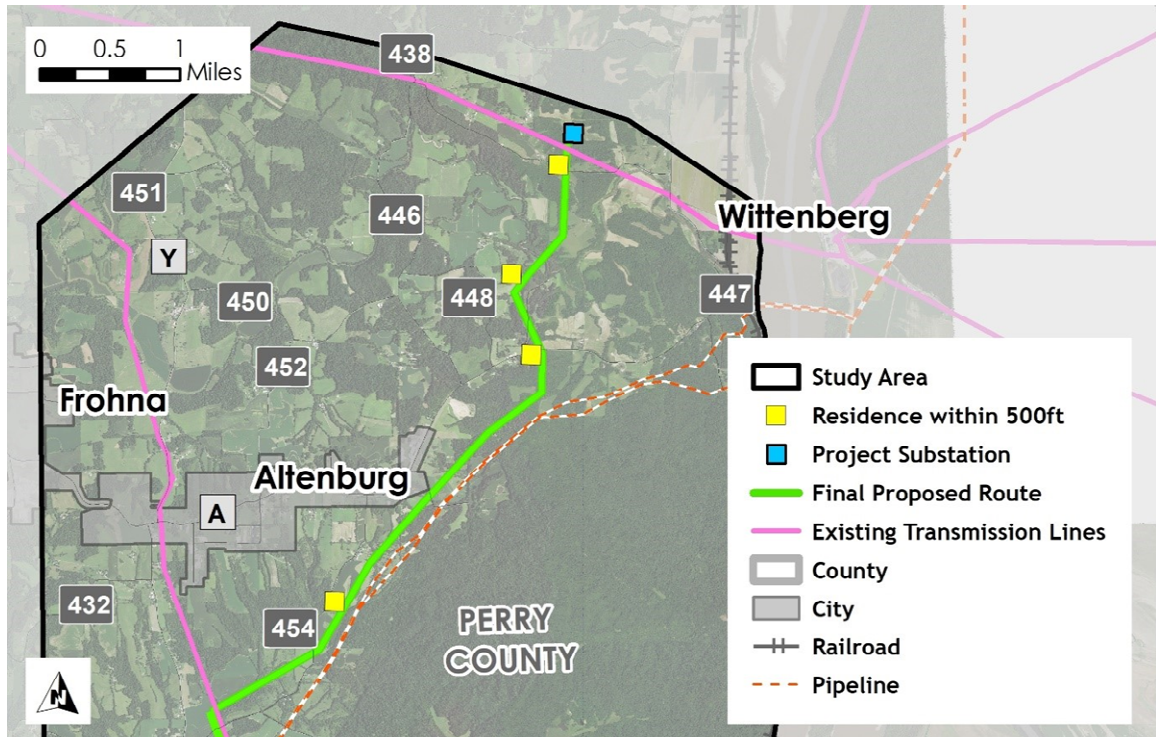
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3 **Q. Please describe in further detail where the Proposed Route turns northeast away**
4 **from the existing transmission line corridor.**

5 A. Just north of Perry County Road 454 (Dresden Road), the Proposed Route turns 90
6 degrees to the northeast and follows the north side of an unnamed tributary to Apple Creek. The
7 line continues northeast generally paralleling Dresden Road and an existing pipeline for
8 approximately 3.3 miles. One (1) home along Dresden Road is within 500 feet (410 feet) of the
9 Proposed Route. The Proposed Route turns north for 0.25 mile to County Highway A, then

1 northwest for 0.5 miles. The line then turns northeast for 0.6 miles crossing Brazeau Creek before
2 turning north for 0.7 miles to the proposed site of the new Wittenberg Substation. Three (3) homes
3 are within 500 feet in this section of the route, the closest being 284 feet. **Figure 9** below shows
4 the northern part of the Proposed Route.

5 **Figure 9**



6
7 **Q. Why did ATXI select the Proposed Route as its preferred route for the**
8 **Transmission Line?**

9 A. The Proposed Route was chosen because it maximizes the use of existing
10 Opportunities and minimizes impacts to Sensitivities while providing a cost-effective route. Over
11 65% of the route follows existing transmission line corridors. Distance to homes was maximized.
12 The Proposed Route avoids areas of steep slope, does not create a new corridor through large
13 forested areas, avoids concentrations of historic resources, and minimizes effects on recreation
14 resources in the area.

1 **Q. What additional information is found in the Routing Study, provided as**
2 **Schedule DS-01?**

3 A. The Routing Study provides a more detailed review of the routing process and the
4 information used in the determination of the Proposed Route. The Routing Study also includes a
5 Permit Matrix as Appendix B and a table of state and federal listed species as Appendix C.

6 **III. CONCLUSION**

7 **Q. What do you conclude regarding the route selection for the Transmission**
8 **Line?**

9 A. The routing team used an integrated route selection and stakeholder outreach
10 process to identify potential routes for the Transmission Line. The potential routes were analyzed
11 using the routing criteria, through solicitation of information and feedback from stakeholders. The
12 Routing Study used the latest technology for its analysis. It incorporated numerous data sources
13 including internet data repositories, information available from public agencies, field reviews, and
14 information from meetings with stakeholders and the public. The routing criteria and the process
15 used to determine ATXI's Proposed Route are consistent with industry best practices and
16 methodology for siting an electric transmission line like the proposed Transmission Line. Based
17 on this process and as shown in the Routing Study, it is my opinion that the Proposed Route is the
18 optimum location for the Transmission Line, as a least cost option that adheres to the routing
19 criteria and incorporates stakeholder feedback.

20 **Q. Does this conclude your direct testimony?**

21 A. Yes, it does.

APPENDIX

EDUCATION & PROFESSIONAL EXPERIENCE

I have a Bachelor of Arts degree in Geography from University of Illinois at Chicago and a Masters of Arts in Geography from Western Illinois University in Macomb, Illinois. I have been employed by HDR since June 1998. My initial role at HDR was Geographic Information Study (GIS) manager working on mapping and analysis of energy, water and transportation infrastructure projects. My current title is a Senior Project Manager. At HDR, the majority of my project work has been power generation and energy delivery projects. During my career I have been involved in providing siting and permitting analysis for over 3,000 miles of electric transmission lines, primarily in the Midwest. In addition, I managed our environmental practice in our Minneapolis office from 2011-2016 and served as the office's quality director from 2016 - 2020.

In my current position as a Senior Project Manager, I am responsible for managing projects that involve routing, permitting and stakeholder outreach for electric transmission lines, generation facilities as well as linear transportation and mining projects. I have performed routing studies, performed agency consultation, managed public outreach, and assisted with obtaining the necessary permits for other projects in the Midwest.

I assisted in the route development and GIS analysis for ATXI's Spoon River Transmission Project, an approximately 40-mile 345 kV transmission line in Illinois from Galesburg to Peoria. In August 2014, ATXI filed for a Certificate of Public Convenience and Necessity from the Illinois Commerce Commission (ICC Docket No. 14-0514).

I managed the routing and permitting for 500-mile 600 kV line in Iowa and Illinois from 2009 to 2013. The project involved reviewing and comparing over 15,000 segments to develop a preferred route and over 100 agency and public meetings to solicit feedback.

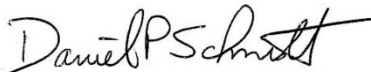
I managed the environmental permitting efforts for several energy generation developments in the Illinois, Iowa and Wisconsin for Alliant Energy from 2014 to 2021.

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

In the Matter of the Application of Ameren)
Transmission Company of Illinois for a)
Certificate of Public Convenience and)
Necessity to Construct, Install, Own, Operate,)
Maintain, and Otherwise Control and Manage) Case No. EA-2021-0087
a 138 kV Transmission Line and associated)
facilities in Perry and Cape Girardeau)
Counties, Missouri)

AFFIDAVIT

1. My name is Dan Schmidt. I am Senior Project Manager for HDR Engineering, Inc., which has been hired as a consultant for Ameren Transmission Company of Illinois, the Applicant in the above-captioned proceeding.
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. I am authorized to make this statement on behalf of Ameren Transmission Company of Illinois.
4. Under penalty of perjury, I declare that the foregoing is true and correct to the best of my knowledge and belief.



Dan Schmidt
Senior Project Manager
HDR Engineering, Inc.

Date: 4/22/2021