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MISSOURI PUBLIC SERVICE COMMISSION

FILE NO. EA-2025-0222

DIRECT TESTIMONY

OF

DAN SCHMIDT

ON

BEHALF OF

AMEREN TRANSMISSION COMPANY OF ILLINOIS

St. Louis, Missouri
May 2025

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DIRECT TESTIMONY

OF

DAN SCHMIDT

FILE NO. EA-2025-0222

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Dan Schmidt. My business address is 1601 Utica Avenue South, Suite 600, St. Louis Park, Minnesota 55416.

Q. By whom are you employed and in what capacity?

A. I am employed by HDR Engineering, Inc. ("HDR") as Senior Project Manager.

Q. What are your responsibilities as Senior Project Manager?

A. My current job duties and responsibilities include providing routing, siting, and permitting services to various clients for infrastructure developments across the United States. My work is focused on transmission line routing and permitting in the central part of the country.

Q. Please describe your educational and professional background.

A. I have a Bachelor of Arts degree in Geography from the University of Illinois in Chicago, Illinois and a Master 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 Senior Project Manager. At HDR, the majority of my project work has been on power generation and energy delivery projects. During my career, I have been involved in siting and permitting analysis for over 4,000 miles of electric transmission lines, primarily in the Midwest. In addition, I managed the environmental practice

in our Minneapolis office from 2011 to 2016 and served as the office's quality director from 2016 to 2020.

In my current position as Senior Project Manager, I am responsible for managing projects that involve routing, permitting, and stakeholder outreach for electric transmission lines and 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 have assisted Ameren Corporation's transmission-owning subsidiaries in the route development and GIS analysis on projects in Illinois and Missouri for the last 10 years. I started with Ameren Transmission Company of Illinois' ("ATXI") Spoon River Transmission Project, an approximately 40-mile 345 kV transmission line in Illinois from Galesburg to Peoria. In August 2014, ATXI requested and was later granted a Certificate of Public Convenience and Necessity ("CCN") from the Illinois Commerce Commission ("ICC") for that project (ICC Docket No. 14-0514).

Most recently, from 2020 to 2025, I supported ATXI in routing and permitting for a 15-mile 138 kV line in Southeast Missouri (MPSC File No. EA-2021-0087). In addition, I led the routing efforts and developed routing testimony for Ameren Illinois Company, d/b/a Ameren Illinois' ("Ameren Illinois") Logan County Connector Project, an approximately 9-mile 138 kV transmission line near Lincoln, Illinois (ICC Docket 23-0162), and ATXI's Central Illinois Grid Transformation Project, an approximately 380-mile 345 kV transmission line project in central Illinois (ICC Docket No. 24-0088). In Missouri, I am supporting ATXI's application for a CNN seeking authorization to construct the Missouri jurisdictional portion of ATXI's Northern Missouri Grid Transformation Program, which involves three Multi-Value Projects that are part of the

Midcontinent Independent System Operator, Inc.'s ("MISO") Long-Range Transmission Planning ("LRTP") Tranche 1 Portfolio (MPSC File No. EA-2025-0087).

Q. On whose behalf are you submitting testimony in this proceeding?

A. I am submitting testimony on behalf of ATXI.

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

A. Yes. I provided testimony on behalf of ATXI in Commission Docket EA-2021-0087 (related to the Limestone Ridge Transmission Project) and in Commission Docket EA-2025-0087 (related to ATXI's Northern Missouri Grid Transformation Program).

II. PURPOSE OF TESTIMONY

Q. Are you familiar with the electric transmission project for which ATXI requests Commission approvals in this proceeding?

A. Yes. ATXI, working in collaboration with Citizens Electric Corporation ("Citizens"), proposes to construct an approximately 4-mile-long 138kV transmission line to connect Citizens' existing Wittenberg substation in Perry County, Missouri, across the Mississippi River to a new substation near Ameren Illinois' existing substation in Jackson County, Illinois. The Project area is approximately 19 miles southeast of Perryville and 3.5 miles east of Altenburg in Missouri. ATXI seeks a CCN from the Commission to construct, operate, and maintain the Missouri portion of the transmission line. The transmission line, referred to as the Grand Tower Crossing Project, is designed to improve energy reliability for the surrounding region and communities, and is described more fully in the direct testimony of ATXI witness Eric Paulek.

Q. What is the purpose of your direct testimony?

A. My testimony explains the routing process and selection of the proposed route for the Grand Tower Crossing Project ("Project"). Related, I sponsor a Routing Study that details the

processes, criteria, data, and information the routing team used to select the proposed route and explain why the routing team chose that route as the optimal route for the Project's transmission line. The Routing Study was integrated with ATXI's public outreach process, which is explained by ATXI witness Leah Dettmers.

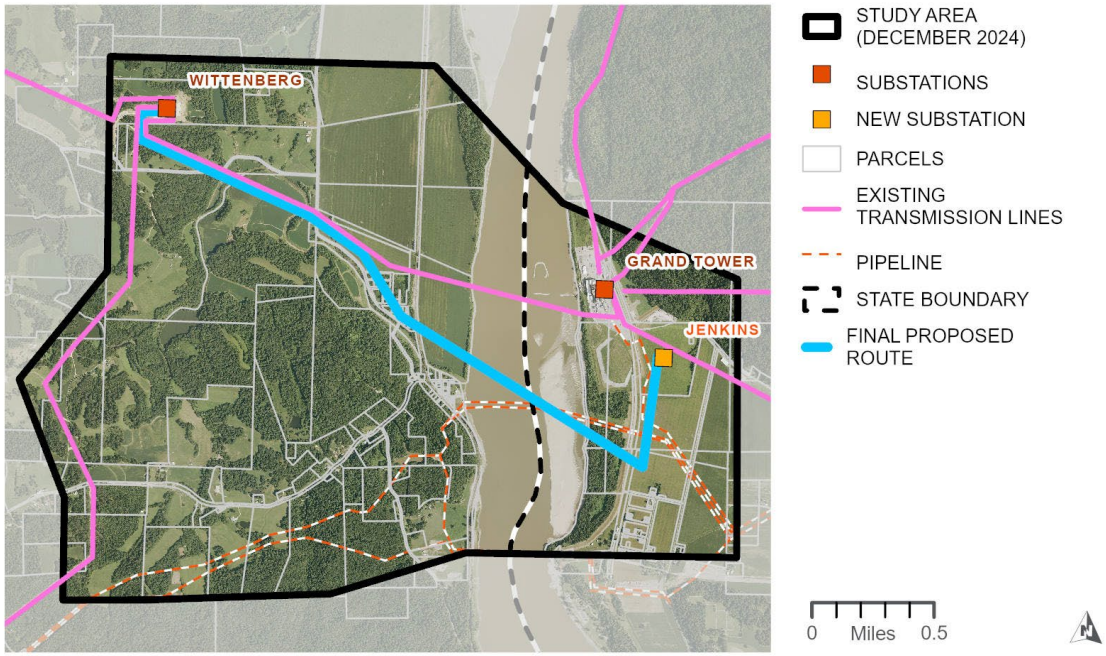
Q. Are you sponsoring any schedules with your direct testimony?

A. Yes. I am sponsoring **Schedule DS-01**, the Grand Tower Crossing Project Routing Study ("Routing Study").

III. ATXI'S PROPOSED ROUTE

Q. What is ATXI's proposed route for the Grand Tower Crossing Project?

A. ATXI has identified a final proposed route for the Project, which generally crosses the Mississippi River at Wittenberg, MO, about 6 miles upstream from the Perry-Cape Girardeau County line and proceeds through eastern Perry County, Missouri, to the Citizens' Wittenberg substation. The following diagram depicts the Final Proposed Route:



IV. ROUTE SELECTION PROCESS

Q. What was your role in the route selection process?

A. Ameren Services Company ("Ameren Services"), ATXI, retained HDR and therefore my services, as a consultant to perform a rigorous routing analysis for the Project and to support the public outreach activities that were integrated into the route selection process. HDR is also assisting the Joint Applicants with certain relevant state and federal agency.

Q. Who else had a role in the route selection process?

As part of the route selection process, I coordinated with the routing team which is comprised of subject matter experts from various groups that provide input into the route selection process. Here, this team included: personnel from ATXI's transmission line engineering, project management, environmental, construction management, public outreach, vegetation management, and land and right-of-way groups in addition to HDR's routing and GIS mapping staff.

Q. In general, what is the goal of a routing study?

A. The goal of a routing study is to identify and compare transmission line routes that achieve the aims of a project while minimizing the overall impact on land use, ecological, and cultural features, to the extent practical, while also considering economic and technical feasibility. Once this evaluation is completed, a proposed route is selected that achieves the aims of the project, is technically and economically feasible, minimizes overall impacts, and considers stakeholder input.

Q. Please provide an overview of the route selection process used to identify a proposed route in the Routing Study.

A. The route selection process is a multi-stage process that takes a large study area and, using relevant sensitivity and opportunity criteria, reduces that large study area into a series

of approximate routes, or corridors, refines those into routes (i.e., centerlines), compares those routes, and selects the best one based on quantitative and qualitative review.

The route selection process consisted of these major steps:

1. Study Area Identification
2. Identification of Potential Route Corridors
3. Public and Agency Engagement – Phase 1
4. Identification of Preliminary Route Alternatives
5. Public and Agency Engagement– Phase 2
6. Final Route Determination

The goal of the route selection process was to identify the routes that best minimize potential impact to sensitivities, best use existing opportunities, and adhere to the technical guidelines and statutory requirements.

Q. Please explain what Sensitivities, Opportunities, Technical Guidelines and Statutory Guidelines are and how they used in the routing process?

A. Sensitivities are natural or man-made environmental resources or conditions that might limit transmission line development. Some sensitivities are subject to licensing or permitting requirements or regulatory restrictions (e.g., nature preserves), while others present challenges that would be very difficult or impractical to mitigate (e.g., restricted airspace around public airports). Not all sensitivities are equally affected by the development. Sensitivities can include, for example, the following: land use constraints such as residences, agriculture, religious facilities, and schools; federal, state, and local environmental areas; other environmental areas such as sensitive habitats; cultural resources such as national landmarks and archaeological sites; and public infrastructure such as airports.

Opportunities are pre-existing linear infrastructure or features such as existing linear corridors (existing rights-of-way, roads, transmission lines, and public land survey system divisions of land) along which transmission line development is potentially compatible and where impacts to sensitivities may be reduced by following these features.

Technical guidelines are the specific engineering, cost, and construction-related requirements and objectives of the project (e.g., minimizing the length of the line and minimizing the number of dead-end structures, crossing the Mississippi River).

Statutory Requirements are the approvals, licenses, or permits required by law for engaging in a certain activity. An example of a permit required by law is the requirement for a permit from the U.S. Army Corps of Engineers for impacts to wetlands or waters of the United States.

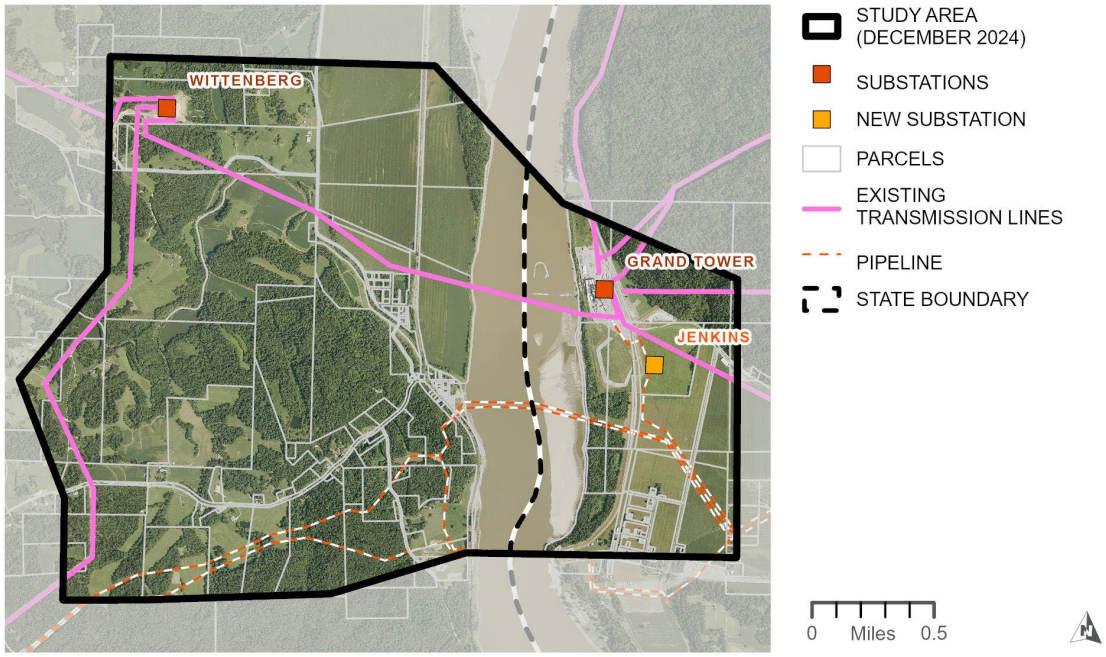
Q. How did ATXI identify the Route Study Area?

A. ATXI, working with its project partners, established the connector points for the Transmission Line – Citizen Electric's Wittenberg Substation and Ameren Illinois' Jenkins Substation. The routing team then developed the initial study area, reviewed existing data, and collected new data as appropriate within that study area. Location of homes and parcel data are examples of data that was created new or updated. Narrowed corridors, preliminary route alternatives, and then a final proposed route for the transmission line was developed in conjunction with the public and agency outreach process, as discussed in detail by ATXI witness Leah Dettmers. The routing team analyzed potential impacts to sensitivities in the defined study area such as residences, non-residential structures, agricultural practices, and recreational and cultural resources. The routing analysis also considered the degree to which routes took advantage of existing opportunities, adhered to the technical guidelines for the transmission line, met

engineering and cost considerations, and adhered to applicable statutes and regulations. The routing team also reviewed and considered feedback received from stakeholders during the public involvement process.

Q. What Route Study Area was identified for the Grand Tower Project?

A. The following diagram depicts the Project study area:

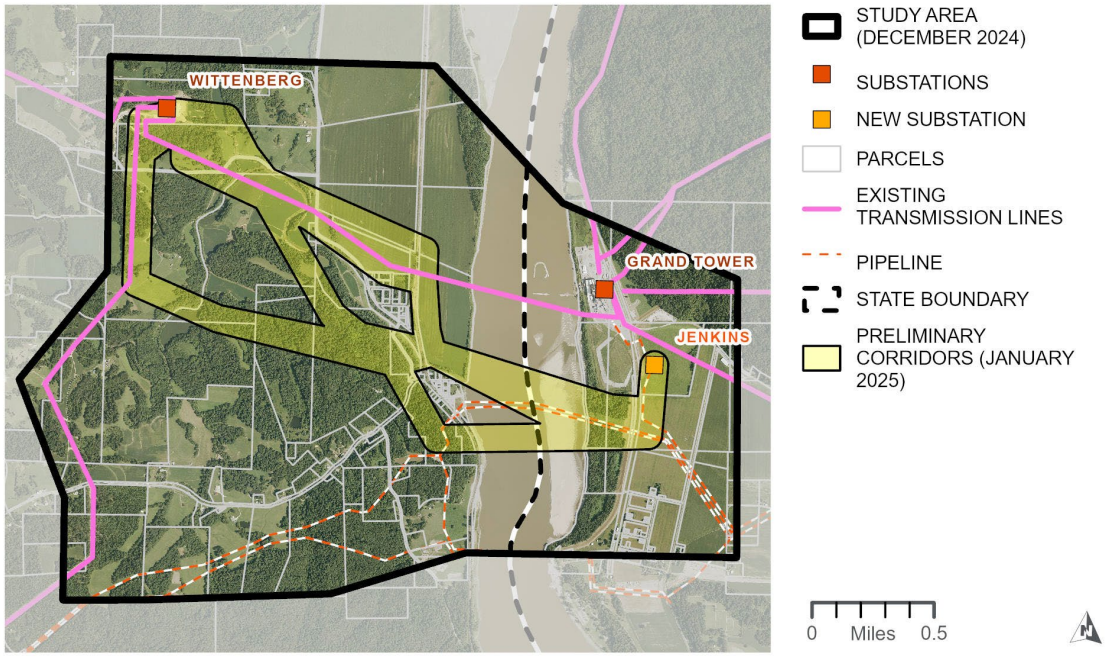


Q. Did the Routing Team conduct a field review of the study area for the Project?

A. Yes. The routing team conducted several field reviews on the study area in January and February of 2025. These reviews were conducted from public right of way and are meant to verify existing data and collect new data that is pertinent to the routing analysis (e.g. location of homes, infrastructure, and community features, land use and land cover). Additional field review of the area was done using recent aerial photography and drone video in the fall of 2024.

Q. Once ATXI identified the study area, did it then identify preliminary route corridors?

A. Yes. Using the information obtained in the data gathering stage, preliminary route corridors were developed within the study area. These are narrowed areas within the study area based on collected data, possible opportunities, minimized length and cost, and minimized potential impacts to sensitivities. The preliminary route corridors avoided heavily forested areas south of Hwy 4 and concentrations of homes and buildings along Hwy 4. The following diagram depicts the preliminary route corridors:



Q. What was the next step?

A. ATXI began its Phase 1 of public and agency engagement by holding virtual meetings on January 7 and 8, 2025, with state and federal resource agencies to introduce the Project, present the proposed route corridors and seek information on the resources that may be affected by the Project. ATXI then presented the preliminary route corridors local leaders to the

public through a public meeting held in Perryville, MO on January 16, 2025. The public provided comments on the routes and locations of sensitivities within the study area, as discussed in Ms. Dettmer's testimony.

Q. **Did ATXI receive comments from the public or agency representatives that it used to evaluate the preliminary route corridors?**

A. Yes, several agencies and several members of the public expressed concern with the southernmost route that traverses heavily wooded and hilly areas. They were concerned with environmental impacts and potential impacts to sensitive species.

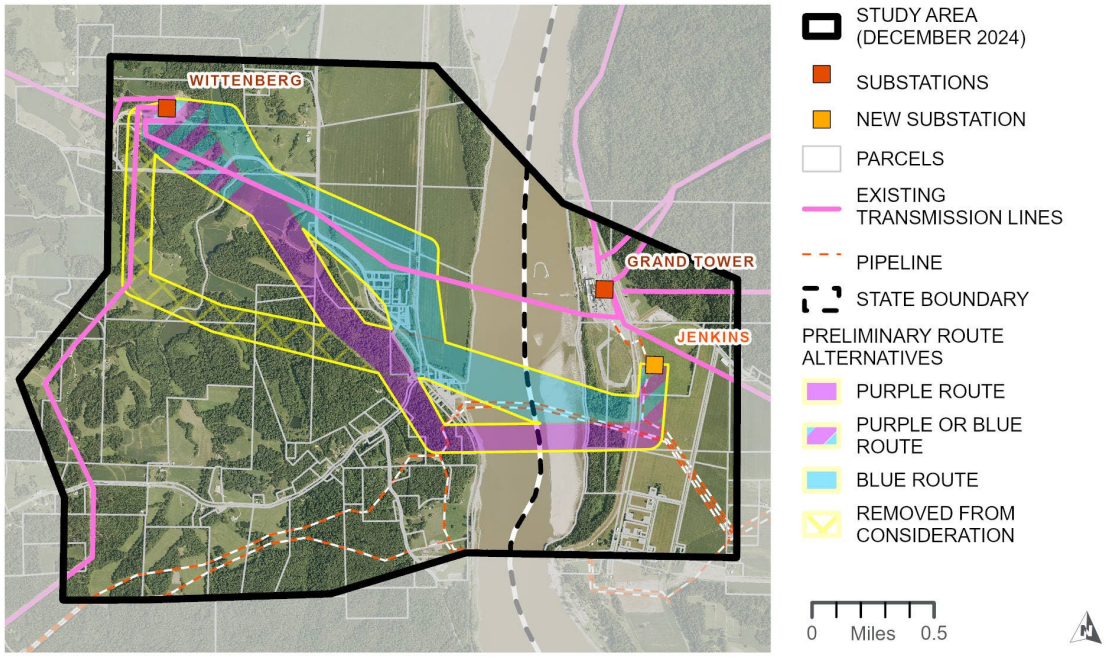
Q. **What did ATXI do with that information?**

A. The routing team reviewed the landscape and existing data and decided that the southernmost area should be removed from consideration because there are other areas and routes that can avoid or minimize those impacts and maximize following existing opportunities.

Q. **What was the next step in developing the route for the Project?**

A. After considering input from the public and agency meetings, the routing team further analyzed the study area and preliminary route corridors and developed Preliminary Route Alternatives ("PRAs"). These are narrowed areas that attempted to minimize impacts to sensitivities such as forested areas and maximized following existing transmission lines. The PRAs were shared with the public and agency during a second round of public meetings held in Altenburg on February 25, 2025. The direct testimony of ATXI witness Leah Dettmer contains more information about ATXI's public outreach efforts.

The following diagram depicts the PRAs that was shared during the second round of public meetings:



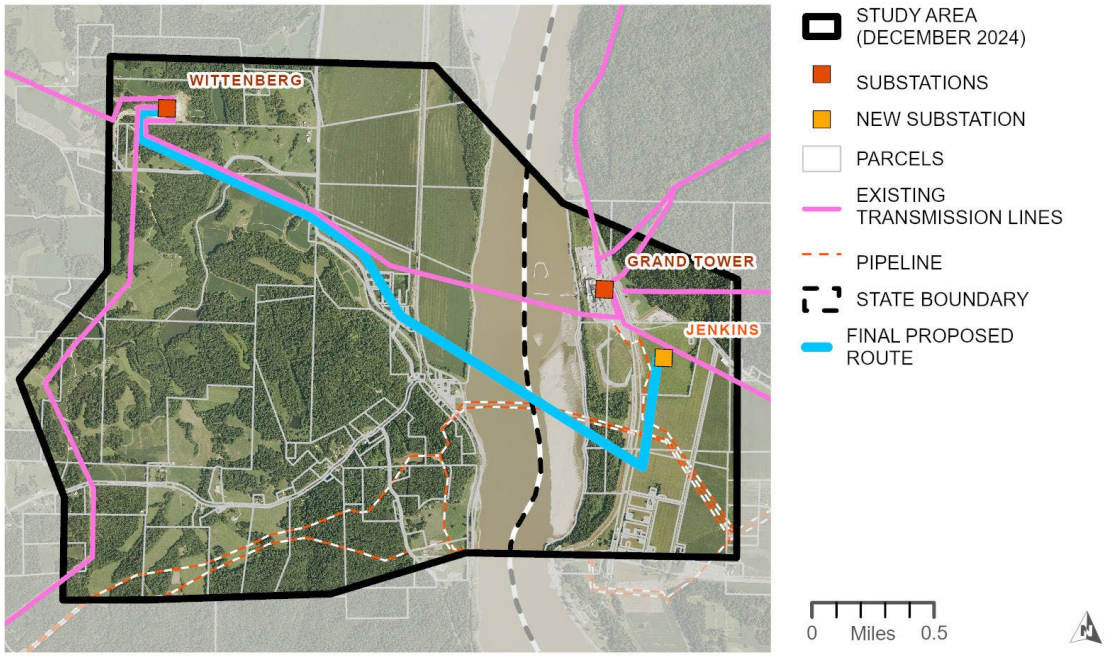
Q. After soliciting another round of public feedback from the public and agency representatives, what was the next step in your routing analysis?

A. ATXI identified the final proposed route and completed the routing study. The routing team reviewed all comments collected during the in-person open houses, community representative forums, and from online, email, and phone sources. The final proposed route addressed landowner comments and engineering requirements, maximized utilization of opportunities, and minimized impacts to sensitivities. The southern route area was removed from consideration and the final route was modified to use Frogtown area which minimized agricultural impacts and provided a straighter path through the area.

Q. What were the final results of the Routing Study?

A. From the Routing Study, the final proposed route emerged as the optimum location for the transmission line because it maximized use of existing opportunities and minimized impacts to sensitivities. Approximately 60% of the final proposed route in Missouri follows existing

transmission line corridors. Distance to homes was maximized while providing a cost-effective route. Landowner and stakeholder concerns were addressed through route changes that minimized impacts to the landowners and stakeholders. Impacts to forested and hilly areas were minimized, thus reducing visual impacts and impacts on sensitive species. The final proposed route is intended to be cost effective, while best meeting the routing criteria. The final proposed route also incorporates feedback that was received from landowners and stakeholders. The final proposed route, depicted below, was determined by reviewing route suggestions and comments provided throughout the outreach and routing phases and adhering to the routing criteria.



Q. Please describe in detail the final proposed route that resulted from the Route Study.

A. The proposed route exits the Wittenberg Substation and goes approximately 550 feet to the west, then approximately 600 feet to the south, before turning east and following the existing Wittenberg to Grand Tower 138 kV line on the south side for 0.9 miles before turning

southeast for 1.1 miles, crossing the Mississippi River and into Illinois. In Illinois, the proposed route turns north and connects to the new Jenkins Substation, north of Grand Tower, Illinois. The total length of the proposed route in Missouri is 2.2 miles of a total project length of 3.2 miles. **Schedule JS-01** of ATXI witness Jennifer Spurlock's testimony contains the legal description of the proposed route.

V. ENVIRONMENTAL IMPACTS

Q. Please summarize HDR's approach to identifying and assessing potential environmental impacts within the Routing Study.

A. The routing team identified and selected routes that minimized overall potential environmental impacts to environmental and cultural sensitivities during construction, operation, and maintenance of the transmission line. Among the sensitivities that the routing team evaluated were natural features such as streams, wetlands, forests, karst features/areas, protected species and their habitats, as well as eligible historical structures, districts, and archaeological sites. Evaluation of sensitive resources was conducting through publicly available and proprietary applications such as the U.S. Fish and Wildlife Service ("USFWS"), Information, Planning, and Consultation tool ("IPaC"), Illinois Department of Natural Resources ("IDNR"), Ecological Compliance Assessment Tool ("EcoCAT"), the Missouri Department of Conservation's ("MDC"), Natural Heritage Review, and Illinois Department of Natural Resources ("IDNR")and Missouri Department of Natural Resources' ("MoDNR") State Historic Preservation Office's ("SHPO"), cultural resources GIS databases, as well as Illinois State Archaeological Survey's Illinois Archaeological Predictive Model.

The routing team also held meetings on January 7 and 8, 2025, with pertinent state and federal resource agencies (U.S. Army Corps of Engineers ["USACE"], USFWS, IDNR, Illinois

Environmental Protection Agency, MDC, MoDNR, and MO and IL SHPO) to solicit comments on the potential impacts of the Project on the resources and land they manage.

Q. Did the agencies provide feedback that resulted in changing the routes or route corridors?

A. While most of the state and federal agencies did not express a preference for particular preliminary route alternatives, they did provide feedback on potential constraints that the general area of the routes may contain (i.e., forested habitat suitable for bat roosting, permitting requirements, etc.). The USFWS and the MDC did express concern with the southern route corridor that traverses heavily forested and hilly terrain, as this area could also contain karst features that may be suitable bat wintering habitat. Based on this feedback and public feedback received at the open houses, ATXI removed the southern corridor from consideration.

Q. Will further analysis be undertaken?

A. Yes, ATXI will work with the state and federal agencies to further reviews and conduct the necessary surveys once the final route is determined. Please see ATXI witness Eric Paulek's direct testimony for more detail on the further environmental reviews and potential permit requirements. Impacts to jurisdictional wetlands or waters, protected species, and archaeological and historical sites due to follow-on structure siting along the proposed transmission line alignment will be further determined once a route has been approved by the Commission and any necessary field surveys specific to the approved route have been completed. To the extent environmental permits or approvals are required, ATXI will obtain them after the route has been approved by the Commission.

Q. Will any portion of the Grand Tower transmission line cross or run in the vicinity of forest preserves or other designated natural areas?

A. No designated natural areas are crossed by the Project in Missouri or Illinois. The Shawnee National Forest, the Backbone South Geological Area and the Bake Over – Backbone North Geological Area are in the vicinity of the proposed route in Illinois but are not directly impacted by the Project.

Q. The transmission line will traverse the Mississippi River. What environmental concerns does this raise for the Project and how will ATXI address those concerns?

A. ATXI recognizes that the Mississippi River is a major travel corridor for barges, boats, and migratory birds (via the Mississippi Flyway); and is a habitat for many protected aquatic species such as fish and mollusks. The line will be designed and constructed to meet the U.S. Coast Guard height clearances so as to not interfere with barge and other boat traffic. To minimize impacts to migratory birds, the river crossing will utilize an avian-safe structure design and flight diverters as part of our corporate Avian Protection Plan. To avoid impacts to aquatic species and their habitat, ATXI will not be placing structures within the river as a part of this Project.

Q. Other than the Mississippi River, will the transmission line cross or affect jurisdictional wetlands or waters?

A. The proposed route crosses the Brazeau Creek and one of its tributaries. Since Brazeau Creek flows into the Mississippi River, it is jurisdictional under the Clean Water Act and subject to oversight by the USACE and MoDNR. Wetlands are likely within the designated jurisdictional and non-jurisdictional floodplains of the creeks and the Mississippi River. Wetland delineations will be completed at all creek and river crossing areas to determine the limits of the jurisdictional waters and abutting wetlands that conform to the new Sackett Rule

guidance as promulgated by the USACE on March 12, 2025. The proposed route has been sited to avoid placing structures in the waterways and to cross at narrow areas of these creeks to minimize potential for impact to waterways and associated wetlands.

Q. Are any protected species or habitats known to occur, or have the potential to occur, along the proposed route, and will the transmission lines potentially affect those species or their habitats?

A. Yes. The USFWS IPaC was used to generate a list of federally protected species, which included the Gray bat, Indiana bat, Northern long-eared bat, Tricolored bat, Pallid sturgeon, and Monarch butterfly. ATXI also requested a Natural Heritage Review from MDC (currently in process) for documented occurrences of federal and state listed endangered species in the study area and obtained an EcoCAT from IDNR for state-listed species and other natural areas. The results include the potential occurrence of protected bats, invertebrates (crayfish), reptiles (timber rattlesnake), birds (osprey), and fish (sturgeon chub and wester sand darter) within the proposed route's vicinity on the IL side of the Mississippi River. The transmission line will primarily result in the temporary displacement of the terrestrial species from the local area during construction activities. However, in instances of routing through forested areas, such habitat will need to be removed, and a cleared right-of-way maintained. For this Project, the forested area is relatively small and runs along the existing transmission line corridor. No in-stream work in the Mississippi River is anticipated that would impact the pallid sturgeon. ATXI will complete biological surveys to determine the presence of suitable habitat along the proposed route so that structures can be sited and construction practices implemented to minimize impacts to species.

Q. Could the presence of protected species or their habitats along the proposed route prevent the Grand Tower transmission line from being constructed?

A. No. Given that similar suitable habitat is likely to occur adjacent to the proposed route, the efforts taken during routing studies to avoid and minimize routing through suitable habitat for protected species, and the use of planned construction schedules to avoid construction during likely times of species presence, it is anticipated that removal of habitat or impact to a specific protected species would not result in a significant impact that would prevent the transmission line from being constructed.

Q. What do you conclude regarding the environmental impacts of the Grand Tower Crossing Project's Proposed Route?

A. The Grand Tower Crossing Project's proposed route will likely result in temporary, non-adverse impacts to the area's local environmental. As a part of the routing and siting process, avoidance initiatives have been implemented to ensure that the area's most sensitive resources will continue to be unaffected by the Project. Other sensitive and environmental resources that cannot be routed around will have design and construction mitigation measures embedded and applied to minimize impacts to such resources to the extent practicable. Impacts will primarily occur during construction, which temporally short. The only impact that will persist beyond construction is anticipated to be the removal of suitable bat roosting habitat that will need to be cleared for the purpose of Project ROW development and maintenance. However, given the amount of available suitable habitat within the Project's vicinity, this removal activity should not jeopardize the existence of listed bat species that may occur within the Project's area.

VI. CONCLUSION

Q. Does this conclude your direct testimony?

A. Yes, it does.