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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. EA-2024-0302

DIRECT TESTIMONY

OF

JAMES NICHOLAS

ON

BEHALF OF

AMEREN TRANSMISSION COMPANY OF ILLINOIS

St. Louis, Missouri
July, 2024

TABLE OF CONTENTS

I.	INTRODUCTION AND BACKGROUND.....	1
II.	PURPOSE OF TESTIMONY AND SCHEDULES	3
III.	ATXI'S PROPOSED ROUTE	5
IV.	ROUTE SELECTION PROCESS	7
V.	ROUTE SELECTION FOR PHASE 1	11
VI.	PUBLIC ENGAGEMENT AND ITS ROLE IN THE ROUTING PROCESS	19
VII.	ENVIRONMENTAL IMPACTS	23
VIII.	CONCLUSION.....	25

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I. INTRODUCTION AND BACKGROUND

Q. Please state your name and business address.

A. My name is James Nicholas. My business address is 4340 Glendale-Milford Road, Suite 100, Blue Ash, OH 45242.

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

A. I am employed by TRC Companies, Inc. (TRC) as VP of TRC's National Energy Siting and Permitting Practice.

Q. What are your responsibilities as VP of TRC's National Energy Siting and Permitting Practice?

A. In my current role, I lead a group of GIS, siting, and permitting staff that conducts siting and route selection studies for projects across the country. These include projects for private developers, competitive projects in response to RTO solicitations, and transmission upgrade/rebuild projects for public utilities. Project scopes typically include conducting a detailed route selection study, participating in stakeholder outreach and public meetings, making route adjustments if needed following this outreach, and coordinating with federal, state and local agencies on permits and approvals.

Q. Please describe your educational and professional background.

A. I have a Bachelor of Science Degree in Physical Geography from the University of London, England, a Master of Arts Degree in Geography from the University of Cincinnati, and a

1 Ph.D. in Geography from the University of Cincinnati. I have nearly 30 years of experience in the
2 energy siting and permitting field. My career includes seventeen years with Dames & More/URS,
3 six years with CH2M Hill, short stints with Burns & McDonnell and then WSP before moving to
4 my current position as Vice President of TRC's National Energy Siting and Permitting Practice. I
5 have been in this position with TRC for two years. Over the course of my 30-year career, I have
6 participated in and managed scores of electric transmission, generation, and pipeline projects
7 throughout the United States, with a primary focus in the Midwest. This includes thousands of
8 miles of electric transmission projects, from 765kV to 69kV, through various terrains and
9 environments, ranging from wide-open plains to more densely populated urban areas.

10 I have participated in and managed numerous area improvement projects in Ohio and
11 neighboring states that included portfolios of projects ranging from high voltage, greenfield
12 transmission lines requiring state PUC approval to simple low voltage rebuilds. Recent projects
13 include a 400-mile HVDC project across Oklahoma, a 200-mile HVDC project in Wyoming, a
14 250-mile project in Kansas, Oklahoma and New Mexico, three 69kV projects in Ohio, and a
15 138 kV project in Texas. Most recently, I have assisted ATXI with the siting components of
16 competitive applications into MISO. Most of these projects included route selection studies, in
17 addition to public information meetings.

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

19 A. I am submitting testimony on behalf of Ameren Transmission Company of Illinois
20 (ATXI).

1 **Q. Have you previously testified before any state utility commissions?**

2 A. I have provided testimony in Texas and Ohio. These included proceedings
3 regarding electric transmission lines and pipelines. I testified as the expert siting witness and state
4 Public Utility Commission (PUC) application witness. These were in-person adjudicatory hearings
5 conducted under oath with opportunities for opponents to cross-examine the witnesses. I have been
6 involved in dozens more siting cases that did not require testimony based on there being little to
7 no opposition.

8 **II. PURPOSE OF TESTIMONY AND SCHEDULES**

9 **Q. Are you familiar with the electric transmission projects that ATXI proposes in**
10 **this proceeding?**

11 A. Yes. ATXI is proposing two projects (the Projects or Phase 1 Projects), which
12 collectively comprise Phase 1 of the Northern Missouri Grid Transformation Program (Phase 1).
13 The first project is the Fairport-Denny-Iowa/Missouri Border Project (FDIM or the FDIM Project),
14 which involves construction of a new, approximately 44-mile, 345kV electric transmission line
15 intended to connect a designated end point on the Missouri-Iowa state line to a new substation
16 named Denny, to be located near the existing Associated Electric Cooperative Incorporated (AECI)
17 owned Fairport Substation, and to connect the Denny Substation to the Fairport Substation. The
18 FDIM section of the Proposed Route will be located in Worth, Gentry, and Dekalb counties in
19 Missouri.

20 The second project is the Maywood-Mississippi River Crossing Project (MMRX or the
21 MMRX Project), which is located in Marion County, Missouri and involves construction of
22 approximately nine miles of 345kV transmission line from ATXI's existing Maywood Substation

1 near Palmyra, Missouri to the Mississippi River Illinois/Missouri border. The MMRX Project also
2 includes upgrades to the Maywood Substation. For convenience, I discuss the MMRX Project in
3 two sections as described below:

4 (i) The approximately 3 mile Maywood to Palmyra section involves repurposing a
5 portion of an existing 345kV transmission line (from the Maywood Substation to a
6 point north of, but not connected to, the existing AECI Palmyra Substation) and
7 constructing a new 345kV line in a new ROW that parallels the north side of the
8 existing double-circuit 345/345kV Maywood to Palmyra line to relocate the
9 repurposed line.

10 (ii) The Palmyra to Mississippi River Crossing section involves rebuilding an
11 approximately 6-mile section of the existing 161kV Palmyra to Mississippi River
12 line to a double-circuit 161/345kV line.

13 **Q. Please describe TRC and its role related to Phase 1.**

14 A. TRC is a nearly 7,000-person, multi-disciplinary, full-service consulting firm with
15 over 50 years of experience in offering end-to-end solutions for energy transition. We offer
16 consulting, engineering, construction management and field services for a more sustainable,
17 reliable, and resilient grid. TRC is a recognized leader in electric transmission siting, permitting,
18 and engineering design, survey, land acquisition, and construction management. We provide a full
19 range of services to route, acquire, and permit electric transmission projects which vary in scope
20 and complexity. We have routed hundreds of transmission and substation projects throughout the
21 country, including thousands of miles of transmission projects in the central United States. TRC's
22 role in Phase 1 was to assist ATXI with route selection studies for the FDIM and MMRX Projects.

1 **Q. What is the purpose of your direct testimony?**

2 A. My testimony explains the routing process and selection of the Proposed Route for
3 Phase 1. I refer to that route in my direct testimony and exhibits as ATXI's "Proposed Route."
4 Related, I sponsor Route Selection Studies that detail the processes, criteria, data, and information
5 the Routing Team used to select the Proposed Route and explains why the Routing Team chose
6 that route as the optimal route for Phase 1's transmission lines. The Route Selection Studies were
7 integrated with ATXI's public outreach process, which is explained by ATXI witness Ms. Dettmers.

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

9 A. Yes. I am sponsoring:

- 10 • **Schedule JN-D1** – FDIM Transmission Route Selection Study (FDIM Route Selection
11 Study); and
- 12 • **Schedule JN-D2** – MMRX Transmission Line Route Selection Study (MMRX Route
13 Selection Study).

14 **Q. Are you offering any legal opinions in your direct testimony?**

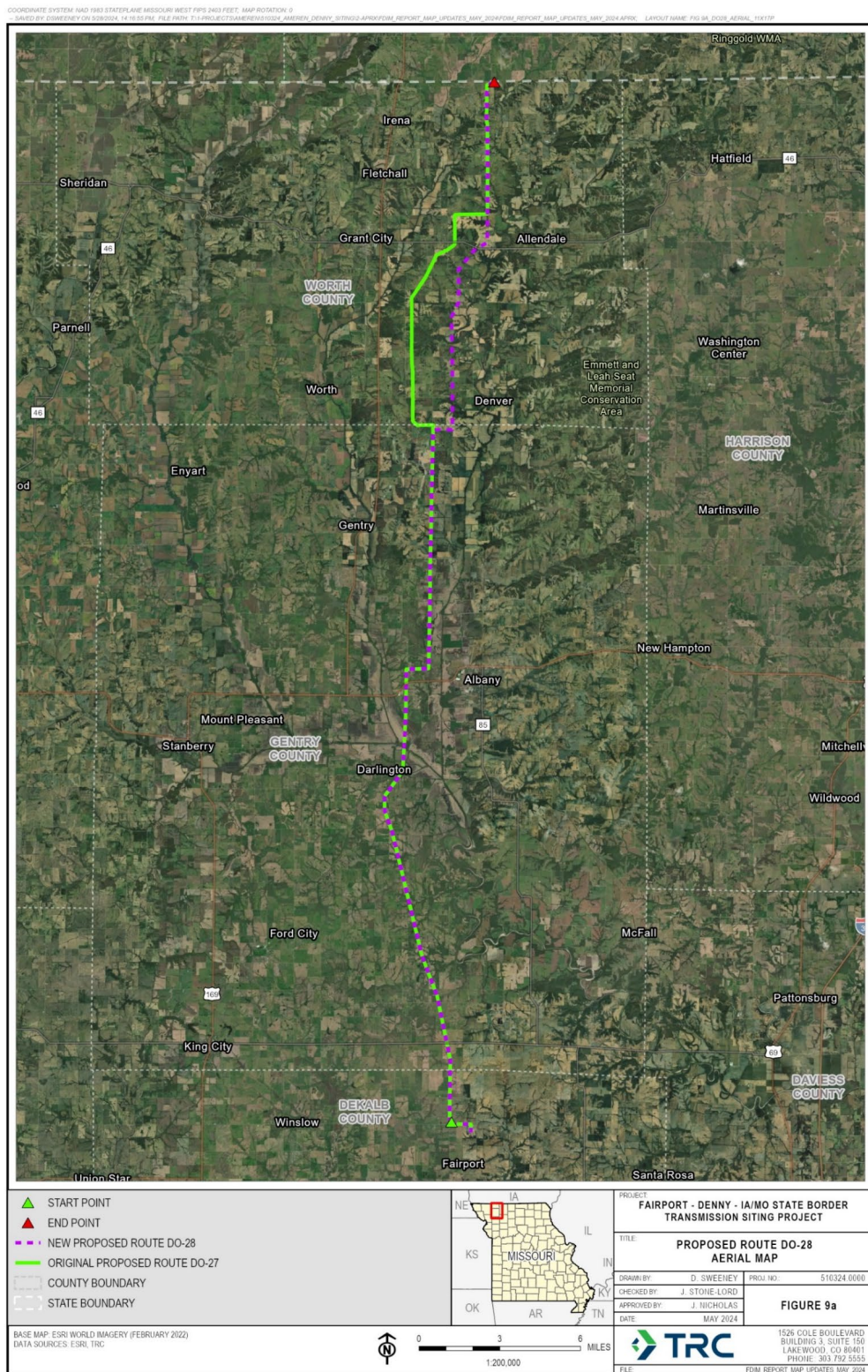
15 A. No. Although I provide my lay understanding of certain statutory and
16 administrative requirements related to transmission line siting, I am not an attorney, and none of
17 my direct testimony is intended to offer any legal opinions.

18 **III. ATXI'S PROPOSED ROUTE**

19 **Q. What is ATXI's Proposed Route for Phase 1's transmission lines?**

20 A. The FDIM section of the Proposed Route is identified as route option DO-28 in the
21 FDIM Route Selection Study and is shown as the purple dashed route in the figure below (Figure
22 9a in the FDIM Route Selection Study).

Nicholas



The MMRX section of the Proposed Route parallels the north side of the existing double circuit 345/345kV Maywood to Palmyra line and a rebuild route of the existing 161kV Palmyra to Mississippi River line to a new 161/345kV double circuit line. It is identified as the blue route in the figure below (Figure 6 in the MMRX Route Selection Study).

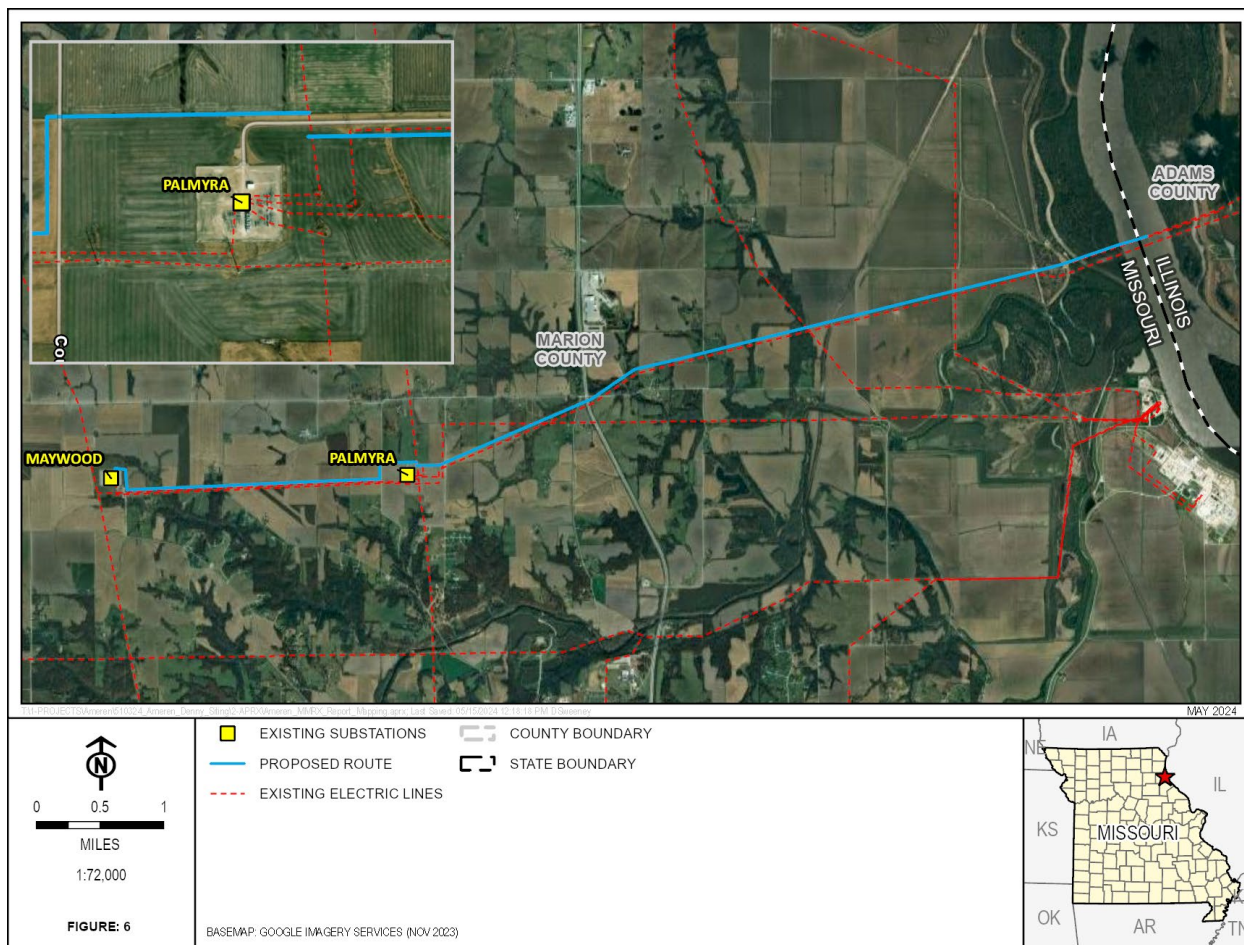


Figure 6 (MMRX Route Selection Study)

IV. ROUTE SELECTION PROCESS

Q. In general, what is the goal of a Route Selection Study?

A. The goal of a Route Selection Study is to identify and compare transmission line routes that achieve the aims of a project while minimizing the overall impacts on land use, ecological, and cultural features, to the extent practical, while also considering economic and

1 technical feasibility. Once this evaluation is completed, a Proposed Route will be selected that
2 achieves the aims of the project, is technically and economically feasible, minimizes overall
3 impacts, and considers stakeholder input.

4 **Q. Who is the Routing Team?**

5 A. The Routing Team is comprised of subject matter experts from various groups that
6 provide input into the route selection process. Here, this team included: personnel from ATXI's
7 transmission planning, transmission line engineering, substation engineering, project management,
8 environmental, construction management, public outreach, vegetation management, and land and
9 right-of-way groups in addition to TRC's routing and GIS mapping staff.

10 **Q. Please provide an overview of the route selection process used to identify a**
11 **Proposed Route in the Route Selection Studies.**

12 A. Each Route Selection Study consists of a multi-stage process that takes a large
13 Study Area, and using relevant constraint and opportunity criteria, reduces that large Study Area
14 into a series of approximate routes, or corridors, refines those into routes (i.e., centerlines),
15 compares those routes, and selects the best one based on quantitative and qualitative review.

16 **Q. What is a Study Area?**

17 A. A "Study Area" is the geographic region that is considered for opportunities and
18 constraints during the siting process. The Study Area encompasses the project end points and
19 relevant geographic or physical boundaries and characteristics.

Q. What is a constraint?

A. A constraint represents a characteristic or location considered unfavorable for placement of a new transmission line. Constraints may include steep terrain, dense residential areas, developed or congested areas, ecologically sensitive areas, or protected areas.

Q. What is an opportunity?

A. An opportunity is a condition/location considered favorable for placement of transmission lines. Opportunities include areas that are generally compatible with transmission lines, such as being close to existing linear corridors.

Q. What are the main steps involved in a Route Section Study?

A. The first stage of a route selection process is the initial planning stage where the project's technical requirements are established, and the Routing Team reviews the nature and characteristics of the general area. Project limitations, specific design criteria, goals, and timelines are established during this phase.

Q. What comes next?

A. Next is the selection of a Study Area for each Project. This involves developing a focused geographical region in which to collect constraint and opportunity data. The Study Area is selected based on the siting experience of the Routing Team and the geographic characteristics of the region, as well as the physical endpoints of the Projects. The Study Area includes the endpoints of the transmission line and provides a reasonable area in which to identify practical alternatives with reasonable geographic diversity.

1 **Q. What follows this step?**

2 A. Constraint and opportunity data are then collected and mapped for the Study Area
3 under three broad categories, including biological/ecological, cultural/land use, and
4 constructability/technical. Multiple individual criteria are collected under these broad categories
5 based on their relevance to the Projects, the Study Area, and the availability and quality of the
6 dataset.

7 **Q. What does the Routing Team do with the data collected?**

8 A. The next step is for the Routing Team to identify viable routes that avoid or
9 minimize constraints while taking advantage of opportunities. Routes are then refined by
10 comparing and ranking them based on the constraints and opportunities crossed or paralleled by
11 each route. Those route alternatives that cross less constraints and more opportunities “score” more
12 favorably. In this way, the most favorable options are identified for more detailed analysis. This is
13 followed by a qualitative review that includes those characteristics and preferences that are not
14 necessarily quantifiable. The result of the Route Selection Study is selection of a Proposed Route.
15 Note that because the FDIM Route Selection Study was prepared for purposes of submitting a
16 proposal for the FDIM Project per the MISO competitive process, the Proposed Route for the
17 FDIM Project at this stage did not include stakeholder input.

18 **Q. Are there any further stages in the route selection process?**

19 A. In this case, with regard to the FDIM Project, after ATXI’s selection by MISO as
20 the winning bidder for the Project, the Routing Team conducted public information meetings and
21 used that input to gather additional information. Public comments were reviewed, and some

1 routing adjustments were made, such that ATXI changed the FDIM section of the Proposed Route.
2 This process is discussed in more detail in Section VI later in this testimony.

3 **Q. Is the routing process as you've described it consistent with industry practice**
4 **concerning transmission line routing?**

5 A. Yes.

6 **Q. Is the routing process as you've described it the one implemented with regards**
7 **to the Phase 1 Projects?**

8 A. Yes.

9 **V. ROUTE SELECTION FOR PHASE 1**

10 **Q. What was the aim of the FDIM Project?**

11 A. For FDIM, the goal was to construct a new Denny Substation in Dekalb County,
12 Missouri, near the existing AECI-owned Fairport Substation, connect the Denny Substation to the
13 Fairport Substation via a new transmission line, and connect the Denny Substation to an
14 interconnection point on the Missouri-Iowa border where it would meet a connecting transmission
15 line to be constructed in Iowa.

16 **Q. What was the aim of the MMRX Project?**

17 A. For MMRX, the project goal was to construct a new 345kV overhead electric
18 transmission line between the existing Ameren-owned Maywood Substation and a point north of
19 the existing AECI-owned Palmyra Substation, paralleling the existing transmission line, and to
20 rebuild and upgrade the existing 161kV line owned by Union Electric Company d/b/a Ameren

1 Missouri to double circuit 345/161kV line from a point north of the Palmyra Substation to the
2 Mississippi River.

3 **Q. What was the Study Area for the FDIM Project?**

4 A. The Study Area for the FDIM Project encompassed a rectangular area that included
5 the potential Iowa border connection points and the Denny Substation as depicted in the map below
6 (Figure 1 from the FDIM Route Selection Study).

7 The Study Area depicted below was developed through review of the geography and
8 physiography of the area, and the two Project end points. The review identified the large-scale
9 opportunities and constraints throughout the region. This included physiographic, land use,
10 vegetative, and ecological characteristics, transportation, and existing utility corridors.

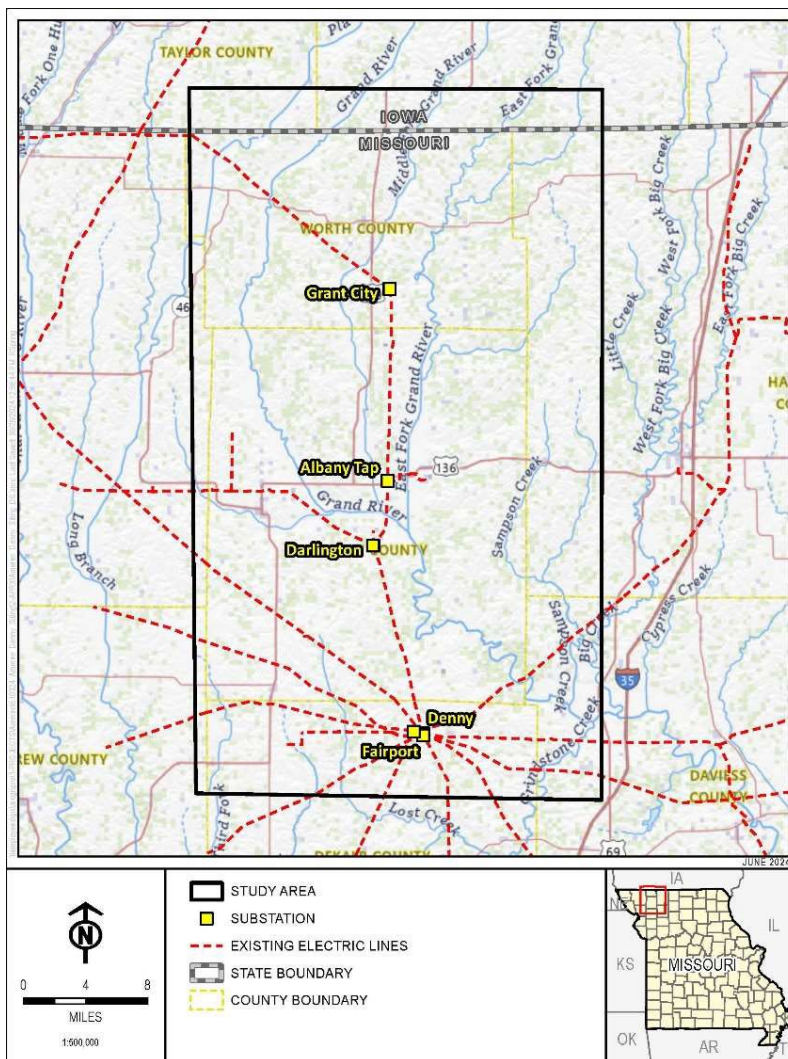


Figure 1, FDIM Route Selection Study

Q. What was the Study Area for the MMRX project?

A. For the MMRX Project, the scope was limited to only evaluating routes paralleling the existing ATXI double-circuit 345/345kV line from Maywood to Palmyra, and the route of the existing 161kV line from the Palmyra Substation to the Mississippi River. The approximately 9-mile-long Study Area is located north of the City of Palmyra, in Marion County, Missouri and was limited to a 1,000-foot corridor on either side of the existing transmission lines, as depicted in the figure below.

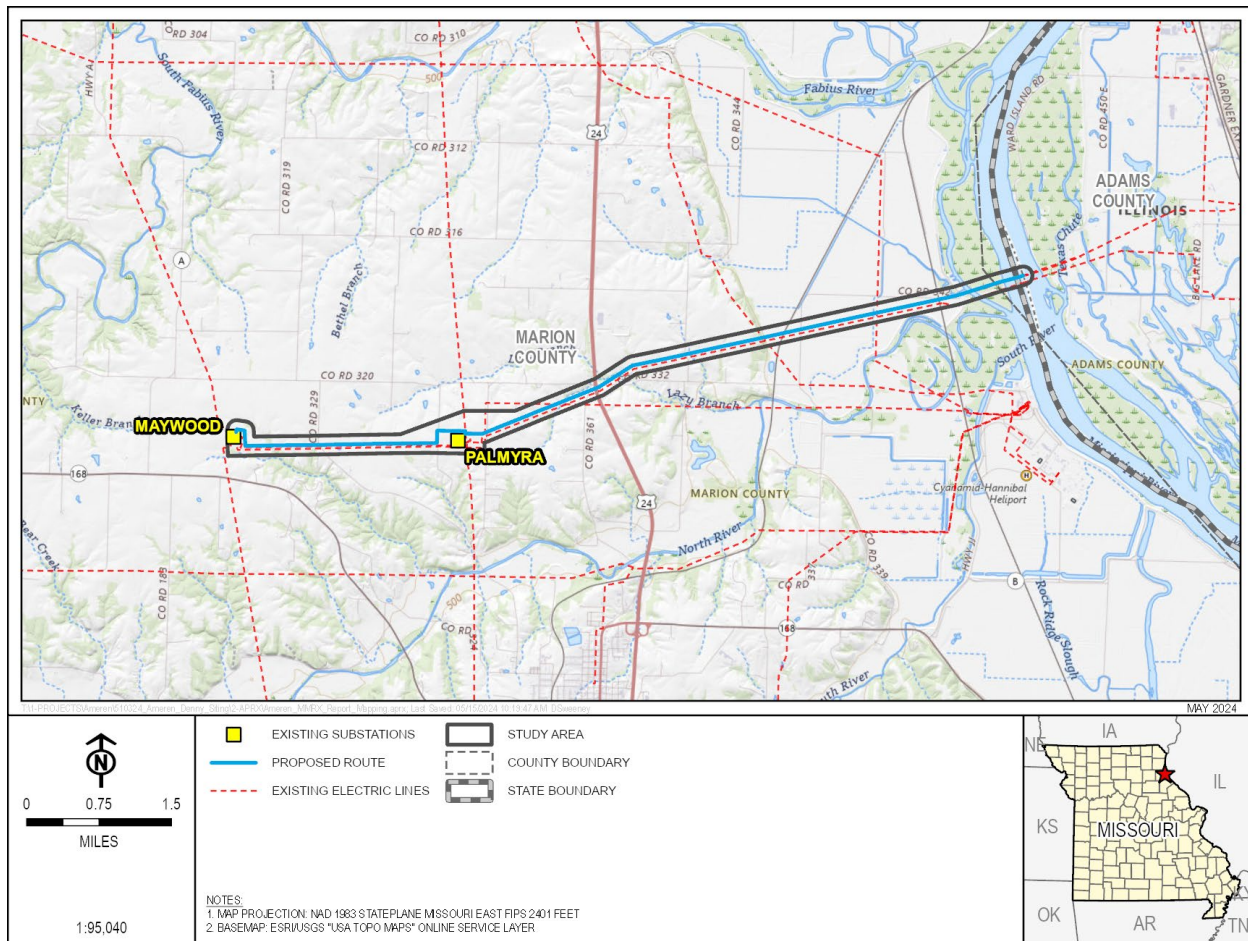


Figure 1, MMRX Route Selection Study

Q. Did the Routing Team conduct a field review of the Study Areas for the FDIM and MMRX Projects?

A. Yes. For the FDIM Project, members of the Routing Team conducted a field review of the Study Area by driving many of the local roads and publicly accessible vantage points. The area is largely rural, and most of the local roads were gravel or dirt. The field review assisted with a general appreciation of the nature of the area, including the terrain, the general land use, access opportunities, and provided an opportunity to identify larger scale land use features that may have changed since the date of the mapping and aerial/satellite photography used.

1 For the MMRX Project, a member of the Routing Team conducted a field review to assess
2 the nature of that study area and to identify visible land use changes that might have occurred since
3 publication of the aerial/satellite data for that portion of the project. This field assessment was
4 conducted from public roadways; therefore, certain sections of the project were not accessible
5 during the site visit.

6 **Q. What routing criteria were used for Phase 1?**

7 A. The routing criteria used were classified into three broad categories:
8 environmental/ecological, cultural and land use, and technical/engineering. A table listing the
9 criteria is included as Table 1 on **Schedule JN-D1** for FDIM, and Table 1 on **Schedule JN-D2** for
10 MMRX.

11 **Q. How did the Routing Team use that routing criteria?**

12 A. The Routing Team used the routing criteria data to create a map, which was used to
13 guide placement of initial segments for Phase 1. These initial segments avoided or minimized
14 effects on the identified constraints by attempting to route around them. The Routing Team tried
15 to maximize opportunities by paralleling existing utility corridors, including electric transmission
16 lines, roads, highways, and railroads. These corridors are considered opportunities because
17 locating a new transmission line parallel to them may require less ROW, concentrates linear land
18 uses (thus reducing fragmentation of the landscape), creates an incremental impact rather than a
19 new impact, and in the case of roads, assists with access for construction and maintenance.

20 The Routing Team also considered routes across open, undeveloped land. These routes
21 attempted to follow parcel boundaries where practical and were sensitive to existing land use
22 practices. The aim was to minimize potential impacts to private properties and any agricultural

1 activities (e.g., crop production). The field review indicated agriculture was influenced by the
2 ridges and valleys in the area. The upland ridges tended to be drier and appeared to be mostly used
3 for pasture (and were therefore generally preferred for initial route segments), whereas the valley
4 bottoms were wetter and are more commonly used for crops. Using these general preferences and
5 the opportunity and constraint maps, the Routing Team identified and refined the initial segments
6 into proposed routes.

7 **Q. Were weighting factors applied to the routing criteria?**

8 A. Routing criteria were weighted in the FDIM Route Selection Study. A table of the
9 criteria with the weighting factors applied is provided as Table 1 in the FDIM Route Selection
10 Study. Weights generally reflected the relative importance of the criteria and recognize that some
11 criteria have more significant regulatory and/or potential cost or schedule implications than others
12 (e.g. forested wetlands or PFO, carry a higher regulatory burden than emergent wetlands or PEM).

13 For MMRX, routing criteria were not weighted due to the limited scope of route
14 alternatives. For the Maywood to Palmyra portion, since the route alternatives to the north and
15 south both parallel the existing Ameren 345kV line with a 100-foot offset, the resulting routing
16 data collected was nearly identical between them. Therefore, the northern and southern paralleling
17 options were evaluated based on visual analysis and proximity measurements to existing structures
18 and other sensitive points of interest.

19 The rebuild portion of the MMRX Project was also evaluated based on visual analysis and
20 proximity measurements to existing structures and other sensitive points of interest.

1 **Q. Were costs considered in the application of the routing criteria?**

2 A. Costs were not directly considered in the routing criteria. However, there are
3 many routing criteria that have cost implications including length, turn angles, number of
4 properties crossed, tree clearing, and infrastructure crossings.

5 **Q. Once the Routing Team had identified the route alternatives, what did it do**
6 **next?**

7 A. The Routing Team evaluated the route alternatives and compared them against each
8 other quantitatively. The constraint and opportunity data crossed or paralleled by each route (such
9 as number of residences, acres of wetlands, miles parallel to existing utility ROW, etc.), was
10 totaled, scored, and compared. Routes that crossed fewer constraints and incorporated more
11 opportunities scored more favorably. This is a method of taking many options and filtering them
12 down to the most likely and favorable options for more detailed analysis.

13 **Q. Which route was initially selected for the FDIM section of the Proposed**
14 **Route?**

15 A. For the FDIM Project, a route (DO-27) was identified as the most favorable route
16 through the Route Selection Study as detailed in **Schedule JN-D1** and was the route proposed in
17 the MISO Application for the Project. However, based on the nature of the MISO competitive
18 process, public information meetings were not conducted until ATXI's bid was selected by MISO.
19 Following ATXI's selection, a series of public meetings was conducted, and these resulted in a
20 change to the Proposed Route as detailed in the Public Engagement Section below. Following the
21 public information meetings, the Proposed Route selected for the FDIM section of Project was

DO-28. Information related to the Public Information Meetings and resulting route changes is provided below in Section VI.

Q. How was the MMRX section of the Proposed Route identified?

A. For the MMRX Project from Maywood to Palmyra, only two routes were evaluated because of the limited scope. The potential routes were: 1) a route paralleling the northern side of the existing line, and 2) a route paralleling the southern side. Based on the nearly identical data for each of these options, the northern and southern paralleling options were evaluated based on visual analysis and proximity measurements to existing structures and other sensitive points of interest.

The Routing Team selected the northern parallel route as the preferred option for several reasons:

- The proximity of existing structures and need for route deviations further from the existing ROW. The northern parallel route option has only one structure approximately 400 feet away from the proposed centerline of the route. Whereas, the southern route option has multiple structures, including residences within 400 feet. One residence would be approximately 50 feet from the proposed centerline of the southern route and would require a substantial deviation from paralleling. This deviation would add cost and require additional clearing and additional ROW acquisition.
- The southern route would require crossing of existing transmission lines and additional turn angles.
- The northern route could avoid crossings by engineering adjustments repurposing the existing line for the Maywood-Palmyra section and relocating the repurposed line

1 through construction of a new line paralleling the existing line, effectively making the
2 northern option the most technically feasible option.

3 From the Palmyra Substation to the Mississippi River section of the MMRX Project, the
4 existing 161kV line will be rebuilt to double circuit 345/161kV line; therefore, no
5 alternative routes were evaluated. There are currently no encroachments onto the existing
6 line ROW. The closest structure is east of County Road 343, where there is a barn over 180
7 feet from the existing center line.

8 **VI. PUBLIC ENGAGEMENT AND ITS ROLE IN THE ROUTING PROCESS**

9 **Q. Please describe the public engagement process related to the Proposed Route.**

10 A. Following selection of ATXI's FDIM Project proposal by MISO, in April 2024,
11 ATXI conducted a series of public information meetings for both the FDIM and MMRX portions
12 of Phase 1, discussed at a high level above. Because of the MISO application process, this was the
13 first opportunity ATXI had to present all of Phase 1 to the public and receive their input. ATXI
14 presented mapping and project technical and schedule information to the public and local officials.
15 The mapping showed the end points for both Projects and the Study Areas. In addition, GIS stations
16 (integrated computer systems that manage and visualize geographic data and landowner/parcel
17 data) and large format maps were available with property lines and identification to allow attendees
18 to identify their properties in relation to the Projects. The public was invited to comment on Phase
19 1, including adding land use information the Routing Team might not have been aware of and
20 making suggested route changes especially where it might affect their properties.

1 ATXI and TRC attended two public meetings per county for each of the Phase 1 elements.
2 One meeting was held around lunch time (11:00AM – 1:00 PM) with a second meeting in the same
3 location in the evening (5:00 PM – 7:00 PM).

4 **Q. Did ATXI receive any comments on the Projects during or after these**
5 **meetings?**

6 A. Yes. ATXI's Public Engagement Team, described by ATXI witness Ms. Dettmers,
7 received formal comments during the April 2024 public open house meetings or mailed thereafter.
8 Most comments were provided at the GIS mapping stations and tabletop maps during the meetings.
9 Common comment categories included utility corridors, environmental concerns, residential
10 development areas, future land use, and structures. Other comments involved parcel-specific
11 information provided by landowners, including related to farming or cattle operations such as pivot
12 irrigation, site features such as drainage tile, future planned development, and present habitat for
13 wildlife species.

14 **Q. How did the Routing Team use the information it gathered from the meetings?**

15 A. Based on the information collected at the meetings, which included several
16 landowner suggested re-routes, the Routing Team re-evaluated the initial routes it had identified
17 and made changes to the FDIM section of the Proposed Route. The Routing Team developed a
18 new revised route that combined elements of the original proposal (DO-27) and incorporated a
19 new northern section to create DO-28, the new proposal for the FDIM section of the Proposed
20 Route. These routes are described in detail in the FDIM Route Selection Study (**Schedule JN-D1**).

1 **Q. Why did ATXI decide to make changes to the FDIM route in response to**
2 **comments it received at the meeting?**

3 A. Several issues drove the need for the re-route. These included:

- 4 • A USDA-regulated hog farm is located on a large property southwest of the
5 intersection of Highway N and 230th Road. Route DO-27 originally made a
6 turn to the east at 230th Road and followed the south side of the road. Further
7 investigation and information received at the public meetings revealed the
8 property adjacent to the south of 230th Road was also part of the hog farm. This
9 presented access issues both for construction and ongoing line maintenance, as
10 the facility restricts access due to contamination concerns.
- 11 • A residence is located at the intersection of Highway N and 230th Road. The
12 owner of this residence expressed concern at the public meeting over the
13 proximity of the line to the residence. ATXI, therefore, considered a route that
14 turned east at the intersection of Highway N and Kent Lane (Route 156),
15 keeping the line approximately 1,000 feet further south of the residence than
16 the originally proposed DO-27 alignment. This adjustment moved
17 approximately 9 ¼ miles of the northern portion of DO-27 starting at the
18 junction of Highway N and Kent Lane to a new alignment (DO-28) that
19 approximately parallels the original DO-27 route but is approximately one and
20 a half miles further east.

1 **Q. Did ATXI consider any other factors in determining whether to adopt a re-**
2 **route?**

3 A. The Routing Team evaluated the DO-28 reroute with the same quantitative data
4 collected for the original DO-27 route.

- 5 • Land Use Criteria: DO-28 crosses four fewer parcels, and crosses one mile of additional
6 agricultural land. The route does come closer to one additional residential structure, but
7 overall, in terms of land use, DO-28 is comparable or slightly more favorable than the
8 original DO-27.

- 9 • Technical Criteria: DO-28 is two miles shorter than DO-27 and has fewer turn angles.
10 Access for construction and maintenance may be more challenging due to the wetter
11 conditions (based on terrain) for some portions of the new alignment. However,
12 concerns over construction access due to wetter soil conditions are alleviated by being
13 adjacent to local roads. Therefore, from a technical standpoint, DO-28 is less
14 challenging.

- 15 • Ecological Criteria: DO-28 crosses more woodland, floodplain, and potential forested
16 wetland than DO-27. As mentioned above, much of the reroute is adjacent to existing
17 roadways and is therefore accessible for construction and maintenance. Nevertheless,
18 DO-28 has the potential to be slightly more sensitive than DO-27 regarding wetland
19 and woodland clearing.

20 ATXI and the Routing Team considered DO-28 as the most viable route considering the overall
21 right-of-way, ecological, land use and technical considerations, in addition to input received from
22 the public. Therefore, DO-28 was selected for the FDIM section of the Proposed Route.

VII. ENVIRONMENTAL IMPACTS

Q. Please summarize TRC's approach to identifying and assessing potential environmental impacts within the Route Selection Studies.

A. Environmental field studies have not been conducted on Phase 1 to date; however, ecological resources, vegetation and land uses crossed by the Proposed Route are included in the Route Selection Study data table for the FDIM portion of Phase 1 (**Schedule JN-D1**, Appendix A – Raw and Normalized Route Data).

Q. Will further analysis be undertaken?

A. Yes. Once the routes are approved by the Missouri Public Service Commission, ATXI will conduct field studies including a wetland delineation, cultural resources survey, and threatened and endangered species habitat assessment as required by the state and federal permitting agencies.

Q. Will any portions of Phase 1's transmission lines cross or run in the vicinity of forest preserves or other designated natural areas?

A. The MMRX Project will cross the Upper Mississippi Conservation Area adjacent to the Mississippi River. This will use the existing crossing of the existing transmission line right-of-way.

Q. Will the lines potentially cross or affect jurisdictional wetlands or waters?

A. Yes, there is the potential for the FDIM Project to cross up to 16 acres of National Wetlands Inventory (NWI) mapped wooded wetland. This would need to be field verified to provide a more accurate estimate.

1 The MMRX Project will also potentially cross jurisdictional wetlands and waters.
2 Additional wetland and waterbody surveys will be conducted to determine actual impacts to these
3 resources. It is not anticipated that the presence of wetlands would prevent the Projects from being
4 constructed.

5 **Q. Are any protected species or habitats known to occur, or have the potential to**
6 **occur, along the Proposed Route, and will the transmission lines potentially affect those**
7 **species or their habitats?**

8 A. Due to tree clearing and river crossings proposed by the FDIM and MMRX
9 Projects, there is the potential for the transmission lines to potentially affect protected species or
10 habitats, specifically bat and avian species. ATXI will conduct the appropriate studies and work
11 with federal and state agencies to minimize impacts such that the Projects will not adversely affect
12 protected species.

13 **Q. Could the presence of protected species or their habitats along the Proposed**
14 **Route prevent the Phase 1 Projects' transmission lines from being constructed?**

15 A. A desktop review of the Study Area did not identify designated records for protected
16 species or their habitats along the Proposed Route; however, ATXI will consult with federal and
17 state agencies to confirm the presence of protected species and their habitats and conduct the
18 appropriate studies prior to construction. It is not anticipated that the presence of these species
19 would prevent the Projects from being constructed.

A. The MMRX and FDIM Routing Studies were conducted based on a desktop review of topographical and aerial mapping, as well as the identified constraint and opportunity data, which included environmental data as defined in the Routing Study. ATXI will conduct wetland delineations and field reviews to assess environmental features along both the FDIM and MMRX sections of the Proposed Route. The results of the field reviews will be used to determine appropriate environmental permits necessary for the Projects. ATXI will work with the appropriate federal, state, and local agencies to ensure that the Projects comply with all necessary regulations.

VIII. CONCLUSION

A. Yes