Exhibit No.:	
Issue(s):	Project Management; Scope of Work and Project Background; Project Parties Roles and Agreements; Cost; Construction Supervision and Management Ability; Operation and Maintenance; Construction Schedule
Witness:	Nick Rudis
Type of Exhibit:	Direct Testimony
Sponsoring Party:	Ameren Transmission Company of Illinois
File No.:	EA-2025-0087
Date Testimony Prepared:	December 11, 2024

MISSOURI PUBLIC SERVICE COMMISSION

FILE NO. EA-2025-0087

DIRECT TESTIMONY

OF

NICK RUDIS

ON

BEHALF OF

AMEREN TRANSMISSION COMPANY OF ILLINOIS

St. Louis, Missouri
December, 2024

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DIRECT TESTIMONY

OF

NICK RUDIS

FILE NO. EA-2025-0087

I. INTRODUCTION AND BACKGROUND

Q. Please state your name and business address.

A. My name is Nick Rudis. My business address is 1901 Chouteau Avenue, St. Louis, Missouri 63103.

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

A. I am employed by Ameren Services Company (Ameren Services) as a Project Manager in the Transmission Project Management group.

Q. What are your responsibilities as Project Manager?

A. In my current position as Project Manager for Ameren Services, I am responsible for leading complex projects encompassing large project teams, presenting high levels of complexity and risk, and presenting strategic significance to Ameren. The role includes defining and managing project scope, budget, schedule, and execution while leading and guiding the team on project activities.

Q. Please describe your educational and professional background.

A. In 2013, I earned a Bachelor of Science degree in Mechanical Engineering from Southern Illinois University Edwardsville. I started my career working as a project manager for an industrial contractor and carried my project management experience to a large engineering consultant, gaining valuable experience in the design build process. In the fall of 2020, I received

my Project Management Professional (PMP) certification. I brought 10 years of project management skill and experience to Ameren Services in early 2023 where I have since managed large capital projects through all phases of execution.

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

A. No, I have not testified before the Missouri Public Service Commission (Commission).

II. PURPOSE OF TESTIMONY AND SCHEDULES

Q. Are you familiar with the electric transmission project for which Ameren Transmission Company of Illinois (ATXI) is requesting Commission approvals in this proceeding?

A. Yes. ATXI has partnered with the Missouri Joint Municipal Electric Utility Commission (MJMEUC) and Union Electric Company d/b/a Ameren Missouri (Ameren Missouri), and is collaborating with Associated Electric Cooperative, Inc. (AECI), as I will discuss further in my testimony[1], to build a more reliable and resilient energy grid for the future, and to construct, acquire, and operate certain transmission assets as part of the Northern Missouri Grid Transformation Program (the Program), which is described in the direct testimony of ATXI witness Mr. Shawn Schukar. The Program encompasses the Missouri jurisdictional portion of 3 of the 18 Multi-Value Projects (MVPs) approved by MISO as part of its Long Range Transmission Planning (LRTP) Tranche 1 Portfolio incorporated into the 2021 MISO Transmission Expansion

[1] ATXI and AECI are finalizing a Joint Use Agreement (CONFIDENTIAL) to double circuit their transmission lines (i.e., co-locate two circuits on a single set of structures) on the Denny-Zachary line segment. Ultimately, this collaboration with AECI and fulfillment of the agreement is dependent on the receipt of Commission approvals for this double circuit configuration and route on the Denny-Zachary Segment, and change approval by the Midcontinent Independent System Operator, Inc. (MISO).

Plan (MTEP21). This proceeding concerns one of those projects, the Denny-Zachary-Thomas Hill-Maywood (DZTM) Project (the Project or DZTM Project), which constitutes the second phase (Phase 2) of the Program. Phase 2 is designed to be operated in conjunction with the entire LRTP Tranche 1 Portfolio, which includes the other two LRTP Tranche 1 projects in Missouri, the Fairport-Denny-Iowa/Missouri Border (FDIM) Project, and the Maywood-Mississippi River Crossing (MMRX) Project, which constitute Phase 1 of the Program.[2]

The DZTM Project includes the construction of slightly over 200 miles of new 345 kV transmission lines across three transmission line segments spanning a total of ten Missouri counties: DeKalb, Daviess, Grundy, Sullivan, Adair, Knox, Lewis, Marion, Macon, and Randolph.

The first line segment will run approximately 102 miles or 107 miles (depending on the configuration option approved) from ATXI's new Denny Substation in DeKalb County to ATXI's existing Zachary Substation near Kirksville, Missouri (the DZ Segment). The DZ Segment consists of two configuration options: a single circuit option (the DZ Single Circuit Option), which would mostly be routed adjacent to existing or planned AECI transmission line corridors; or a double circuit option (the DZ Double Circuit Option) to be undertaken in collaboration with AECI, which would result in the vast majority of the DZ Segment being double-circuited with 161 kV facilities owned by AECI.

[2] Phase 1 of the Program includes 2 projects: 1) the FDIM Project and 2) the MMRX Project. The FDIM Project includes a new ATXI substation, Denny Substation, in northwest Missouri near Fairport, Missouri. The FDIM Project also includes a new 345 kV transmission line approximately 1 mile long from the Denny Substation to AECI's existing Fairport Substation in DeKalb County, Missouri, and a new single-circuit 345 kV transmission line approximately 43 miles long from Denny Substation to the Iowa/Missouri Border. The Phase 1 MMRX Project includes an approximately 9 mile 345-kV transmission line from ATXI's existing Maywood Substation near Palmyra, Missouri, to the Mississippi River Illinois/Missouri border, constructed along existing transmission line corridors, including a 6 mile rebuild to co-locate with an existing Ameren Missouri 161 kV transmission line, and upgrades to the Maywood Substation. ATXI is requesting a Certificate of Convenience and Necessity (CCN) for the Phase 1 Projects before the Commission in Docket EA-2024-0302.

The second line segment will be approximately 60 miles in length and will connect the existing Zachary Substation to ATXI's existing Maywood Substation near Palmyra, Missouri (the ZM Segment), routed adjacent to an existing ATXI transmission line and partially within its corridor.

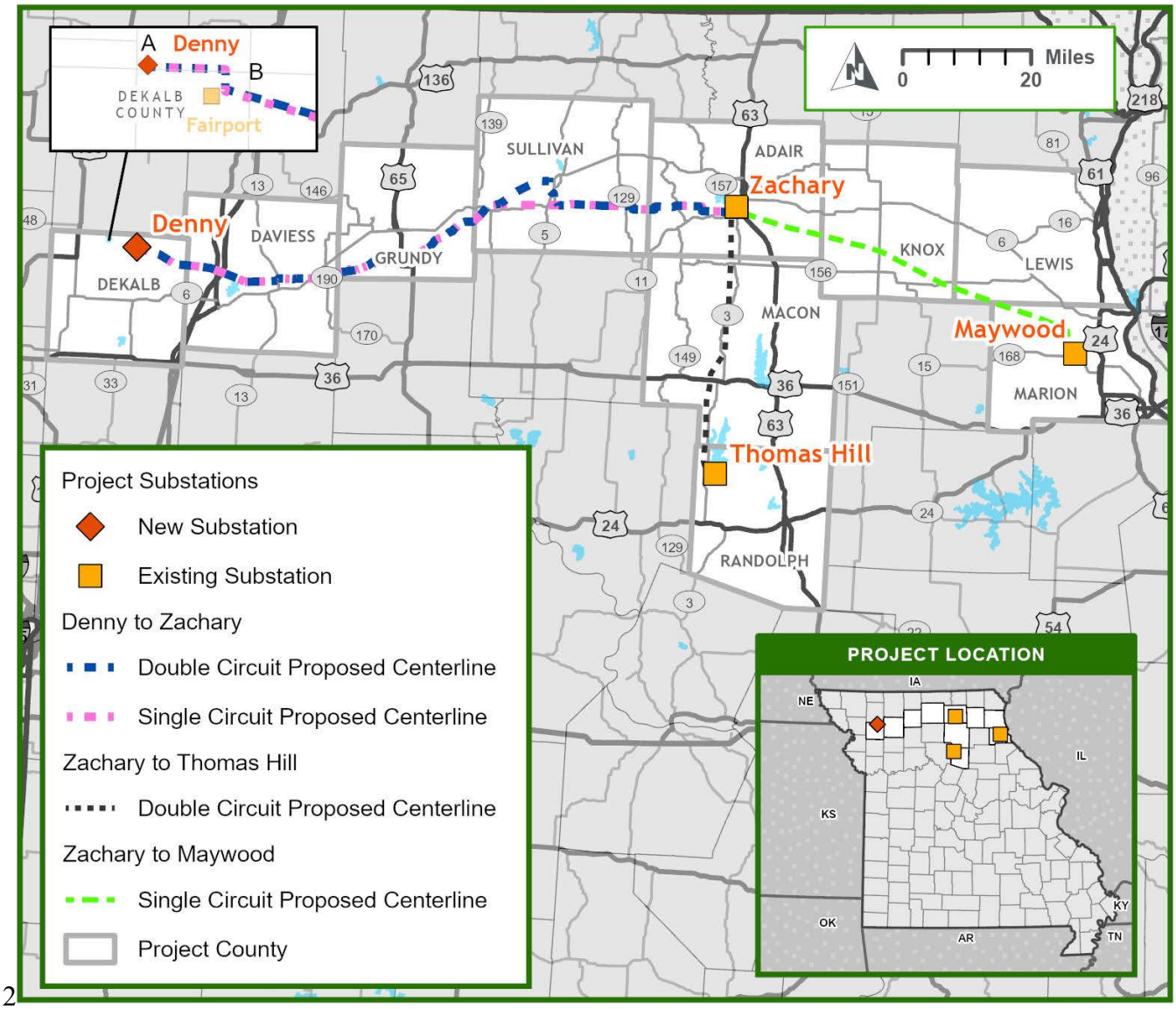
The third line segment consists of rebuilding approximately 44 miles of an existing Ameren Missouri single circuit 161 kV transmission line to a double circuit line within and overlapping the existing transmission corridor, from the Zachary Substation to AECI's existing Thomas Hill Substation in Randolph County, Missouri (the ZT Segment), co-locating the 345 kV circuit to be owned by ATXI on the same structures with the 161 kV circuit, which will continue to be owned by Ameren Missouri.

ATXI has partnered with MJMEUC on the portions of the DZTM Project, which I will discuss further in my testimony, that were subject to MISO's competitive developer selection process. MJMEUC will purchase a 49% interest in the competitive portion of the Project facilities that will be owned by ATXI, and share 49% of the costs of the competitive scope of the Project.[3]

The Phase 2 DZTM Project is depicted generally in the overview map in **Figure 1** below:

[3] Competitive scope of the Project owned by ATXI include the following facilities: 1) DZ Segment 345 kV circuit and structures; 2) ZM Segment 345 kV circuit and structures, and 3) ZT Segment 345 kV circuit only.

Figure 1 – DTZM Project Overview

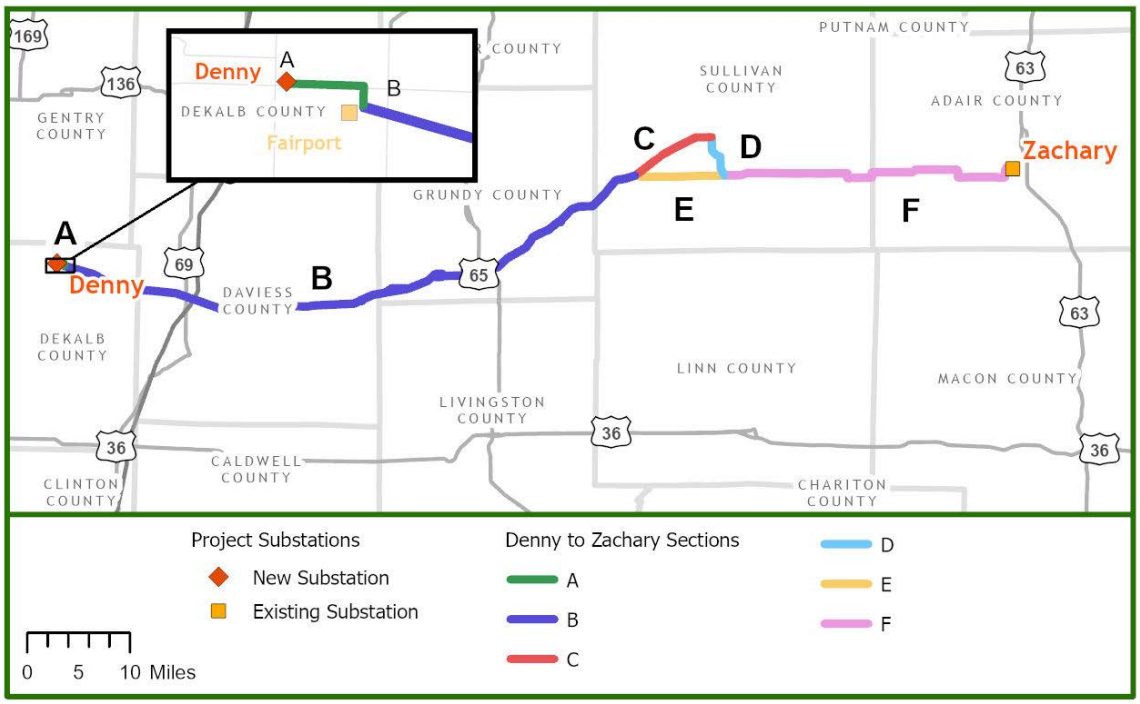


In this proceeding, ATXI is requesting a CCN for the DZTM Project and certain related approvals from the Commission to make the Program a reality, deliver its benefits to Missouri electricity customers, and address the reliability implications of the Midwest region's changing energy fleet and clean energy transition by adding needed transmission capacity.

Q. Can you further describe the single circuit and double circuit configuration options for the DZ Segment?

A. Although the entire Program must be approved and constructed for its benefits to be realized, the Phase 2 DZTM Project, as discussed above, consists of three (3) line segments, with the DZ Segment having single and double circuit configuration/routing options that are identified, respectively, as the DZ Single Circuit Option and the DZ Double Circuit Option.[4] The DZ Segment is depicted in the overview map in Figure 1 above, which shows the DZ Single Circuit Option in pink and the DZ Double Circuit Option in blue. The DZ Segment is further broken out into Sections labeled A through F to more precisely identify the differences in scope of work for each option (double circuit versus single circuit) in Figure 2 below.

Figure 2 – Denny-Zachary Line Sections



[4] MISO selected the DZ Single Circuit Option. If the Commission were to approve the DZ Double Circuit Option, ATXI would seek a change order from MISO to approve use of that option.

The DZ Single Circuit Option, the pink line option in **Figure 2**, consists of Sections A, B, E, and F in Figure 2 above as described in Table 1 below, and will be routed mostly adjacent to existing AECI transmission line corridors (Section B) or new/planned AECI transmission line corridors (Section F).

The DZ Double Circuit Option, the blue line option in Figure 1, consists of Sections A, B, C, D, and F in Figure 2 above as described in Table 1 below. The DZ Double Circuit Option will co-locate the new 345 kV circuit with the existing and planned AECI 161 kV circuit on a single set of structures for the vast majority of the DZ Segment. Sections B and C of the DZ Double Circuit Option would be a rebuild (i.e., brownfield construction) of an existing single circuit AECI 161 kV transmission line to a double circuit configuration to co-locate the Project's 345 kV circuit within the existing corridor. Sections D and F of the DZ Double Circuit Option would be a new (i.e., greenfield construction) double circuit line, co-locating the Project's 345 kV circuit with the planned AECI 161 kV transmission line.[5] A more detailed description of each Section for the two DZ Line Segment options is contained in the Table 1 below:

Table 1
Denny to Zachary Line Segment – Section/Option Descriptions

Section-Option	Length (miles)	Description
A-SC & A-DC	0.90	New 345 kV circuit will be co-located in a double circuit configuration with the new ATXI Denny-Fairport 345 kV circuit (part of the FDIM Project) on ATXI owned structures from the new ATXI Denny Substation to a point east of the AECI Fairport Substation where it meets the existing AECI 161 kV line.

[5] To be clear, unlike the other portions of the DZ Segment, AECI does not currently have a line between the Locust Creek and Zachary Substations. See Sections D and F for the DZ Double Circuit Option in Figure 2 above and Table 1 below.

Table 1 Denny to Zachary Line Segment – Section/Option Descriptions		
Section-Option	Length (miles)	Description
B-SC	61.36	New single circuit 345 kV line that follows adjacent to the existing AECI 161 kV line from just east of Fairport Substation to a point in Bowman Township in Sullivan County. The centerline of ATXI's new single circuit 345 kV line will be placed approximately 125 feet from the centerline of the existing AECI line. Most of this section is south of AECI's existing line; however, there is approximately 2 miles where it deviates from the existing line and approximately 7.7 miles where the route will be located on the north side of the existing AECI 161 kV line.
B-DC	62.42	Rebuild existing single circuit AECI 161 kV transmission line from just east of Fairport Substation to a point in Bowman Township in Sullivan County in a double circuit configuration and co-locate ATXI's new 345 kV circuit with AECI's 161 kV circuit. The centerline of the new double circuit line would be placed approximately 25 feet south of the centerline of the existing line for most of the length of Section B-DC.
C-DC	8.55	Rebuild existing single circuit AECI 161 kV line in double circuit configuration and co-locate ATXI's new 345 kV circuit with AECI's line, heading northeast from the end of Section B-DC up to just south of AECI's Locust Creek Substation.
D-DC	4.26	New double circuit 345 kV/161 kV line co-located with AECI's planned161 kV Locust Creek-Zachary circuit from just south of AECI's Locust Creek Substation to a point in Duncan Township in Sullivan County.
E-SC	8.68	New single circuit 345 kV line that cuts to the east away from AECI's existing 161 kV line at the end of Section B, to a point in Duncan Township in Sullivan County where it meets AECI's planned new 161 kV line. Section E eliminates going up to AECI's Locust Creek Substation (replaces Sections C and D of the DZ DC Options), but does not follow an existing transmission corridor.
F-SC	30.8	New single circuit 345 kV line continues from the end of Section E-SC and will be constructed adjacent to AECI's planned new 161 kV line, adjacent to the north side of the line, heading east to ATXI's Zachary Substation.

Table 1 Denny to Zachary Line Segment – Section/Option Descriptions		
Section-Option	Length (miles)	Description
F-DC	30.7	New double circuit 345 kV/161 kV line co-located with AECI's planned 161 kV line from the end of Section D east to Zachary Substation.

Q. What is the purpose of your direct testimony?

A. As the Project Manager, I am responsible for overseeing all aspects of the Phase 2 DZTM Project's implementation. My testimony addresses several aspects of construction of the Phase 2 DZTM Project. First, I will explain the scope of the construction work and background for Phase 2. I will explain the partnership between ATXI and MJMEUC on the portions of the DZTM Project that were subject to MISO's Competitive Developer Selection Process, discussing the scope, the division of labor/work and cost, and the parties' commitments, as memorialized in the Joint Ownership Agreement (JOA) for the DZTM Project. Similarly, I also explain the joint effort between ATXI and Ameren Missouri on the ZT Segment of the DZTM Project, discussing the scope of construction work, the construction cost, and the division of work and cost between them, to be memorialized in the Joint Use Agreement (AMO JUA) for the ZT Segment of the DZTM Project. I also explain the collaboration that would occur between ATXI and AECI under the DZ Double Circuit Option for the DZ Segment, discussing the scope of construction work, the construction cost, and the division of work and cost between them, to be memorialized in the Joint Use Agreement (AECI JUA) for the DZ Segment of the DZTM Project. I then explain the expected cost for Phase 2 DZTM Project and the Program, responsibility for those costs, differences in costs between the DZ Single Circuit Option and the DZ Double Circuit Option, and related cost issues.

Next, I explain how the DZTM Project will be constructed in the right-of-way easements. I also explain how Ameren Services, on behalf of ATXI (and its partners and collaborators), is both capable of and will effectively manage and supervise construction, operation, and maintenance of the Phase 2 DZTM Project, as well as the actions Ameren Services has and will undertake to ensure adequate and efficient construction, supervision, operation, and maintenance of the DZTM Project. Finally, I explain the construction schedule and in-service dates for the Phase 2 DZTM Project at issue in this proceeding.

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

A. Yes. I am sponsoring:

- Schedule NR-D1 **(Confidential)** – Phase 2 DZTM Project One-line Diagram;
- Schedule NR-D2 – Schedule for Phase 2 DZTM Project;
- Schedule NR-D3 **(Confidential)** – Joint Use Agreement between ATXI and Ameren Missouri;
- Schedule NR-D4 **(Confidential)** – Joint Ownership Agreement between ATXI and MJMEUC;
- Schedule NR-D5 – MISO DZTM Developer Selection Report;
- Schedule NR-D6 **(Confidential)** – Joint Use Agreement between ATXI and AECI.

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

A. No. Although I refer to certain legal requirements related to Phase 2 of the Program as I understand them, I am not an attorney, and my direct testimony is not intended to offer any legal opinions.

III. SCOPE OF CONSTRUCTION WORK AND PROJECT BACKGROUND

Q. What types of line work will the Phase 2 DZTM Project generally involve?

A. The DZTM Project will include two general types of construction: new construction (greenfield) and rebuild construction (brownfield). Using a single-circuit configuration on the DZ Segment, approximately 44.2 miles of the Project will be brownfield construction and approximately161.3 miles will be greenfield construction. Should the DZ Double Circuit Option be selected, this will replace approximately 65.9 miles of greenfield construction with approximately 71 miles of brownfield construction, resulting in approximately 115.2 miles of total brownfield construction and approximately 95.5 miles of total greenfield construction.

Q. Please describe more specifically the line work on the DZTM Project.

A. The line work consists of three line segments totaling slightly over 200 miles of new, 345 kV high voltage circuit along the Project's route (see Figure 1 above). The DZ Segment involves installation of a new 345 kV conductor/circuit from the new ATXI Denny Substation to the existing ATXI Zachary Substation, with two options for construction as detailed above in Table 1. And as depicted in Figure 1, the blue DZ Double Circuit Option consists of a double circuit 345 kV/161 kV line on weathering steel monopole structures, and the pink DZ Single Circuit Option consists of a single circuit 345 kV line on weathering steel monopole structures. The second line segment, the ZM Segment, will consist of approximately 60 miles of new 345 kV single circuit transmission line from the Zachary Substation to the Maywood Substation and will be constructed on weathering steel monopole structures. The third and final segment, the ZT Segment, includes rebuilding an existing Ameren Missouri 161 kV line to a double circuit on weathering steel structures with new 161 kV conductor and 345 kV conductor from the ATXI

Zachary Substation to the AECI owned Thomas Hill Substation. The line work is depicted in the one-line diagrams attached as Schedule NR-D1 (**Confidential**). Further details of the design aspects of the Project are detailed in the direct testimony of ATXI witness Adam Molitor.

Q. Please describe the substation work for Phase 2 DZTM Project.

A. The DZTM Project will terminate into four different substations: the new ATXI owned Denny Substation,[6] the existing ATXI owned Zachary Substation and Maywood Substation, and the existing AECI owned Thomas Hill Substation.[7] However, the substation scope of work for the DZTM Project, as proposed in this filing, is limited to Zachary Substation, which will be done as part of the direct assigned portion of the DZTM Project.

Q. Can you describe the work at Zachary Substation that will be done as part of this Project?

A. The existing ATXI Zachary Substation will be upgraded to accommodate the Program's transmission lines. Zachary is a relatively new substation and was built to modern engineering standards with provisions for future additions, and therefore the existing site can accommodate the new equipment necessary for the DZTM Project without expanding the footprint of the substation. Zachary is currently a three-position ring bus and includes a 345 kV reactor. Zachary Substation will be upgraded to a six-position breaker-and-a-half configuration, which

[6] Construction of the Denny Substation and modifications to the Maywood Substation to integrate the DZTM Project transmission lines are being proposed as part of ATXI's application for the Phase 1 Projects (FDIM Project and MMRX Project), in Docket No. EA-2024-0302.

[7] Upgrades at AECI's Thomas Hill Substation will be required to accommodate the ZT Segment integration, but will be completed by AECI.

requires installation of new circuit breakers, disconnect switches, metering equipment, bus work, and protective relays within the existing station fence.

Q. Can you please give a brief background of the MISO competitively awarded portions of the Phase 2 DZTM Project?

A. Yes. MISO determined the DZTM Project included new transmission facilities in Missouri eligible for competitive development, using its competitive developer selection process consistent with the MISO Tariff. On June 2, 2023, MISO issued its Request for Proposals (RFP) for the DZTM Project. On November 14, 2024, ATXI submitted two proposals to MISO for the DZTM Project: the first included a co-location option with AECI on the DZ Segment,[8] and the second did not include a co-location option for the DZ Segment.[9] On April 2, 2024, MISO released its selection report, announcing ATXI as the developer for the DZTM Project, selecting ATXI's first proposal, entitling and obligating ATXI to carry out the Project.[10] I have attached the DZTM Selection Report as Schedule NR-D5.

Q. Was the entire Phase 2 DZTM Project subject to competitive bid?

A. No. The competitive portion of the DZTM Project includes all of the Denny-Zachary line segment (345 kV circuit and structures), all of the Zachary-Maywood line segment (345 kV circuit and structures), and only the 345 kV circuit/conductor related scope on the Zachary-Thomas Hill line segment (rebuild of 161 kV line/circuit and structures were directly

[8] Proposal 705 in the DZTM Selection Report.

[9] Proposal 706 in the DZTM Selection Report.

[10] This selected proposal routed the 345 kV line along/parallel to AECI's 161 kV line on the DZ Segment (similar to what is now described as the DZ Single Circuit Option), but allows for an adjustment to a double circuit configuration if approved or ordered by the Commission (the DZ Double Circuit Option).

assigned). The structures and 161 kV components of the rebuild of Ameren Missouri's single circuit 161 kV line to a double circuit configuration for the ZT Segment and modifications to Zachary Substation were not a part of the competitive bid process.

A. ATXI and Ameren Missouri Partnership on the Zachary-Thomas Hill Line Segment

Q. You stated that ATXI and Ameren Missouri are working together to build the ZT Segment of the DZTM Project. What is the division of work between ATXI and Ameren Missouri on the rebuild construction that you described?

A. On the ZT Segment of the DZTM Project there is approximately 44 miles of an existing Ameren Missouri 161 kV transmission line (its Thomas Hill-Adair line) that will be rebuilt in existing transmission corridors, or "brownfield" areas. The existing corridors will be expanded to accommodate the new higher voltage circuit. The ZT Segment's construction will generally follow this approach: ATXI will construct new ATXI-owned, steel monopole structures, at a 25 foot offset to the existing line, and install its new ATXI-owned 345 kV conductor on one side of the new structures. Ameren Missouri will then install new, Ameren Missouri-owned 161 kV conductor on the other side of the double circuit structures. Ameren Missouri will remove its existing support structures, existing conductor, and associated hardware. ATXI will bear the costs associated with the new double circuit structures and new 345 kV circuit. Ameren Missouri will initially fund the costs associated with removal of its facilities and the installation of replacement conductor on the ATXI-owned structures but will be reimbursed by ATXI within 30 days following the date that such costs are realized. Ameren Missouri will continue to own, operate, and maintain its existing circuit. ATXI will own, operate, and maintain the new support structures and new 345 kV circuit. The accounting for the existing and new facilities will reflect this ownership

structure. This division of work is detailed in the AMO JUA, which will be substantially in the form of the agreement attached as Schedule NR-D3 **(Confidential)**.

Q. Generally, how did ATXI and Ameren Missouri determine these divisions?

A. Determination of the division of work and ownership between ATXI and Ameren Missouri on DZTM, as well as the attendant costs, was largely driven by MISO's LRTP Tranche 1 Portfolio transmission expansion plan, which is intended to leverage existing transmission corridors where practicable. The division was also driven by alignment with ATXI's and Ameren Missouri's respective regionally and locally focused transmission investments, their shared goal of promoting cost-effective and efficient construction of the Program and mitigating its impacts on affected landowners where feasible. ATXI witness Mr. Schukar notes these considerations as well.

Q. Please explain what you mean by alignment with ATXI's and Ameren Missouri's respective transmission investment focuses.

A. MISO designed the LRTP Tranche 1 Portfolio, including the Program, to be regionally beneficial. Consistent with this objective, and with past precedent, the facilities will be constructed and owned by ATXI, which generally focuses on regional solutions. So that Ameren Missouri retains ownership, however, of its existing transmission facilities, which remain necessary to support local transmission and system reliability, Ameren Missouri will be responsible for constructing any upgrades or modifications to those existing transmission facilities. Nevertheless, costs initially incurred by Ameren Missouri for its division of the work, but for which ATXI should be ultimately responsible, will be reimbursed by ATXI within 30 days following the

date that such costs are realized.[11] This reimbursement is appropriate because any existing Ameren Missouri facilities being rebuilt for Phase 2 are primarily for the purpose of co-locating them with the new ATXI facilities constructed as part of MISO's regionally beneficial transmission expansion plan. This arrangement ensures that Ameren Missouri retains the financial flexibility to continue to invest in local transmission projects. I would note that, as I explain further below, throughout its implementation, ATXI and Ameren Missouri will leverage shared services provided by Ameren Services to design, plan, and build the Program, which promotes efficiency and cost-effectiveness. The direct testimony of MISO witness Jeremiah Doner explains in more detail the planning process, the development of the LRTP portfolio, the Project's benefits, and findings regarding the Program including the Phase 2 DZTM Project.[12]

Q. Please explain how ATXI and Ameren Missouri will memorialize the division of work between them.

A. ATXI and Ameren Missouri will enter into a Joint Use Agreement (AMO JUA). The AMO JUA details ATXI's and Ameren Missouri's respective responsibilities regarding construction, ownership, operation, and maintenance of the Program's facilities, as well as the attendant division of costs between them. While the AMO JUA has not yet been executed, it will be substantially in the form of, or identical to, the attached draft agreement in Schedule NR-D3 **(Confidential)**. Additionally, the ZT Segment one-line drawings in Schedule NR-D1

[11] To reiterate, Ameren Missouri's involvement on Phase 2 of the Program is limited to the ZT Segment of the DZTM Project. While it will initially fund its division of work, it will be reimbursed entirely such that Ameren Missouri will not bear any costs associated with Phase 2 of the Program.

[12] It is ATXI's understanding that MISO intends to move to intervene and file the direct testimony of Mr. Jeremiah Doner in support of the Application shortly after ATXI's filing of its Application and direct testimony. All references to the direct testimony of MISO witness Mr. Jeremiah Doner reflect ATXI's understanding of his forthcoming testimony.

(Confidential), and which will ultimately be included as an appendix to the AMO JUA, shows the scope of work for the ZT Segment of the DZTM Project. Once the AMO JUA has been executed, ATXI commits to provide the final version to the Commission.

B. ATXI and MJMEUC Partnership on DZTM

Q. You stated that ATXI and MJMEUC are partnering on portions of the DZTM Project. What is MJMEUC?

A. MJMEUC is a municipal joint action energy agency formed under the Joint Municipal Utility Commission Act to obtain sufficient, economical electrical power supply, energy management, and transmission services for the benefit of member municipal utilities. MJMEUC provides full power purchase requirements to member utilities and arranges purchases for members in need of supplemental power. It may construct, operate, and maintain jointly owned generation and transmission facilities for the benefit of members, and it has the authority to enter into contracts for power supply, transmission service, and other services necessary for the operation of an electric utility. MJMEUC membership currently includes 71 municipal utilities in Missouri and four advisory members in Arkansas.

Q. Please describe the ATXI and MJMEUC partnership for the DZTM Project.

A. ATXI's and MJMEUC's partnership pertains to all facilities within the DZTM Project that were subject to MISO Competitive Developer Section Process: (1) the new Denny to Zachary 345 kV transmission line including structures[13]; (2) the new Zachary to Maywood 345 kV

[13] If the DZ Double Circuit Option is selected on the DZ Segment, MJMEUC's ownership interest will be limited to ATXI-owned facilities (the 345 kV circuit and structures), and will not include an interest in AECI's 161 kV circuit. MJMEUC will, however, share in 49% of the cost for which ATXI is responsible for in the construction, operation, and maintenance of the rebuilt sections of the DZ Segment with the DZ Segment Double Circuit Option.

transmission line including structures; and (3) the new Zachary to Thomas Hill 345 kV transmission circuit, *excluding* the structures.[14] In general, ATXI will construct, operate, and maintain these facilities, but will transfer an undivided 49% passive interest to MJMUEC in the facilities which ATXI will own on the competitive portions of DZTM, with ATXI retaining an undivided 51% participating interest.[15]

Q. Have ATXI and MJMEUC memorialized their respective commitments?

A. Yes. ATXI and MJMEUC have entered into a Joint Ownership Agreement (JOA), executed on November 10, 2023. The JOA is attached as Schedule NR-D4 (**Confidential).**

Q. Please describe the JOA.

A. The JOA defines ATXI's and MJMEUC's shared investment in and joint ownership as tenants in common of the DZTM Project components that were subject to MISO competitive bid, and in which ATXI will have an ownership interest, as described above, and related obligations regarding their respective percentage interests. The JOA provides that ATXI will own a 51% participation percentage in the facilities and MJMEUC will own a 49% passive interest in the competitive components of DZTM in which ATXI will have ownership interest. The JOA further provides that the parties' respective costs to construct, acquire, operate, and maintain the Project facilities will be commensurate with their respective ownership interests in the facilities. In simple

[14] To be clear, MJMEUC will share 49% of the cost associated only with the 345 kV circuit on the ZT Segment. MJMEUC's cost share/ownership does not include the structures or Ameren Missouri's 161 kV circuit.

[15] The Joint Ownership Agreement contains a Schedule A that will be populated at the time of Closing to list the specific assets that will be transferred to MJMEUC. Populating this schedule closer to Closing will allow the parties to define the assets in greater detail than if they were listed prior to the start of construction. ATXI commits to provide the final copy of the Joint Ownership Agreement to the Commission as a compliance condition to the Commission's order.

terms, MJMEUC will contribute 49% of the costs to construct the competitive segments of the DZTM Project, as well as 49% of the costs to operate and maintain the DZTM facilities jointly owned with ATXI (generally through reimbursement to ATXI). MJMEUC's ownership interest will be passive, meaning that while MJMEUC will have an undivided ownership interest in these facilities, MJMEUC will economically benefit from the use of these facilities, and will have a say in major decisions made with respect to these facilities, but MJMEUC will not be directly responsible for any day-to-day activities associated with the construction, operation, or maintenance of these facilities. The JOA is attached to my testimony as Schedule NR-D4 **(Confidential)**.

Q. Why is MJMEUC partnering with ATXI on the DZTM Project?

A. The collaboration is mutually beneficial to MJMEUC, ATXI, and ultimately the customers who will be asked to pay for the DZTM Project facilities. Involving MJMEUC enables them to bring the benefits of the DZTM Project to the members/municipalities they serve. MJMEUC benefits from ATXI's expertise in construction, operation, and maintenance of transmission projects. ATXI will flow its costs for the DZTM Project through its FERC-approved formula rate and MJMEUC will flow its costs through its own formula rate. As a municipal joint action energy agency, MJMEUC brings to the table a favorable (lower) cost of debt and positive tax implications. ATXI (and MJMEUC's members participating in the DZTM Project) benefit from MJMEUC's lower cost of debt and preferable tax treatment. Thus, MJMEUC's investment in the DZTM Project will help lower the overall cost.

C. ATXI and AECI Collaboration on DZTM

Q. You stated that ATXI and AECI intend to collaborate on portions of the DZTM Project. What is AECI?

A. AECI is a non-profit rural electric cooperative organized, existing, and operating under Chapter 394 of Missouri's Revised Statutes. AECI is owned by and provides wholesale electric power to six regional generation and transmission rural electric cooperatives. These six regional generation and transmission cooperatives supply wholesale electric power to its 51 electric distribution cooperative members throughout Missouri, northeast Oklahoma, and southeast Iowa, serving more than 935,000 customers.

Q. What does the ATXI and AECI collaboration for the DZTM Project include?

A. ATXI's and AECI's collaboration pertains to facilities within the DZ Segment of the DZTM Project with the DZ Double Circuit Option (the blue line in Figure 1, and Sections B, C, D and F in Figure 2 above). Should the DZ Segment with the DZ Double Circuit Option be selected by the Commission, ATXI and AECI will partner to build the new DZ Double Circuit Option, with ATXI constructing the Project on behalf of AECI.

Q. Have ATXI and AECI memorialized their respective commitments?

A. ATXI and AECI will enter into a Joint Use Agreement (AECI JUA), which is currently in the final stages of completion and execution, and expect for the agreement to be substantially in the form of, or identical to, Schedule NR-D6 **(Confidential)**. The AECI JUA defines ATXI's and AECI's shared investment in and joint use of the DZ Segment with the DZ Double Circuit Option (the DZ Segment Double Circuit Option), and describes the parties' respective costs to construct, operate, and maintain the DZ Segment Double Circuit Option

facilities. The AECI JUA explains that ATXI will construct the new DZ Segment Double Circuit Option, rebuilding an existing single circuit AECI 161 kV line into a double circuit 161 kV/345 kV line for approximately 71 miles, and construct a new double circuit line for approximately 35 miles in a new, planned transmission corridor. Under the arrangement for the DZ Segment Double Circuit Option, AECI will own 100% of their 161 kV circuit and ATXI will own the structures and new 345 kV circuit (along with its partner MJMEUC as detailed in the previous section). Under the AECI JUA, ATXI will pay for the removal and rebuild of the AECI facilities from outside the existing AECI Fairport Substation to outside the existing AECI Locust Creek Substation (Sections B-DC and C-DC in Table 1 above).[16] ATXI will pay for 80% and AECI will pay for 20% of the costs for the new double circuit line from the Locust Creek Substation to the Zachary Substation (Sections D-DC and F-DC in Table 1 above).[17] In many respects, the collaboration is similar to the collaboration between ATXI and AECI on the Maywood to Zachary segment of the previous Mark Twain Project. Once the AECI JUA has been executed, ATXI commits to provide the final version to the Commission.

Q. Why are AECI and ATXI collaborating on the DZTM Project?

A. The collaboration is mutually beneficial to AECI and ATXI. Involving AECI enables them to bring the benefits of the DZTM Project to the members they serve and their customers. AECI benefits from ATXI's new transmission line, which updates aging AECI facilities and extends their transmission path between their Locust Creek Substation and ATXI's Zachary Substation. ATXI benefits from the use of AECI's existing corridor on the rebuild section (Fairport

[16] Subject to the 51%/49% cost sharing arrangement with MJMEUC.

[17] Subject to the 51%/49% cost sharing arrangement with MJMEUC, which will pay for 49% of ATXI's 80% cost responsibility on the new, greenfield sections of the DZ Segment Double Circuit Option.

to Locust Creek), taking advantage of constructing in an existing transmission corridor and overlapping with AECI's existing rights-of way to reduce the line's impact and reduce the amount of newly impacted or encumbered rights-of-way required.[18] AECI and ATXI both benefit from co-location in AECI's new, planned transmission corridor by reducing the overall footprint of the transmission corridor, compared with two single circuit transmission lines, again lessening the impact on the DZ Double Circuit Option's greenfield sections (Sections D-DC and F-DC in Table 1 and Figure 2). Both AECI and ATXI benefit from a lowered cost to construct the greenfield facilities, and reduced costs for line and right-of-way maintenance by sharing in the expenses on the DZ Segment. The collaboration with AECI also reduces construction activity such as equipment and crew traffic and the resulting landowner impacts including compaction and crop damages, as discussed by ATXI witness Mr. Matt Hoven, because the two lines would be built together as part of a single construction project with the DZ Double Circuit Option, whereas under the DZ Single Circuit Option Section F would be subject to separate construction projects by two different companies at two different times.

ATXI has presented this DZ Double Circuit Option to the public for opinion and is submitting it to the Commission for consideration primarily due to the potential benefits to landowners. The results of public feedback and opinion are discussed in detail in the direct testimony of ATXI witness Leah Dettmers.

[18] ATXI will obtain its own easements for the right-of-way width required for a 345 kV line, 150-feet, for the entire DZTM Project, which will substantially or entirely overlap with AECI's existing easements or new easement AECI will be acquiring.

IV. CONSTRUCTION COST

Q. What is the total expected Project cost for Phase 2?

A. The total expected cost for the Phase 2 DZTM Project, constructing the DZ Segment with the DZ Single Circuit Option, is estimated at approximately $442.1 million, including Allowance for Funds Used During Construction (AFUDC). The total expected cost for the DZTM Project, constructing the DZ Segment with the DZ Double Circuit Option, is approximately $490.6 million, including AFUDC. Table 2 below details ATXI's costs, and all other parties' costs under the various arrangements.

Table 2

	Phase 1	Phase 2 - DZTM				
Year	**FDIM / MMRX**	**DZ DC Segment**	**DZ SC Segment**	**ZM Segment**	**ZT Segment**	**Zachary Expansion**
2023	$ 531,198.59	$ -	$ -	$ -	$ 14,410.76	$ 865,069.33
2024	$ 7,405,127.97	$ 729,500.91	$ 1,251,895.06	$ 275,531.78	$ 6,070,874.23	$ 8,720,755.77
2025	$ 8,522,211.24	$ 767,180.91	$ 1,309,031.90	$ 466,017.27	$ 6,711,182.94	$ 6,710,350.58
2026	$ 19,546,113.36	$ 20,064,807.42	$ 19,544,606.04	$ 21,087,365.25	$ 7,238,425.35	$ 13,935.77
2027	$ 69,583,256.83	$ 56,763,998.02	$ 30,006,244.92	$ 48,034,081.18	$ 45,473,490.16	$ -
2028	$ 4,883,347.63	$ 73,505,815.68	$ 60,947,348.41	$ 6,278,476.10	$ 65,639,832.81	$ -
2029	$ 713,484.00	$ 55,146,876.78	$ 51,414,661.28	$ -	$ 3,153,447.03	$ -
2030	$ 4,386,489.23	$ 13,490,491.05	$ 13,015,187.10	$ 4,794,955.77	$ 816,976.13	$ -
Cost to Construct	$ 115,571,228.85	$ 220,468,670.77	$ 177,488,974.70	$ 80,936,427.35	$ 135,118,639.41	$ 16,310,111.45
AFUDC	$ 4,926,748.00	$ 24,721,692.92	$ 19,191,149.35	$ 5,181,170.91	$ 7,854,563.22	$ 9,954.09
Total Cost	$ 120,497,976.85	$ 245,190,363.69	$ 196,680,124.05	$ 86,117,598.26	$ 142,973,202.63	$ 16,320,065.54
Cost Shared with AECI	$ -	$ 70,847,019.50	$ -	$ -	$ -	$ -
ATXI Share %	$ -	80%	-	$ -	$ -	-
ATXI Share $	$ -	$ 56,677,615.60	$ -	$ -	$ -	$ -
Cost Shared with MJMEUC	$ 88,770,369.94	$ 231,020,959.79	$ 193,473,570.21	$ 86,117,598.26	$ 14,966,355.56	$ -
ATX Share %	51%	51%	51%	51%	51%	-
ATXI Share $	$ 45,272,888.67	$ 117,820,689.49	$ 98,671,520.81	$ 43,919,975.11	$ 7,632,841.33	$ -
100% ATXI Funded	$ 31,727,606.91	$ -	$ -	$ -	$ 128,006,847.07	$ 16,320,065.54
Total ATXI Funded	$ 77,000,495.58	$ 117,820,689.49	$ 98,671,520.81	$ 43,919,975.11	$ 135,639,688.40	$ 16,320,065.54
Total Phase 2 DZTM Cost including: DZ SC, ZM, ZT Segments, and Zachary Sub Expansion					**$ 442,090,990.48**	
Total Phase 2 DZTM Cost including: DZ DC, ZM, ZT Segments, and Zachary Sub Expansion					**$ 490,601,230.12**	

Q. Generally, how was the total expected cost for Phase 2 determined?

A. Ameren Services completed detailed scoping for the Project. Quantity takeoffs with preliminary bills-of-material were developed from the scoping reviews. Program costs were then estimated by extrapolating historical unit costs for the quantities estimated for each line segment and substation, and adjustments were made for increased costs associated with known field conditions, rights-of-way, and environmental factors. After developing base cost estimates for each segment and substation, Ameren Services subject matter experts used historical project cost data to estimate a risk-based contingency, which is designed to account for various contingencies and risks, such as unanticipated changes in soil characteristics, line route changes, inclement weather that may hinder the construction process, and material and labor pricing changes, including escalation over the life of the Program. This analysis was used to derive an expected cost for each segment and substation comprising the Program. The total expected cost reflects an estimate of the most-likely cost of each component of the Program based upon the current preliminary designs. Actual costs incurred will continue to be refined and updated as Program implementation progresses. Further variances to the current cost estimate could be influenced by a number of factors, including route changes, changes to the assumed material or labor escalation, Program schedule changes, or changes to construction costs as a result of further design certainty aided by field inspection.

Q. What is the total expected cost to construct Phase 2 to ultimately be borne by ATXI?

A. The total expected cost, ultimately, to ATXI for the Phase 2 DZTM Project is estimated at $294.5 million with the DZ Single Circuit Option on the DZ Segment as shown in

Table 3 below, taking into account the cost sharing with MJMEUC. With the DZ Double Circuit Option for the DZ Segment, the ultimate, total expected cost to ATXI for the Phase 2 DZTM Project is estimated at $313.7 million, as shown in Table 3 below, taking into account the cost sharing with MJMEUC and AECI. This includes all of the DZTM project costs competitively bid at $150.2 million for single circuit, $169.4 million for double circuit and the entirety of the direct awarded portions at $144.3 million (reflecting ATXI's 51% share of costs and MJMEUC's 49% share of costs on the competitively bid portions of the Project).

Table 3

ATXI Funded Costs			
	Double Circuit Option	Single Circuit Option	Comments
DZ DC Segment	$ 117,820,689.49	$ -	Accouts for Cost Share with AECI on New DC and MJMEUC Cost share on remainder
DZ SC Segment	$ -	$ 98,671,520.81	N/A
ZM Segment	$ 43,919,975.11	$ 43,919,975.11	Accounts for cost share with MJMEUC
ZT Segment	$ 135,639,688.40	$ 135,639,688.40	Accounts for cost share with MJMEUC on the 345 kV Circuit but the remainder of the work is direct assigned to ATXI and will not be cost shared
Zachary Expansion	$ 16,320,065.54	$ 16,320,065.54	Direct assigned to ATXI and will be fully funded by ATXI
Total	$ 313,700,418.55	$ 294,551,249.86	

Thus, the net cost difference for ATXI funded portion for constructing the DZTM Project with the DZ Double Circuit Option for the DZ Segment instead of the DZ Single Circuit option is approximately $19.1 million ($313.7 million minus $294.6 million).

Q. What is the total expected cost to construct Phase 2 to be borne by Ameren Missouri?

A. None. Ameren Missouri will initially fund their portion of Phase 2, which again is limited to just the ZT Segment, for costs associated with rebuilding the Adair[19] to Thomas Hill 161 kV line and re-terminations of their existing transmission lines, but will be reimbursed by ATXI as described previously. The costs are further detailed in the AMO JUA, and the accounting

[19] The Ameren Missouri Adair Substation is immediately south of the ATXI Zachary Substation.

for the DZTM Project on Ameren Missouri's books will reflect these cost allocation outcomes in the agreement and the division of work that I described.

Q. How was the apportionment of cost between ATXI and Ameren Missouri determined?

A. Determination of the division of costs that I've described, like the division of work and ownership between ATXI and Ameren Missouri, was largely driven by MISO's LRTP Tranche 1 Portfolio transmission expansion plan, alignment with ATXI's and Ameren Missouri's respective regionally and locally focused transmission investments, and the shared goal of a cost-effective and efficient Program with mitigated land use impacts where practicable. As the Ameren entity that primarily focuses on developing regional transmission projects, ATXI will be responsible for the full cost of DZTM Project development. Further, under this approach, Ameren Missouri can continue to focus its investments on projects necessary to serve its native load, including transmission that is needed for local reliability purposes. That said, I would note that, as explained further by ATXI witness Mr. Gudeman and MISO witness Mr. Doner, all Phase 2 costs will be shared across the MISO Midwest Subregion, despite which Ameren entity is bearing the costs.

Q. What are the cost responsibilities to operate and maintain the DZTM Project once it is in service?

A. At a high level, each party, ATXI, Ameren Missouri, and AECI, will be responsible for the operation and maintenance costs for the facilities they own. Between ATXI and MJMEUC, operation and maintenance costs will be shared commensurate with the ownership interest percentages in the facilities detailed herein. The collaboration with AECI also reduces overall

maintenance activity and the resulting landowner impacts, as discussed by ATXI witness Mr. Matt Hoven, because the two lines would be co-located on a single set of structures and share the maintenance activity for those structures with the DZ Double Circuit Option, whereas under the DZ Single Circuit Option ATXI's and AECI's lines would be on separate structures each requiring their own independent structure maintenance activity.

ATXI and Ameren Missouri will operate, maintain, repair, and replace their respective facilities and will bear the attendant costs, with limited exceptions for emergencies and vegetation management, as outlined in the JUA. Should the DZ Double Circuit option be selected, ATXI will maintain the structures and the 345 kV circuit and one of the two OPGW shield wires, while the 161 kV circuit and one OPGW shield wire will be operated and maintained by AECI.[20] MJMEUC, pursuant to the JOA, will contribute 49% of the O&M costs for the jointly owned facilities with ATXI.

Q. What does that total expected cost to MJMUEC include?

A. As described in the JOA, ATXI will own a 51% participation percentage in the DZTM Project facilities subject to MISO competitive bid, and MJMEUC will own a 49% passive interest. The JOA further provides that the parties' respective costs to construct, acquire, operate, and maintain the DZTM Project facilities will be commensurate with their respective ownership interests in those facilities. In simple terms, MJMEUC will contribute 49% of the construction costs to acquire its interest in the DZTM Project facilities that it will jointly own with ATXI

[20] If the DZ Double Circuit Option is selected, ATXI will be responsible for 60% of the vegetation management costs and AECI will be responsible for 40% of the vegetation management costs.

(generally through reimbursement to ATXI), obtaining a passive ownership interest of those facilities.

Q. What does that total expected cost to AECI include?

A. Should the DZ Double Circuit Option be selected, AECI will pay for 20% of the cost to construct the new transmission line from just south of the AECI Locust Creek Substation to the ATXI Zachary Substation (Sections D-DC and F-DC in Table 1). ATXI will pay for the cost to rebuild the existing line to a double circuit line from just east of the AECI Fairport Substation to just south of the AECI Locust Creek Substation (Sections B-DC and C-DC in Table 1).[21]

Q. What is the total estimated cost for ATXI's scope of the Northern Missouri Grid Transformation Program, before cost sharing?

A. The total estimated cost for the scope of the entire Northern Missouri Grid Transformation Program (Phase 1 and Phase 2) involving ATXI, at the time of this filing, is $562.6 million for the Program (if constructing the DZ Single Circuit Option) and is $611.1 million for the Program (if constructing the DZ Double Circuit Option).[22] [23]

[21] ATXI's costs on the DZ Segment subject to the 51%/49% cost sharing arrangement with MJMEUC.

[22] Figures do not represent ATXI's ultimate cost, as they do not account for MJMEUC's cost share (or AECI's contribution should the DZ Double Circuit Option be selected) for any of the projects or components that are part of the Program.

[23] ATXI's total Program costs for the Northern Missouri Grid Transformation Program, as defined in this filing, excludes a relatively small amount of work and costs which ATXI is not responsible for constructing or funding (approximately $15.5 million in upgrades to AECI facilities, based on MISO cost estimates).

V. CONSTRUCTION IN RIGHT-OF-WAY EASEMENTS

Q. You mentioned new easements will be required for Phase 2. Please describe the easement requirements generally.

A. Generally, for the DZTM Project, all 345 kV line segments will require 150-foot-wide easements. This is the standard right-of-way width necessary to obtain the clearances required for a 345 kV circuit. The transmission lines will be supported using single-shaft steel poles for the Phase 2 Projects, for both the new and rebuilt transmission lines. The poles will either be direct embedded with concrete backfill or installed on drilled pier concrete foundations, eliminating the need for guy wires and anchors. Most tangent structures will be installed as direct embed structures and most support angle or dead-end structures will be installed on concrete foundations. ATXI witness Mr. Molitor explains the transmission line engineering requirements in more detail, and ATXI witness Matt Hoven explains in his direct testimony the real estate requirements in more detail.

Q. Where will the support structures be installed within those new easements?

A. Typically, support structures for new transmission lines will be installed on the centerline of the new easements. However, on certain line segments of the DZTM Project structures will be installed off center of the easement due to offset construction on the rebuild segments and/or overlapping the rights-of-way of existing electric corridors. The direct testimony of ATXI witnesses Mr. Molitor and Mr. Hoven discusses this in more detail.

Q. Where will the Project's transmission lines that will be rebuilt as part of Phase 2 be located in relation to the existing transmission line?

A. Rebuild construction will occur on the ZT Segment and, if selected, the DZ Segment with the DZ Double Circuit Option. In general, ATXI intends to offset the rebuilt ZT Segment and DZ Segment with the DZ Double Circuit Option 25 feet from centerline of the existing transmission lines to facilitate construction. In determining the specific location of the rebuilt transmission lines within the new easements needed for the Project, ATXI will complete thorough reviews of any constraints or sensitivities identified along the proposed corridor for the lines and will work with landowners to identify and consider impacts on the landowners' continued use of their property when evaluating structure locations.

Q. Where will the Project's transmission lines that will parallel existing electric corridors as part of Phase 2 be located in relation to the existing transmission line?

A. The centerline of the DZ Segment Single Circuit Option will be located 125 feet away from the centerline of AECI's existing 161 kV transmission line. ATXI will obtain new, independent 150-foot easements, and will not overlap AECI's right-of-way.

On the ZM Segment, the new transmission line will be offset approximately 60 feet centerline to centerline away from ATXI's existing transmission line (Maywood-Zachary). ATXI intends to co-locate its right-of-way for the new 345 kV line by partially overlapping with its existing right-of-way for its Maywood-Zachary line. The amount of right-of-way overlap is expected to be approximately 98 feet for the vast majority of the ZM Segment, resulting in only 52 feet of newly impacted/encumbered right-of-way where new easements will be required.

Q. What are the benefits of rebuilding an existing line to a double circuit line?

A. Although there is no one-size-fits-all approach, and not always ideal for every project, rebuilding an existing line to a double circuit configuration can have several benefits, but it depends heavily on the specific project and its location. For the DZTM Project, rebuilding is beneficial and makes sense, due to the reduced structure and right-of-way footprint, compared with two single circuit transmission lines, requiring only one set of structures and less overall right-of-way width. For the DZ Segment Double Circuit Option and the ZT Segment, right-of-way will be reduced from 250 feet total width for two, independent single circuit transmission lines (100 feet for the existing 161 kV lines and 150 feet for the new ATXI 345 kV line), to just 150 feet total right-of-way. And, in general, rebuilding line segments on the DZTM Project results in a reduced impact to sensitivities overall, as discussed in the direct testimony of ATXI witness Dan Schmidt.

Q. Are there benefits to offsetting?

A. Yes. Offsetting construction of the centerline for the rebuilt line segments offers several advantages. Offsetting can eliminate or minimize the need to take the existing transmission lines out of service while the rebuilt line is being constructed, which helps sustain reliability and resiliency of the transmission system during construction. Additionally, without the restriction of transmission outages, construction may be planned to occur over longer durations and during warm, drier months, which reduces both construction cost and risk, and may result in reduced impacts to property, sensitivities, and other constrains by completing construction in drier conditions. Facilitating construction outside of the typical spring and fall outage seasons also creates efficiencies related to better leveling of the required contractor labor, which minimizes risks associated with labor availability.

Q. Where the Phase 2 Projects transmission lines parallel an existing road right-of-way, but are to be placed on private land, how far from the edge of the right-of-way will the centerline of the support structures be placed?

A. Generally, the centerline will be 75 feet off the edge of the road right-of-way, with a total right-of-way width of 150 feet.

Q. Where the Phase 2 Projects' transmission lines parallel other electric transmission lines, other than as described above, will the easement widths for either line be adjusted?

A. To ensure safe and reliable operation of each separate transmission line, the standard right-of-way widths will not generally be adjusted when parallelling other facilities to ensure the necessary clearances are obtained. Although the rights-of-way for the DZTM Project may overlap with existing transmission line rights-of-way, ATXI will seek its own new easements for the standard 150-foot right-of-way for the Project. Maintaining a standard right-of-way width of 150 feet provides the required clearances to safely and reliably operate and maintain the transmission line, at present and in the future in a scenario in which the parallel transmission line is retired or relocated. In such an instance, if the easement width of this new transmission line were adjusted, it may result in less than the required 150-foot-width.

VI. CONSTRUCTION MANAGEMENT, OPERATION, AND MAINTENANCE

Q. Which entity, specifically, will manage and supervise construction of the Phase 2 DZTM Project?

A. Ameren Services will manage and supervise the construction of the Phase 2 DZTM Project on behalf of ATXI, and its partners Ameren Missouri and MJMEUC (and AECI should the Commission grant a Certificate for the DZ Double Circuit Option).

Q. Is Ameren Services capable of managing and supervising the construction?

A. Yes, Ameren Services is capable of efficiently managing and supervising construction of the Phase 2 DZTM Project. Ameren Services and its personnel have decades of experience overseeing the successful construction, reconstruction, rebuilding, and upgrading of hundreds of miles of transmission line and related facilities. Ameren Services has managed and supervised the construction of significant transmission line projects approved by the Commission, including, for example, on behalf of ATXI, the Mark Twain Project (Docket EA-2017-0345), the Limestone Ridge Project (Docket EA-2021-0087), and the Illinois Rivers Project (Docket EA-2015-0145). Ameren Services has also managed and supervised, on behalf of ATXI, the construction of several significant transmission projects in Illinois.

Q. Who will manage the oversight of construction of Phase 2?

A. A highly qualified team, whose management comprises experienced transmission professionals, will manage the Phase 2 DZTM Project's construction. That management team is headed by its Executive Sponsor, ATXI witness Mr. Shawn Schukar, Senior Vice President, Transmission for Ameren Services and Chairman and President of ATXI. Ms. Jackie Becker, Vice President, Engineering and Construction, Ameren Services, is Project Sponsor. As Executive

Sponsor and Project Sponsor for the Project, Mr. Schukar and Ms. Becker identify and approve the Project Manager; work with the appropriate business lines to ensure appropriate project justification is prepared and approved; and ensure adequate input from appropriate Business Support organizations such as Corporate Legal, Corporate Finance, Business Segment Controller, Supplier Services, and Risk/Credit. The Sponsors are also responsible for assessing the feasibility of the Project and ensuring that the Project is supported by a Project Team staffed with appropriately qualified personnel, including a qualified Project Manager. The Sponsors also monitor Project performance; champion the Project through the corporate oversight and funding process; and otherwise see that the Project is executed in accordance with business and segment procedures and best practices.

Q. Who is responsible for the day-to-day management of Phase 2?

A. As Project Manager for the DZTM Project, I am responsible for ensuring that the objectives of the Phase 2 DZTM Project are met, and that construction remains on time and on budget. I am also accountable for compliance with Ameren Services' project management policies and procedures, which the Ameren Services' Project Management Oversight Group (PMOG) oversees. The PMOG is responsible for implementing and monitoring adherence to corporate governance and oversight policies.

Q. Who will support the management team?

A. Among other Ameren Services professionals, Ameren Services' Project Controls and Scheduling and Construction Services groups, which are also led by registered PMPs, will specifically support the DZTM Project's management team. The Project Controls and Scheduling group will provide detailed scheduling, resource identification, data gathering, and cost monitoring

and control support. The Construction Services group will assure that construction activities are conducted in a safe and efficient manner, consistent with the DZTM Project's design specifications. Ameren Services will also employ contractors in various capacities to construct the Phase 2 DZTM Project, as Ameren Services routinely does for electric transmission projects. Ameren Services may also engage outside firms, to the extent necessary, to assist with management of construction.

Q. You stated that you and others who will provide support managing construction of Phase 2 are PMPs. What is that credential and how is it attained?

A. The Project Management Professional credential is issued by the Project Management Institute, Inc. (PMI) and is an industry and globally recognized certification for project managers. A PMP certification demonstrates that an individual has the experience, education, and competency necessary to lead and direct projects and project teams. The PMP credential is accredited by the American National Standards Institute (ANSI) against International Organization for Standardization (ISO) standards concerning the quality management systems for continuing quality assurance. To apply for the PMP credential, an applicant must have either a 4 year degree and at least 3 years of project management experience with 4,500 hours leading and directing projects and 35 hours of project management education, or a secondary diploma with at least 5 years of project management experience with 7,500 hours leading and directing projects and 35 hours of project management education. An applicant also must pass a 4-hour exam that requires the applicant to apply project management concepts and experience to potential on-the-job situations. In addition, as part of PMI's Continuing Certification Requirements, to remain credentialed, a PMP also must earn 60 professional development units per 3-year cycle.

Q. How, specifically, will Ameren Services construct the Phase 2 DZTM Project?

A. As it regularly does for electric transmission projects, Ameren Services will use what is known in the industry as the "design-bid-build" process. In the design-bid-build process, Ameren Services directs each phase of the construction activities. The process is the traditional approach to project delivery. In the design phase, the owner or its representative (here, Ameren Services) arranges for the design of the project, either by self-design or reliance on consulting engineers. In the bid phase, the owner coordinates the bidding of the materials and any external labor necessary to construct the project based on the design, selects the preferred vendors, and orders the required materials. In the build phase, the owner coordinates receipt of the materials and manages the construction, including the activities of any external construction contractors engaged.

Q. Will Ameren Services use contractors to construct Phase 2?

A. Yes. Using contractors is often the most efficient and cost-effective way to construct significant electric transmission projects like this Program. While Ameren Missouri does employ dedicated transmission linemen in Missouri, it would be cost-prohibitive and inefficient for Ameren Services to permanently employ the internal staff necessary to support the peak manpower requirements associated with all electric transmission projects. Therefore, as it has routinely done, Ameren Services will use contractors to construct Phase 2 of the Program. Ameren Services intends that these construction contractors will be union contractors. Further, Ameren Services' goal is to use subcontractors and material suppliers local to the Project's areas, such as local lumber yards, concrete suppliers, and suppliers for miscellaneous items needed during construction, to the extent practicable. Ameren Services will also seek to provide opportunities for meaningful

participation in construction of Phase 2 by Minority Business Enterprises (MBE) and minority and women tradesman, including via programs established by primary contractors.

Q. How will Ameren Services select contractors to construct Phase 2?

A. Ameren Services uses a formal sourcing process to secure the labor necessary to construct its projects. Generally, the sourcing process comprises: (1) for contracts that exceed $5 million, formation of a contract development team to identify the scope of work to be completed and the contractor criteria necessary to complete the work; (2) development of project-specific construction specification, drawings, and other design documents to solicit proposals from contractors; (3) evaluation of the bids and qualifications received from those interested in the work as scoped; and (4) negotiation of the most favorable terms and conditions. This rigorous sourcing process assures that Ameren Services secures the best bid for efficient and cost-effective construction.[24]

Q. Will Ameren Services ensure adequate and efficient construction of the Phase 2 DZTM Project, including supervision of that construction?

A. Yes. As I've explained, Ameren Services has substantial experience in managing electric transmission line project construction, which it will leverage to promote efficient construction of the DZTM Project. Using the DZ Double Circuit Option will also add in construction efficiencies and reduce the overall construction footprint and, therefore, reduce overall land disturbance. Ameren Services also has documented corporate project oversight

[24] Ameren Services has selected Plocher Construction as the general contractor for Phase 2 using the methodology described. Ameren Services will utilize this process for selection of other contractors necessary for the Program.

policies and procedures that govern all phases of the Ameren operating companies' respective construction projects. These policies and procedures are consistent with the Project Management Institute's Project Management Book of Knowledge (PMBOK), which is an ANSI standard. They outline the steps that Ameren Services will undertake to ensure efficient construction, such as confirming that contractors have a project-specific quality and safety plan in place and that the Project team develops a fully integrated, logic-driven construction schedule for the DZTM Project.

Q. How will Ameren Services supervise construction of the Phase 2 DZTM Project?

A. Ameren Services' Transmission Construction Services group will have primary responsibility for full-time job site supervision for the DZTM Project. Additionally, employees engaged in design engineering, construction controls, and safety will monitor the construction. Ameren Services will also supervise selected construction contractors through field inspections, testing (as required), and construction review.

Q. Will the DZTM Project be constructed in accordance with all applicable laws and regulations?

A. Yes. The Ameren Services personnel and its contractors are regularly involved in the construction of electric transmission projects both in Missouri and across the Ameren Transmission System. Their job responsibilities include being familiar with the laws and regulations applicable to electric transmission line construction. Further, Ameren Services employees whose job responsibilities concern regulatory issues continuously monitor the laws and regulations applicable to the Ameren companies' construction projects for relevant changes, and those employees advise project management on any such changes so that management may

implement, as necessary, modifications in project construction process or procedure. Ameren Services' experience and practice enable Ameren Services to ensure that construction of the Projects complies with all applicable federal and state laws, regulations, orders of the Commission, as well as the National Electrical Safety Code (NESC) published by the Institute of Electrical and Electronics Engineers (IEEE) Standards Association, Rural Utility Service (RUS), and all other applicable code requirements.

Q. Will Ameren Services also ensure that all construction debris is removed once construction has been completed?

A. Yes. Ameren Services has processes in place to ensure that all construction debris is removed once construction has been completed.

Q. How will Ameren Services control the costs of constructing the Phase 2 DZTM Project?

A. The Ameren Services Transmission Project Controls and Scheduling group will implement a milestone payment process known as the weighted milestone method for construction of the DZTM Project. The weighted milestone payment method is a project management technique for forecasting cash flow while measuring project performance and progress using predetermined milestone achievement dates. The milestone payment process combines scope, schedule, and cost measurements into a single integrated system. The Project management team will further divide the construction work for Phase 2 into smaller sections or components within each of the DZTM Project's segments that each end with an observable milestone. Then, I, as Project Manager, will assign a weighted value in the detailed work schedule to the labor or material required to meet each milestone towards the objective of controlling costs and performing on the major contracts

to complete the construction work. Variances will be evaluated using reported actuals compared to the scheduled baseline.

Q. Will the construction of Phase 2, or any portion of Phase 2, be managed or supervised other than as you've explained above?

A. No. Ameren Services will manage and supervise the construction of the entire Phase 2 of the Program, including the substation work, and ensure adequate and efficient construction and supervision, employing the practices, policies, and processes that I've described in this testimony. No segment or portion of Phase 2 of the Program will be an exception to that approach.

Q. Will Ameren Services also operate the DZTM Project's facilities once constructed?

A. Yes. The Ameren Services Transmission Systems Operations group will be responsible for operating each segment of the DZTM Project once placed in service.[25] This team is composed of North American Electric Reliability Corporation (NERC) certified System Operators with substantial experience performing the Transmission Operator and Balancing Authority tasks pertinent to transmission facilities like the DZTM Project. Ameren Services will provide these services in accordance with the Commission-approved General Services Agreement among those parties. Additionally, Ameren Services will operate the DZTM Project compliant with all applicable state and federal laws, Federal Energy Regulatory Commission-approved NERC Standards, and any other applicable requirements.

[25] If the DZ Double Circuit Option is selected ATXI will not operate the new AECI 161 kV circuit on the D-Z Segment.

Q. Please provide an overview of ATXI's plans for maintaining the DZTM Project.

A. After the Transmission Line is placed into service, various Ameren Services transmission maintenance and management groups (line, substation, vegetation) will follow a routine cycle of patrols and coordinate scheduled maintenance. These patrols will be a combination of aerial patrols and foot patrols as defined by internal maintenance standards. Any maintenance issues identified during the patrols will be given a priority as provided by internal maintenance standards and a remediation action will be scheduled based on that priority. Ameren Services will then identify the labor resources necessary to address the remediation. In general, Ameren Services has a complete and robust line maintenance program that is defined by and subject to numerous internal standards, including those governing the routine patrol of assets and providing expectations around the repair of any issues that are identified.

With respect to substation maintenance, Ameren subsidiaries currently own and operate over 300 substations that contain transmission class equipment. Ameren Services and other Ameren operating subsidiaries maintain in-house substation maintenance expertise as well as operations and maintenance personnel at locations spread throughout Missouri and Illinois. All transmission substations are routinely inspected, and the individual equipment contained therein (breakers, etc.) is subject to an internal substation maintenance strategy setting equipment-specific maintenance expectations. Substation equipment is maintained to meet or exceed requirements set by NERC, and Ameren Services maintains documentation verifying this compliance, as well as information documenting the intervals at which maintenance activities are performed and the scope of work executed on any maintenance projects or visits.

Q. Please provide an overview of ATXI's plans for restoration of safe and adequate service after significant, unplanned/forced outages of the DZTM Project.

A. Ameren Services has documented processes governing responses to unplanned outages. Ameren Services will apply these procedures to the Transmission Line by clearly defining roles and responsibilities across its experienced group of subject matter experts. Ameren Services operators will monitor the Transmission Line 24/7/365. If an unplanned outage occurs, subject matter experts will be assigned to review the outage data, utilize fault location information to determine distance to fault, dispatch field resources for make safe activities and to assess damage, and determine material and labor resources necessary for the safest and most efficient restoration. Ameren Services maintains a close relationship with multiple contract partners and tracks their staffing levels on Ameren projects on a continual basis. This information is used to determine the best resources to respond to the situation. Ameren Services also has access to an experienced staff of internal lineman that can respond to storm damage if necessary. Ameren Services and other Ameren operating subsidiaries maintain an extensive stock of spare parts for both planned and unplanned transmission needs. In the unlikely event that a single or multiple steel poles would fail, the immediate restoration of the line would be addressed using wooden structure material to quickly return the line to service. A planned project would then be executed to replace the equivalent steel structures as needed.

VII. CONSTRUCTION SCHEDULE

Q. What is the planned in-service date for the Phase 2 DZTM Project?

A. ATXI is targeting an in-service date for all Phase 2 facilities by December 2029 in order to meet MISO's in-service date, which requires the Program to be in service no later than June 2030.

Q. Has Ameren Services developed a construction schedule to accommodate the planned in-service date for Phase 2?

A. Yes. Ameren Services has developed preliminary construction schedules and milestones for the Phase 2 DZTM Project. Please see Schedule NR-D2 for a schedule breakdown for the Phase 2 DZTM Project, separated by transmission line work and substation work.

Q. Do the construction schedules in Schedule NR-D2 accommodate any contingencies?

A. Yes. To meet the required MISO required in-service date for the LRTP Tranche 1 Portfolio, and to provide sufficient flexibility for time-sensitive tasks for regulatory, real estate, construction, commissioning, outage coordination activities, and integration with subsequent phases and components of the Program in Missouri, ATXI's planned in-service date will accommodate 6 months of contingency time, or float. This helps ensure an ample, sufficient, amount of scheduling flexibilities to account for delays caused by extreme or prolonged inclement weather, supply chain issues or constraints, and unforeseeable occurrences beyond the current forecast assumptions.

Q. What is the anticipated in-service date for all of ATXI's Program facilities?

A. ATXI is targeting an in-service date for all Program facilities, including all Phase 2 facilities, by December 2029. Again, ATXI's earlier planned in-service date helps ensure sufficient scheduling flexibility to accomplish long-lead time tasks and to help hedge against prolonged or unforeseeable delays, in order to meet MISO's required in-service date for LRTP Tranche 1 of June 2030.

Q. Is the schedule provided consistent with the typical timeframe for transmission projects like this proposal?

A. Yes. Projects involving transmission lines, new or rebuilds, usually take several years from inception to energization. Even smaller transmission projects than the proposed Program can take several years to plan and implement. For certificated projects, once a certificate is issued by the Commission, there are still several years' worth of milestones that must be achieved before a project can be placed in service. This starts with the real estate acquisition process, which can take a year or more depending on whether easements can be acquired voluntarily. Design and permitting must be completed, which requires field studies or surveys to be finalized, and substantial coordination with permitting agencies. Vegetation clearing often can be done in limited windows to avoid environmental constraints or sensitivities to wildlife. Material procurement will follow completion of design activities and is subject to risk of delay, especially considering recent supply chain disruptions. Active build work for co-located/rebuild segments can typically only be done during outage seasons (fall and spring), when weather is milder and electricity usage is more moderate. Further, given the length of the DZTM Project and that Phase 2 includes rebuild construction, outages of existing transmission lines must be carefully coordinated to maintain

system reliability, which can limit the amount of construction that can be completed at a given time. While some tasks can be done in conjunction with one another, this still amounts to several years from certificate award to in-service date.

VIII. CONCLUSION

Q. Does this conclude your direct testimony?

A. Yes.

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 Convenience and Necessity under Section 393.170.1, RSMo. relating to Transmission Investments in North Central Missouri.	))))))	File No. EA-2025-0087

AFFIDAVIT

1. My name is Nick Rudis. I am a Project Manager in the Transmission Project Management group for Ameren Services Company, which is a subsidiary of Ameren Corporation and an affiliate of 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.

/s/ Nick Rudis
Nick Rudis
Project Manager
for Ameren Services Company

On behalf of Ameren Transmission
Company of Illinois

Date: December 11, 2024