

Exhibit No. 44

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File No.: EA-2024-**0302**
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MISSOURI PUBLIC SERVICE COMMISSION

FILE NO. EA-2024-0302

DIRECT TESTIMONY

OF

GREG GUDEMAN

ON

BEHALF OF

AMEREN TRANSMISSION COMPANY OF ILLINOIS

St. Louis, Missouri
July, 2024

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DIRECT TESTIMONY

OF

GREG GUDEMAN

FILE NO. EA-2024-0302

I. INTRODUCTION AND BACKGROUND

Q. Please state your name and business address.

A. My name is Greg Gudeman. 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 Director of
Transmission Financial & Regulatory Services. Ameren Services is the services company
subsidiary of Ameren Corporation (Ameren) and provides professional services to Ameren's
transmission-owning subsidiaries, including Ameren Transmission Company of Illinois (ATXI)
and Union Electric Company d/b/a Ameren Missouri (Ameren Missouri).

**Q. What are your responsibilities as Director of Transmission Financial &
Regulatory Services?**

A. My duties and responsibilities include participating in the development of
transmission policy and strategy, and performing related analysis for the transmission business,
including the calculation of entity-specific transmission revenue requirements. My duties also
include the preparation and review of internal and external financial reporting information for
Ameren's transmission segment. In addition, I am also responsible for overseeing transmission
billing and Alternative Retail Electric Supplier arrangements.

1 **Q. Please describe your educational and professional background.**

2 A. I graduated from Illinois State University with a Bachelor of Science degree in
3 Finance in 1987. In 1993, I received my MBA, also from Illinois State University. I began working
4 for Illinois Power Company (Illinois Power) in 1988. While employed by Illinois Power, I worked
5 in the company's Rate Department, its Financial Services Group, and served as its Director of
6 Investor Relations. Following Illinois Power's merger with Dynegy, I worked in Business
7 Development Services, Customer Value Management, Transmission Analytics, and Energy Supply
8 Management. Following Ameren's acquisition of Illinois Power, I began working in Ameren
9 Services' Transmission Department as a Transmission Performance Specialist. I was promoted to
10 Supervisor – Transmission Regulation and Policy in June 2007, and to Managing Supervisor –
11 Transmission Regulation and Policy in January 2008. I was promoted to my current position in
12 September 2013.

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

14 A. Yes. I provided testimony on behalf of Ameren Missouri in Commission Docket
15 ER2011-0028 and on behalf of ATXI in Commission Dockets EA2018-0327 and EA2022-0099. I
16 have testified in several proceedings at the Illinois Commerce Commission (ICC) and at the
17 Federal Energy Regulatory Commission (FERC).

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

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

20 A. I support ATXI's request for a Certificate of Convenience and Necessity (CCN) and
21 related Commission approvals authorizing ATXI to construct, acquire, and operate certain
22 transmission assets as part of its Northern Missouri Grid Transformation Program (Program)

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1 described in the direct testimony of ATXI witness Mr. Shawn Schukar. The Program represents
2 ATXI's Missouri jurisdictional portion of the Long Range Transmission Planning (LRTP)
3 Tranche 1 Portfolio approved by the Midcontinent Independent System Operator, Inc. (MISO), as
4 discussed in the direct testimony of ATXI witness Mr. Jeff Dodd. The facilities included in this
5 proceeding address the first phase of the overall Program in Missouri (Phase 1), which includes
6 two projects: the Fairport-Denny-Iowa/Missouri border (FDIM) Project in Worth, Gentry, and
7 DeKalb counties, and the Maywood-Mississippi River Crossing (MMRX) Project in Marion
8 County (collectively, the Projects or Phase 1 Projects). While my testimony is specifically in
9 support of the CCN for the two Phase 1 Projects, I am also including information on Phase 2 of
10 the Program, the Denny-Zachary-Thomas Hill-Maywood Project (DZTM), since its construction
11 will overlap Phase 1 and requires ATXI to finance the entire Program, as well as its other LRTP
12 investments in Illinois. Specifically, I explain how ATXI can finance the Program without adverse
13 financial consequences for ATXI or Missouri customers.

14 **Q. Please describe the Phase 1 Projects.**

15 A. The FDIM Project includes a new substation named Denny in northwest Missouri
16 to be constructed by ATXI on a site northwest of Fairport, Missouri. The Project also includes a
17 new 345 kV transmission line approximately 1 mile long from Denny to Associated Electric
18 Cooperative Incorporated's (AECI) existing Fairport Substation in DeKalb County, Missouri. The
19 FDIM Project also includes a new single-circuit 345 kV transmission line approximately 43 miles
20 long from Denny to the Iowa/Missouri Border. The MMRX Project includes the construction of
21 approximately 9 miles of new 345-kV transmission line from ATXI's existing Maywood
22 Substation near Palmyra, Missouri, to the Mississippi River Illinois/Missouri border.

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1 Approximately 6 miles of the MMRX Project will be rebuilt along existing corridors and co-
2 located with Ameren Missouri's existing 161-kV transmission line. The MMRX Project also
3 includes upgrades to the Maywood Substation.

4 **Q. Please describe the DZTM Project which you stated will be part of Phase 2 of**
5 **the Program.**

6 A. The DZTM Project, in general, includes constructing a new 345 kV transmission
7 line that will connect the FDIM Project and the MMRX Project and also includes constructing a
8 345 kV circuit between the Zachary and Thomas Hill Substations. As noted by ATXI witness
9 Mr. Schukar, ATXI will be filing a separate application for approval of a CCN for the DZTM
10 Project.

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

12 A. No.

13 **Q. Are you providing any legal opinions in your direct testimony?**

14 A. No. Although I refer to several regulatory requirements, as I understand them,
15 related to construction and financing of the Program, I am not an attorney and none of my
16 testimony is intended to offer any legal opinions.

17 III. PROGRAM COSTS

18 **Q. What is your understanding of the total cost to construct the three projects**
19 **constituting the Program?**

20 A. As explained by ATXI witness Ms. Dencker, the total estimated cost to construct
21 the three projects in the Program in their entirety, is approximately \$568.4 million. This includes

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1 approximately \$83.8 million for FDIM, \$31.7 million for MMRX, and \$452.8 million for DZTM.
2 I would also note that Ms. Dencker's amounts include AFUDC that will be added to the cost to
3 construct with the total cost to be included in transmission rates to be approximately
4 \$611.1 million.

5 While ATXI will initially fund all of the cost to construct the Program, ATXI partnered
6 with the Missouri Joint Municipal Electric Utility Commission (MJMEUC) on the FDIM Project
7 and the competitive portion of the DZTM Project and will transfer to MJMEUC a 49% ownership
8 interest in those projects shortly before each project is placed into service. Ms. Dencker provides
9 additional details concerning the partnership with MJMEUC.

10 **Q. What amount of the total estimated Program cost, including for the Phase 1**
11 **Projects, will be funded by ATXI?**

12 A. As shown in the table below, ATXI will initially fund \$611.1 million of the entire
13 Program's estimated cost. As noted above, prior to being placed in-service, ATXI will transfer a
14 49% interest in the FDIM Project and a 49% interest in the competitive portion of the DZTM
15 Project to MJMEUC, leaving 51% to ultimately be funded by ATXI long-term, or \$397.9 million
16 across all three projects.

Program Costs in Thousands of Dollars

Year	Phase 1			Phase 2	Total
	FDIM	MMRX	Total	DZTM	
2023	\$ 394	\$ 137	\$ 531	\$ 879	\$ 1,411
2024	\$ 5,748	\$ 1,658	\$ 7,405	\$ 15,797	\$ 23,202
2025	\$ 7,144	\$ 1,378	\$ 8,522	\$ 14,655	\$ 23,177
2026	\$ 7,085	\$ 12,461	\$ 19,546	\$ 48,405	\$ 67,951
2027	\$ 56,388	\$ 13,196	\$ 69,583	\$ 150,272	\$ 219,855
2028	\$ 2,700	\$ 2,183	\$ 4,883	\$ 145,424	\$ 150,307
2029	\$ -	\$ 713	\$ 713	\$ 58,300	\$ 59,014
2030	\$ 4,386	\$ -	\$ 4,386	\$ 19,102	\$ 23,489
Cost to Construct	\$ 83,844	\$ 31,727	\$ 115,571	\$ 452,834	\$ 568,405
AFUDC	\$ 4,926	\$ 1	\$ 4,927	\$ 37,767	\$ 42,694
Total Cost	\$ 88,770	\$ 31,728	\$ 120,498	\$ 490,601	\$ 611,099
Cost Shared with MJMEUC	\$ 88,770	\$ -	\$ 88,770	\$ 346,274	\$ 435,045
ATXI Share %	51%			51%	
ATXI Share \$	\$ 45,273	\$ -	\$ 45,273	\$ 176,600	\$ 221,873
100% ATXI Funded	\$ -	\$ 31,728	\$ 31,728	\$ 144,327	\$ 176,055
Total ATXI Funded	\$ 45,273	\$ 31,728	\$ 77,000	\$ 320,927	\$ 397,927

IV. ATXI'S FINANCING PLAN

Q. Has ATXI determined the expected cash flow required to finance the Program?

A. Yes. Again, the total expected Program cost that ATXI will need to finance during construction is approximately \$568 million. As ATXI witness Ms. Dencker explains, ATXI is targeting an in-service date for all Phase 1 facilities by June 2028 and for all Phase 2 facilities by December, 2029. The table above provides estimated construction costs for ATXI by year. The cost to construct amounts exclude Allowance for Funds Used During Construction (AFUDC). The total Program costs with AFUDC to be included in ATXI's and MJMEUC's revenue requirements is approximately \$611 million. Note that the MMRX project, as well the Maywood Substation

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1 upgrades under the DZTM project, were included as part of ATXI's FERC filing in Docket
2 No. ER23-2487 where FERC approved the CWIP in rate base incentive. Therefore, the associated
3 work orders are not accruing AFUDC. As I previously noted, MJMEUC will own 49% of FDIM
4 and the competitive portion of DZTM once these Projects are complete which will reduce ATXI's
5 long-term financing of the Program to \$397.9 million.

6 **Q. Generally, how will ATXI finance the Program?**

7 A. ATXI will finance initial capital cash flow requirements for the construction of the
8 Program with either cash on hand, retained earnings, or short-term borrowings, which would be
9 available under the Ameren entities' Utility Money Pool arrangement. Over time, as the level of
10 short-term borrowings increase, ATXI will replace short-term borrowings with a permanent source
11 of capital that includes a balanced blend of long-term debt and common equity.

12 **Q. Is this consistent with how ATXI typically finances its capital needs?**

13 A. Yes. ATXI, like most utilities, frequently uses short-term debt initially to fund
14 construction of new projects and subsequently replaces the short-term debt with long-term
15 financing, which includes long-term debt and equity. ATXI specifically and continuously manages
16 the balance of debt and equity in its capital structure to minimize its overall cost of capital and, at
17 the same time, maintain financial strength and stability.

18 **Q. What is ATXI's current capital structure?**

19 A. The most recent publicly available information is as of the end of the first quarter
20 of 2024. Based on March 31, 2024 balances, ATXI's total capital structure was 56% equity, 37%
21 long term debt, and 7% short-term debt. ATXI's current capital structure comprises debt from all

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1 sources, which include lending under the short-term intercompany borrowing arrangements with
2 other Ameren utilities that I mentioned and any long-term external debt that ATXI issued on its
3 own. ATXI's current capital structure also includes equity from retained earnings from on-going
4 operations and accumulated paid-in capital from equity infusions made by Ameren. ATXI's capital
5 structure may be periodically rebalanced with infusions of equity to maintain a long-term target
6 capital structure of 60% equity and 40% debt. This target is an average over the year and, therefore,
7 excludes short-term debt, which varies from month to month and is excluded from the FERC
8 capital structure used to set rates.

9 **Q. Does ATXI presently have access to short-term debt?**

10 A. Yes. In addition to cash on hand, ATXI has the ability to access short-term funds
11 pursuant to FERC authorization in Docket No. ES23-9. Again, ATXI can exercise this
12 authorization by accessing funds under the Ameren Utility Money Pool Arrangement, up to a
13 \$300 million limit. The related amount of ATXI borrowings outstanding as of March 31, 2024 was
14 \$115.40 million, leaving ATXI a remaining capacity of \$184.60 million. However, as previously
15 mentioned, ATXI periodically replenishes short-term debt by funding with long-term capital
16 sources (blend of long-term debt and equity).

17 **Q. Does ATXI presently have access to long-term debt?**

18 A. Yes. ATXI has had several long-term debt issuances over the last several years. In
19 June 2017, ATXI issued a \$150 million principal amount of senior unsecured notes and, in August
20 2017, issued an additional \$300 million principal amount of senior unsecured notes, to investors
21 through private placement offerings. As part of this process, ATXI sought an investment credit
22 rating from Moody's. ATXI received a strong A2 credit rating, based in large part on the supportive

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1 FERC regulatory framework and the strength of ATXI's credit metrics. More recently, in
2 November 2021, ATXI closed on the issuance of a \$75 million principal amount of senior
3 unsecured notes through a second private placement offering. The proceeds were used to pay down
4 a portion of a \$75 million promissory note due in 2025 and to repay Money Pool short-term debt.
5 A second \$95 million tranche of senior unsecured notes was also issued in August 2022, with the
6 proceeds used to refinance the remaining portion of the \$75 million promissory note, to repay the
7 \$49.5 million principal payment due on the senior notes on August 31, 2022, and to repay Money
8 Pool short-term debt. ATXI plans to issue additional long-term debt in the future as it continues
9 managing its capital structure with a balanced blend of debt and equity.

10 **Q. Does ATXI presently have sources of equity to finance the Program?**

11 A. Yes. Continued operation of its regulated transmission business provides ATXI with
12 on-going cash and equity in the form of retained earnings from transmission revenue. Retained
13 earnings are a source of equity that builds on the balance sheet and will provide a source of
14 financing for the Program. Additionally, as explained, Ameren may make periodic equity infusions
15 into ATXI in support of ATXI's long-term capital structure target. That said, ATXI's retained
16 earnings are a source of equity that offset the need for equity financing from Ameren.

17 **Q. How will ATXI finance the Program during construction?**

18 A. As discussed, ATXI will finance the initial capital cash flow requirements with
19 either available cash on hand or short-term borrowings under Ameren's Utility Money Pool
20 arrangement up to the \$300 million limit. During the approximately five additional years needed
21 to complete the Program, ATXI will continue to evaluate its financing needs, including any
22 maturing debt and short-term debt levels, and manage its long-term capital structure to maintain

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1 the targeted 60% equity ratio. Also, as noted earlier in my testimony, FERC approved the CWIP
2 in rate base incentive for the MMRX project, as well as the Maywood Substation upgrades under
3 the DZTM project. CWIP in rate base will provide real time funding for these projects through
4 transmission rates.

5 **Q. How will ATXI finance its portion of the Program after construction is**
6 **complete?**

7 A. As previously noted, after all three Projects are placed in-service, ATXI will only
8 need to finance 51% of the final costs of FDIM and the competitive portion of DZTM, which
9 lowers the total amount ATXI will need to finance to only \$397.9 million. ATXI's financing plans
10 are always being monitored with an eye toward upcoming project needs. Therefore, there is no
11 particular identifiable end point to the financing of the Program as a standalone proposition.
12 However, ATXI will eventually replace any short-term borrowings with a permanent source of
13 capital that includes a balanced blend of long-term debt and common equity.

14 **Q. Are these sources of capital sufficient to finance the Program?**

15 A. Yes. In 2020, ATXI completed construction of its three large MISO Multi-Value
16 Projects (MVPs): Spoon River, Mark Twain, and Illinois Rivers. Since that time, ATXI's total
17 capital expenditures have been substantially lower than in previous years. Further, ATXI is now
18 earning on those investments, which creates retained earnings. The combination of retained
19 earnings, access to short-term debt through the Ameren Utility Money Pool Arrangement, the
20 proven ability to issue external long-term debt, and the availability of equity infusions from
21 Ameren provide ATXI sufficient capital to finance the Program as well as the additional LRTP
22 projects that ATXI will be constructing in Illinois. ATXI's strong investment grade credit rating

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1 combined with an attractive transmission investment profile has historically created strong investor
2 demand that is expected to continue with the Program.

3 **Q. Will the estimated total cost of the Program to ATXI impact ATXI's access to**
4 **the capital it needs to finance the Program?**

5 A. No. This Program, along with the LRTP projects that ATXI is also constructing in
6 Illinois, are slightly less than the cost of the three MVPs that ATXI began constructing
7 approximately a decade ago when ATXI was newly formed. Today, however, ATXI is an
8 established company with cash flows from existing earnings as well as a solid credit rating from
9 Moody's, which allows it to access long-term external capital. ATXI's previous successful private
10 placements have been easily filled and demonstrate that ATXI should have adequate funding
11 available when it needs to pursue additional long-term debt.

12 **Q. Will any individual customer or customer group directly reimburse ATXI for**
13 **its cost for the Program?**

14 A. No.

15 **Q. How will ATXI recover its cost of the Program?**

16 A. The total cost of the Program that ATXI will own will be included in ATXI's
17 transmission revenue requirement, as calculated under the MISO Tariff, which has been reviewed
18 and approved by FERC. Specifically, the revenue requirement for the Program will be calculated
19 under MISO Attachment MM and collected through MISO Schedule 26-A from the MISO
20 Midwest MVP Cost Allocation Subregion. This is essentially the same Subregion that currently
21 pays for the existing MISO MVPs. The Program's cost will be recovered the same as all projects

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1 in MISO's LRTP Tranche 1 Portfolio. This includes MJMEUC's 49% that will be included in its
2 MISO transmission revenue requirement. At a high level, each Transmission Owner constructing
3 a portion of an LRTP Tranche 1 MVP will calculate its annual transmission revenue requirement
4 (ATRR) under MISO Attachment MM. MISO will sum the ATRRs for all Transmission Owners
5 with MVPs and Tranche 1 projects. A portion of the annual total will then be allocated to each
6 month based on the monthly energy withdrawals for that month from the prior year. After a month
7 is over, MISO will divide the monthly revenue requirement by the applicable Monthly Net Actual
8 Energy Withdrawals (MNAEW) for that month to determine the rate for the month. This monthly
9 rate will be the same across the entire Midwest MVP Cost Allocation Subregion and will be
10 charged to the applicable MNAEW within that subregion. The revenue collected by MISO will
11 then be allocated to the appropriate Transmission Owners based on their share of the total ATRR.

12 **Q. Will ATXI's and MJMEUC's Program costs affect AMMO Pricing Zone**
13 **customers' rates?**

14 A. Yes. Transmission customers in the AMMO Pricing Zone will pay the
15 Schedule 26-A rate for MISO Midwest MVP Cost Allocation Subregion for all LRTP Tranche 1
16 Portfolio projects based on their own MNAEW each month. In simple terms, transmission
17 customers will pay based on their monthly energy usage. This includes wholesale customers in the
18 AMMO Pricing Zone and Ameren Missouri's retail load served under its Schedule 9 Native Load
19 Transmission Service Reservation. While the future AMMO Pricing Zone percentage of the total
20 load in the Midwest MVP Cost Allocation Subregion is unknown and will vary from year to year,
21 it was approximately 7.25% based on 2021 MWH withdrawals. This is based on the latest
22 information posted by MISO for the Schedule 26-A Indicative Annual Charges. Thus, it is fair to

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1 estimate that customers in the AMMO Pricing Zone will pay about 7.25% of all LRTP Tranche 1
2 Portfolio projects, including ATXI's and MJMEUC's own Program-related transmission revenue
3 requirement. I understand that MISO's economic analysis, which is discussed by Ameren witness
4 Mr. Schatzki, may incorporate different assumptions in modeling of the LRTP Tranche 1 costs.

5 **V. IMPACT ON MISSOURI RETAIL CUSTOMERS**

6 **Q. How will the Program cost affect Ameren Missouri retail electric rates?**

7 A. For Ameren Missouri retail customers, MISO will bill the Ameren Missouri's
8 Native Load Transmission Service Reservation for Schedule 26-A, as well as all other applicable
9 transmission charges. These transmission charges are included in setting Ameren Missouri retail
10 rates in each rate case. To put these charges into context, the Program's year one cost per electric
11 residential customer will be approximately 16 cents per month. This is approximately 3 cents for
12 Phase 1 and 13 cents for Phase 2, although Phase 2 will be in-service one year later.

13 **VI. CONCLUSION**

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

15 A. Yes.

Exhibit No.:
Issue(s): Substation Design
Witness: Gregory Eddings
Type of Exhibit: Direct Testimony
Sponsoring Party: Ameren Transmission Company of
Illinois
File No.: EA-2024-0302
Date Testimony Prepared: July 16, 2024

MISSOURI PUBLIC SERVICE COMMISSION

FILE NO. EA-2024-0302

DIRECT TESTIMONY

OF

GREGORY EDDINGS

ON

BEHALF OF

AMEREN TRANSMISSION COMPANY OF ILLINOIS

St. Louis, Missouri
July, 2024

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DIRECT TESTIMONY

OF

GREGORY EDDINGS

FILE NO. EA-2024-0302

I. INTRODUCTION AND BACKGROUND

Q. Please state your name and business address.

A. My name is Gregory Eddings. My business address is 1901 Chouteau Avenue, P.O. Box 66149, St. Louis, Missouri 63166-6149.

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

A. I am employed by Ameren Services Company (Ameren Services) as Supervising Engineer, Transmission Substation Design.

Q. What are your responsibilities as Supervising Engineer?

A. In my current position as Supervising Engineer for Ameren Services, I lead the Transmission Substation Design team that designs high voltage and extra high voltage substations on behalf of Ameren Corporation's transmission-owning utilities: Ameren Transmission Company of Illinois (ATXI), Ameren Illinois Company d/b/a Ameren Illinois (Ameren Illinois), and Union Electric Company d/b/a Ameren Missouri (Ameren Missouri).

Q. Please describe your educational and professional background.

A. In 2009, I earned a Bachelor of Science in Electrical Engineering from Southern Illinois University Edwardsville. In 2021, I earned a Master of Business Administration from the University of Illinois Urbana-Champaign. I am a registered professional engineer (PE) in Missouri

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1 and hold a Project Management Professional (PMP) certification from the Project Management
2 Institute (PMI)

3 I have over fourteen years of experience as an engineer with nine years in the electric
4 energy industry. I started my career in 2009 at Basler Electric, a manufacturer of electric utility
5 equipment, as a Proposal Engineer. In 2011, I moved to Bunn, a manufacturer of commercial coffee
6 equipment as a research and development engineer. In 2014, I joined Ameren Services as a
7 Transmission Substation Design Engineer where I was responsible for estimating project costs,
8 designing high voltage and extra high voltage substations, supporting construction activities, and
9 performing project management duties. In 2018, I moved into a Project Manager role where I was
10 responsible for managing both transmission line and transmission substation projects. Some
11 notable aspects of this position were managing public outreach, stakeholder engagement,
12 controlling project financials and schedule, and reporting key project metrics. In 2020, I accepted
13 a position as Supervising Engineer with Utilitra, an engineering consulting firm licensed in Illinois.
14 I directed the electrical design department with expertise in overhead and underground electric
15 distribution projects as well as industrial control systems. My responsibilities included business
16 development, technical drawing reviews, managing staff and recruitment, and department
17 financials.

18 In 2021, I returned to Ameren Services in my current role as a Supervising Engineer for
19 the Transmission Substation Design team. I lead a team of nine electrical engineers that performs
20 both greenfield and brownfield designs. This team is responsible for the substation design aspects
21 of the Long Range Transmission Planning (LRTP) Tranche 1 Portfolio developed by the
22 Midcontinent Independent System Operator, Inc. (MISO) being implemented through the Northern
23 Missouri Grid Transformation Program (Program).

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

2 A. I have not testified before the Missouri Public Service Commission (Commission),
3 but I have testified before the Illinois Commerce Commission on behalf of Ameren Illinois.

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

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

6 A. I support ATXI's request for a Certificate of Convenience and Necessity (CCN) and
7 related Commission approvals authorizing ATXI to construct, acquire, and operate certain
8 transmission assets as part of the first phase of the Program (Phase 1) described in the direct
9 testimony of ATXI witness Shawn E. Schukar. Phase 1 includes two projects: the Fairport-Denny-
10 Iowa/Missouri border (FDIM) Project in Worth, Gentry, and DeKalb counties, and the Maywood-
11 Mississippi River Crossing (MMRX) Project in Marion County (collectively, the Projects or Phase
12 1 Projects). Specifically, I describe the Maywood Substation upgrades that will be made as part of
13 the MMRX Project and the new 345 kV substation named Denny in northwest Missouri, which is
14 part of the FDIM Project. My testimony focuses on the new Denny Substation and, toward that
15 end, does four things. First, I generally explain ATXI's methodology for selecting the substation
16 site for the FDIM Project. Then, I specifically describe the Denny Substation work, including how
17 the substation site was selected; the technical specifications for the substation facilities; and what
18 new real estate rights, if any, are needed to accommodate the substation's construction and
19 maintenance. Next, I identify the substation construction schedule. Finally, I generally explain the
20 future, substation area connections that will be necessary to connect the FDIM Project to the
21 existing electric transmission grid in Missouri. I note that ATXI witness Mr. Molitor describes the
22 FDIM Project's two line segments in detail.

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

2 A. Yes. I am sponsoring Schedule GE-D1 (**Confidential**), an aerial image depicting
3 the proposed physical layout of the Denny Substation, and Schedule GE-D2 (**Confidential**), a
4 diagram depicting the proposed equipment layout of the Denny Substation. Schedule GE-D1 and
5 GE-D2 have been marked “Confidential” because they contain detailed information about critical
6 energy infrastructure.

7 **Q. Are you providing any legal opinions in your direct testimony?**

8 A. No. Although I refer to several regulatory requirements, as I understand them,
9 related to construction of the Projects, I am not an attorney and none of my testimony is intended
10 to offer any legal opinions.

11 **III. THE DENNY SUBSTATION**

12 **Q. Please identify the substation work for the FDIM Project.**

13 A. The FDIM Project includes a new substation named Denny in northwest Missouri
14 to be constructed by ATXI on a site northwest of Fairport, Missouri. The FDIM Project also
15 includes a single-circuit 345kV transmission line from the Denny Substation to Associated Electric
16 Cooperative Incorporated’s (AECI) existing Fairport Substation in DeKalb County, Missouri, as
17 well as a single-circuit 345kV transmission line from the Denny Substation to the Iowa/Missouri
18 border, where it will interconnect to a 345kV transmission line that will terminate at MidAmerican
19 Electric Company’s (MEC) existing Orient Substation in Iowa. As discussed later in my testimony,
20 the design of the Denny Substation will also accommodate a planned future transmission line
21 which will connect the Denny Substation to ATXI’s existing Zachary Substation as part of the
22 Denny – Zachary – Thomas Hill – Maywood (DZTM) Project which was awarded to ATXI by

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1 MISO on April 2, 2024.¹ The modifications needed at the Fairport Substation will be performed
2 by AECI and are not part of the FDIM Project.

3 **Q. How did ATXI generally select the site for the FDIM Project's Deny**
4 **Substation?**

5 A. As explained by ATXI witness Mr. Dodd, the FDIM Project implements a part of
6 the Missouri portion of MISO's LRTP Tranche 1 Portfolio. That Portfolio is a transmission
7 expansion plan that represents an updated transmission "backbone" in MISO's Midwest
8 Subregion, with transmission line segments and general connection points defined by MISO.
9 MISO did not, however, fully consider the existing facilities' feasibility for expansion or parcel
10 size, or direct precise substation facilities for the FDIM Project as part of its LRTP process. Rather,
11 once the general area for the FDIM Project, including its new substation, was identified by MISO,
12 it was up to the Ameren Services Design team for the FDIM Project to, on behalf of ATXI, locate
13 exactly which property is best suited for the FDIM Project's new substation. The Ameren Services
14 Design team generally takes an iterative approach to determining substation site locations for a
15 transmission expansion project. The approach that the team employed for the FDIM Project was
16 no different.

17 **Q. Please generally explain that approach.**

18 A. Since the FDIM Project called for a new substation, consideration of the option to
19 use an existing substation was not applicable. In cases where an expansion of the existing
20 substation is not feasible or applicable, the Ameren Services Design team considers a new

¹ As ATXI witnesses Mr. Schukar and Ms. Dencker explain in their direct testimony, ATXI will be filing a separate application for approval of a CCN for the DZTM Project.

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1 substation location as close to the existing infrastructure as possible or where needed based on the
2 proposed project, taking into consideration a host of factors.

3 **Q. What sorts of factors does the team consider?**

4 A. The geology and topography of the land must be taken into account. The size and
5 capability of highways and local roads as well as any bridges on those thoroughfares are also
6 considered for equipment deliveries and site accessibility. Environmental concerns and the
7 potential for flooding also need to be considered. And in addition to those more physical factors,
8 it is important to consider some societal factors. It is desirable to keep substations as close as
9 possible to existing infrastructure to minimize system integration (e.g., relocations, extensions)
10 costs. But this must be balanced with the general preference to keep these large facilities out of
11 populated areas. This last point is also important since any future circuit routes would have to
12 traverse through those populated areas to reach the substations; there must be sufficient space and
13 good routes for those future circuits. When possible, it is advantageous that substations are not in
14 the way of future economic corridors, to ensure the highest and best use of land. Moreover, the
15 cost of the land to be acquired is a factor. I would note that this list is not exhaustive.

16 **Q. How was the site of the FDIM Project's Denny Substation determined?**

17 A. As shown in Schedule GE-D1 (**Confidential**), a new substation named Denny will
18 be constructed as part of the FDIM Project. The substation site is in DeKalb County near the
19 intersection of NW Pleasant Rd and NW Grant Rd. The MISO LRTP plan modeled Denny
20 Substation, and showed a strong preference to locate the substation within 2 miles of the existing
21 Fairport Substation, which the chosen location achieves. The chosen site also has access to roads,
22 and the parcel size was large enough to accommodate the substation. The chosen location results

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1 in a design that minimizes the length of the transmission lines that connect to Denny. Additionally,
2 the terrain of this location is such that it can be graded to internal standards without the need to
3 bring in or haul away fill.

4 **Q. Does ATXI already own that real estate?**

5 A. As explained in the direct testimony of ATXI witness Ms. Tara Green, the site for
6 the Denny Substation has already been purchased in fee.

7 **Q. Does the site touch any existing electric, gas, or telephone conduit, wires,**
8 **cables, or lines of any regulated or nonregulated utilities, railroad tracks, or underground**
9 **facilities?**

10 A. Yes. There is an existing distribution power line owned by NW Electric Power Coop
11 that will be modified as part of the FDIM Project. ATXI will work with the owner to reroute the
12 line, within the parcel, to ensure adequate clearance to the Denny Substation.

13 **Q. Who will fund the new substation construction?**

14 A. ATXI.

15 **Q. Who will own the new substation?**

16 A. ATXI partnered with the Missouri Joint Municipal Electric Utility Commission
17 (MJMEUC) on the FDIM Project, and will sell 49% of the FDIM Project to MJMEUC shortly
18 before it is placed into service. ATXI will maintain 100% ownership of the substation land and
19 will provide an easement to MJMEUC.

1 **Q. Who will operate and maintain the new substation?**

2 A. Ameren Services on behalf of ATXI will operate and maintain the Denny
3 Substation.

4 **Q. Will the Denny Substation site be secured as required by applicable protocol?**

5 A. Yes. The substation yard will be fully enclosed by chain-link fencing and will only
6 be accessible by authorized personnel. It will be physically protected by security equipment as
7 required by North American Electric Reliability Corporation (NERC) standards and defined by
8 internal policies.

9 **Q. Please describe the technical specifications for the new Denny Substation.**

10 A. The Denny Substation will be a four-position ring bus 345 kV substation. The four
11 positions would support the new transmission line to the Iowa/Missouri border (connecting to a
12 transmission line in Iowa and continuing on to the existing Orient Substation in Iowa), the new
13 transmission line to Fairport, a future transmission line to ATXI's Zachary Substation in Missouri,
14 and a new 50 MVAR shunt reactor. The shunt reactor is a requirement made by MISO in the scope
15 of Denny Substation. The substation property and layout are also designed to accommodate a
16 future expansion to an eight-position breaker-and-a-half.

17 **Q. Please describe the proposed equipment layout for the Denny Substation.**

18 A. Schedule GE-D2 (**Confidential**) is a scaled diagram depicting the proposed
19 equipment layout of the Denny Substation. It depicts the equipment and planned drive paths to
20 allow convenient access for maintenance activities and deliveries.

1 **Q. Why is the new substation necessary?**

2 A. MISO's LRTP Tranche 1 Portfolio transmission expansion plan requires the new
3 Denny Substation with new transmission lines connecting into the Fairport Substation, the Orient
4 Substation, and the Zachary Substation. MISO performed the technical and economic analysis and
5 further details are publicly available through MISO. MISO's LRTP Tranche 1 Portfolio
6 transmission expansion plan is also discussed in the direct testimony of ATXI witness Mr. Dodd.

7 **Q. Will ATXI require new or expanded real estate rights to construct or maintain**
8 **the Denny Substation?**

9 A. ATXI has acquired the new real estate rights, approximately 40 acres, to construct
10 the new Denny Substation.

11 **Q. Did ATXI explore alternatives to the Denny Substation?**

12 A. ATXI explored several parcels in the area to construct Denny Substation. The site
13 directly to the east of the Fairport Substation was considered but found to have environmental
14 challenges. Several other parcels were evaluated in the area, but all resulted in longer lead lines to
15 connect into the substation or excessive site development costs. Additionally, ATXI collaborated
16 with AEI and Northwest Electric Cooperate to evaluate utilizing the existing parcel that the
17 Fairport Substation is located on. A technical analysis showed that the existing site and equipment
18 arrangement were not adequate to make the necessary connections and contain the new equipment.

1 **Q. Are all known costs associated with the proposed Denny Substation reflected**
2 **in the overall Phase 1 and Program costs presented in ATXI witness Tracy Dencker's direct**
3 **testimony?**

4 A. Yes. The numbers contained in Tracy Dencker's direct testimony reflect the
5 currently estimated cost of the substation.

6 **Q. When will the FDIM Project's Denny Substations be constructed and placed**
7 **in service?**

8 A. Construction on Denny Substation is planned to start in May 2027. Construction,
9 testing, and commissioning of Denny is expected to be substantially completed by February 2028,
10 and is expected to enter service by June 2028. The overall schedule for the FDIM Project is further
11 discussed in the direct testimony of ATXI witness Ms. Dencker.

12 **IV. MAYWOOD SUBSTATION UPGRADES**

13 **Q. Please describe the upgrades to the Maywood Substation that will be made as**
14 **part of the MMRX Project.**

15 A. ATXI's Maywood Substation is currently a breaker-and-a-half arrangement and
16 already configured to accommodate the additional connections, with certain modifications to add
17 terminal positions within the existing substation footprint. As part of Phase 1, ATXI will install the
18 necessary 345 kV equipment within the existing substation footprint to integrate two additional
19 345 kV lines, including three (3) 345 kV circuit breakers, six (6) instrumentation voltage
20 transformers, two (2) dead-end terminal structures, bus work, and protective relays.

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Q. When will the upgrades at Maywood Substation be constructed and placed in service?

A. ATXI anticipates construction of the upgrades at Maywood Substation to start in June 2027. Construction, testing, and commissioning is planned to be completed in December 2027, and the upgraded facilities put in service by June 2028.

V. 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 and Approval)
to Transfer an Interest in Transmission Assets)
Under 393.190.1, RSMo relating to)
Transmission Investments in Northwest and)
Northeast Missouri.)

File No. EA-2024-0302

AFFIDAVIT

1. My name is Greg Gudeman. I am a Director of Transmission Financial & Regulatory Services 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/ Greg Gudeman
Greg Gudeman
Director of Transmission Financial &
Regulatory Services for Ameren Services
Company

On behalf of Ameren Transmission
Company of Illinois

Date: *July 16, 2024*