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| Exhibit No.: | |
| Issue(s): | Rate Base |
| Witness: | Pamela Harrison |
| Type of Exhibit: | Direct Testimony |
| Sponsoring Party: | Union Electric Company |
| File No.: | GR-2024-0369 |
| Date Testimony Prepared: | September 30, 2024 |

# MISSOURI PUBLIC SERVICE COMMISSION

## FILE NO. GR-2024-0369

# DIRECT TESTIMONY

# OF

# PAMELA HARRISON

# ON

# BEHALF OF

# UNION ELECTRIC COMPANY

# D/B/A AMEREN MISSOURI

**St. Louis, Missouri**
**September, 2024**

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**DIRECT TESTIMONY**

**OF**

**PAMELA HARRISON**

**FILE NO. GR-2024-0369**

## I. INTRODUCTION

**Q. Please state your name and business address.**

A. My name is Pamela Harrison. My business address is 2001 Maguire Blvd, Columbia, Missouri 65201.

**Q. What is your position with Ameren Missouri?**

A. I am the Senior Director of Missouri Gas Operations & Services for Ameren Missouri Company d/b/a Ameren Missouri ("Ameren Missouri" or the "Company").

**Q. Please describe your educational background and employment experience.**

A. I received a Bachelor of Science Degree in Civil Engineering from The University of Missouri - Columbia in 1998. I joined Union Electric Company ("UE") in August 2007 as a Gas Engineer in UE's Gas Technical Services Department located in Jefferson City, Missouri. Prior to my employment at UE, I worked as a Design Engineer and Program Manager for the State of Missouri Division of Facilities Management, Design & Construction in Jefferson City, Missouri.

In 2007, I worked as a Gas Engineer for Union Electric Company in Jefferson City, Missouri with program management responsibilities for providing gas engineering support for cathodic protection and administration of the gas pipeline safety compliance program, the gas damage prevention program, and the gas distribution integrity management

program. In September 2014, I was named Supervisor, Gas Compliance Program Management with responsibilities that included oversight and administration of the gas pipeline safety compliance program, the gas damage prevention program, and the gas transmission & distribution integrity management programs.

In August 2015, I was named Superintendent, Gas Operations and Engineering of Ameren Missouri's Gas Operations Services group, maintaining the above responsibilities with the additional responsibilities for oversight of gas mapping and records management and gas training and operator qualifications.

In July 2017, I was named Director, Missouri Gas Operations for Ameren Missouri and am currently the Senior Director, Missouri Gas Operations for Ameren Missouri. I am responsible for overseeing the operation of Ameren Missouri's natural gas business, including gas transmission and distribution engineering and design and operations, pipeline safety compliance and administration, gas transmission and distribution integrity management, gas system planning, gas damage prevention, corrosion control, pressure control, odorization, gas apprentice training and qualification, quality assurance, gas standards and materials, and gas mapping and records management.

**Q. What are your current job duties and responsibilities?**

A. I am responsible for overseeing the operations of Ameren Missouri's natural gas business including gas construction, operations and maintenance, gas transmission and distribution engineering and design, pipeline safety compliance and administration, gas transmission and distribution integrity management, gas system planning, gas damage prevention, corrosion control, pressure control, odorization, gas apprentice training and

qualification, quality assurance, gas standards and materials, and gas mapping and records management.

## II. PURPOSE OF TESTIMONY

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

A. The purpose of my testimony is to describe the process for planning and executing the Company's capital investment program and operational activities for gas distribution and transmission operations to provide safe and reliable service to our customers.

Additionally, I will outline the plant investments that have or will occur through the true-up date in this rate review since the Company's rates were last reset in GR-2021-0241. Finally, I will discuss a future investment that will be in-service after the true-up date, but before the effective date of new rates which the Company requests be included in the revenue requirement set in this rate review.

## III. AMEREN MISSOURI OPERATIONS

**Q. Please describe Ameren Missouri's gas systems, service territory, and operations.**

A. The Ameren Missouri natural gas system consists of approximately 3,532 miles of transmission and distribution mains, delivering natural gas to over 137,000 customers in 90 communities.

Ameren Missouri's natural gas operations are organized under Division Missouri Gas Operations ("MGO") which reports to Mr. Mark Birk, President Ameren Missouri. Ameren Missouri has four operating territories. Each territory is responsible for managing day-to-day gas operations activities within its area of responsibility including gas

distribution construction, operations and maintenance, and completing customer requested work, such as turning on gas service and responding promptly to all reported gas odors. Also within Division Operations are the operational functions of construction and operations contractor services management, pressure control, odorization, corrosion control, and field metering. Gas Operations Services is also organized under Division Missouri Gas Operations and is responsible for gas transmission and distribution engineering, design, and planning, geographical information system ("GIS") mapping operations and records management, damage prevention, integrity management, gas apprentice training and operator qualification, pipeline safety compliance, and gas quality assurance.

## IV. SAFETY AND RELIABILITY

**Q. Please describe how Ameren Missouri measures and otherwise assesses the safety and reliability of its gas systems.**

A. Ameren Missouri utilizes a Transmission Integrity Management Program ("TIMP") and a Distribution Integrity Management Program ("DIMP"), which are designed to assess the integrity of the gas systems. The Company also performs an extensive number of pipeline safety operations and maintenance inspections each year. The integrity management programs, and pipeline safety inspections, are required as part of the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration ("PHMSA") pipeline safety regulations. Additionally, the Company performs engineering and planning studies to identify areas of the gas distribution and transmission system that may require enhancements or additions to meet the system load requirements under peak day conditions.

The TIMP was developed as part of a new pipeline safety regulation beginning in 2004 and includes performing transmission system integrity evaluations over an initial baseline assessment time period within the identified High Consequence Areas ("HCAs"). The initial baseline assessment of approximately 2 miles of transmission pipeline within the HCAs was completed in 2011. As required by the pipeline safety regulations, integrity assessments of the transmission facilities within HCAs continue to be evaluated at intervals not to exceed seven years. The assessment process evaluates the integrity of the pipe through both direct and indirect methods for any indication of weakness or concern (e.g., possible corrosion or identification of pipe wall loss). At a location where there is an indication or a possible anomaly, the pipe is excavated and evaluated and a mitigating action plan is developed, as needed. Mitigating actions can vary from minor coating repair to entire replacement of a pipeline section.

The DIMP is a pipeline safety requirement that was initiated by PHMSA in December 2009 and required initial implementation of the program by August 2011. The Company utilizes the DIMP to address threats/risks associated with the integrity of the gas distribution facilities. The foundation of the program is a data intensive model of the gas system, which is comprehensive in nature and evaluates Ameren Missouri's gas distribution pipeline infrastructure to identify threats to the integrity of the gas distribution system. The DIMP requirements require continual improvement to the data model and ongoing assessment of the threats to system integrity, identification of additional actions that are targeted to mitigate or reduce the integrity risk, and evaluation of the effectiveness of the mitigation efforts and the program. The additional actions identified to comply with the

DIMP regulations are comprised of both capital investments and operation and maintenance ("O&M") spending items.

The PHMSA regulations prescribe the minimum safety standards for pipeline facilities and the transportation of gas and are codified in Title 49 CFR Part 192. The PHMSA regulations have been adopted either wholly or in part by the Missouri Public Service Commission ("Commission") and incorporated along with additional state issued safety standards into state regulations codified in 20 CSR 4240-40.030. These activities include leak surveys of transmission and distribution systems, business district leak surveys, leak monitoring and repairs, pipeline patrols, corrosion control inspections, pressure control and valve inspections, odorization inspections and damage prevention activities. The conditions of pipeline facilities identified in these inspections inform our TIMP and DIMP risk models. Ameren Missouri also identifies, designs, and constructs facilities to comply with pipeline safety regulations and to maintain the safety, integrity, and reliability of the gas transmission and distribution systems.

The engineering studies consist of a planning assessment of the gas system that is performed using input from both a central planning engineering group, as well as field engineering personnel. The system planning group utilizes comprehensive gas system models that simulate performance of the gas system under a variety of temperature and operating conditions. During the simulation, the model predicts pressures and flows and will identify any location on the system where gas pressure is low and system enhancement may be required. In addition, the models allow multiple scenarios to be reviewed so that the system capacity and deliverability enhancements and reinforcements are optimized. By appropriately building, operating, and maintaining an effective gas system, Ameren

Missouri is able to provide gas systems and operations that are safe, adequate, and reliable. Additionally, Ameren Missouri discusses the activities and actions being taken or planned by the Company towards improving the safety and integrity of the gas system and strengthening pipeline safety with the Commission's Pipeline Safety Staff.

**Q. What were some of the safety and reliability related capital investments that were made since the last rate review in File No. GR-2021-0249?**

A. The capital investments made since the last rate review include system capacity and deliverability enhancement projects to meet the system load requirements under peak day conditions, replacement of pipelines to meet PHMSA regulatory requirements and/or recommendations, and replacement of pipeline facilities and equipment to improve the safety, operation and reliability of the gas system as identified in the DIMP and TIMP programs, including:

- Replacement of transmission mains in Class 3 areas and High Consequence Areas (HCAs) to reconfirm the Maximum Allowable Operating Pressure (MAOP) as required by 49 CFR 192.624 (b);
- Replacement of a low pressure system;
- Replacement of Aldyl A plastic distribution mains and associated service lines;
- Replacement of steel distribution mains with mechanical couplings and associated service lines;
- Replacement of transmission and distribution mains that have become shallow or exposed due to soil erosion;
- Replacement of pressure control stations and related equipment including regulators, valves, and overpressure protection equipment;
- Replacement and/or modification of commercial/industrial customer metering facilities;
- Replacement of odorization equipment including by-pass and drip style odorizers;

- Replacement and/or relocation of mains and associated facilities to accommodate government and municipal road and other infrastructure projects;

- Replacement of telemetry equipment such as remote terminal units, transmitters, communication radios, etc., which are integral to operation of the Supervisory Control and Data Acquisition ("SCADA") system.

**Q. What were some of the safety and reliability related operations and maintenance (O&M) activities that were performed since the last rate review GR-2021-0249?**

A. The O&M activities performed since the last rate review to further mitigate threats to the integrity of the gas system and to support the overall Ameren Missouri gas operations objectives of strengthening the integrity, safety, and reliability of the gas system and improving customer service, include:

- Transmission and High-Pressure Distribution ("HPD") Rights-of-Way ("R/W") Clearing – The Company completed clearing of approximately 245 miles of transmission and HPD R/W as well as mowing/spraying of approximately 115 miles of transmission and HPD R/W that has been previously cleared. Additionally, Ameren Missouri installed and/or updated signage on pipeline markers to ensure the location of pipeline facilities are clearly identified in right of ways, which typically run cross-country through rural areas, to mitigate the risk of third-party damage.

- Gas Leak Surveys & Gas Odor Emergency Response & Investigation – Ameren Missouri performs leak surveys on over 1,000 miles of transmission and distribution mains, services, and other gas equipment and facilities including pressure control stations annually. Additionally, the Company responds to and investigates over 4,000 gas odor calls annually.

- Gas Leak Repairs – The Company repairs underground gas leaks on an accelerated timeline to reduce the volume of identified non-hazardous gas leaks in the backlog to a manageable number and to maintain the integrity of the gas system.

- DIMP Additional & Accelerated ("A&A") Actions: Ameren Missouri performs A&A actions including retrieval, conversion and digitization of manual records and required A&A risk mitigation activities as identified by the DIMP. The A&A items may include main and service replacement,

additional damage prevention activities, leak surveys and/or pipeline patrols, additional activities or facilities to reduce facility damage, leaks, etc.

- Damage Prevention – Ameren Missouri continued execution of accurately locating gas facilities in conjunction with the Company's Watch and Protect program to reduce third party damage and the potential for uncontrolled release of natural gas which is a threat to public safety. Since the last gas rate review, the Company has performed approximately 192,771 gas locates. Additionally, Ameren Missouri expends over 5,000 man-hours annually performing on-site inspections of third-party excavations and utilizing advanced locating tools to perform locates on difficult to locate facilities. This activity is an additional and accelerated (A&A) action under the DIMP to prevent excavation damage risk which is the largest cause of hazardous leaks on the Company's system. Company excavation damage rates per 1000 locates has continued to trend downward over the last decade.

- Sewer Cross-Bores – Ameren Missouri performed inspections of sewer mains and laterals on approximately 4,717 parcels to identify cross-bores. The Company identified and repaired 21 cross-bores. This activity is an A&A action under the DIMP to mitigate a known, potential threat to public safety and the integrity of the gas system.

- Pressure Control Station Equipment Inspections and Maintenance – The Company performs inspection and maintenance of over 350 pressure control stations and 40 large commercial/industrial meter sets annually.

- Gas SCADA Equipment Maintenance and Operation – Ameren Missouri operates and performs maintenance activities including calibration of instrumentation and measurement facilities.

- Corrosion control inspections and maintenance including improvement actions to improve cathodic protection system performance to maintain cathodic protection levels above the -0.850 volts criteria.

- Atmospheric Corrosion Control – Ameren Missouri painted 1,500 residential gas metering installations as well as pressure control stations, and commercial/industrial meter installations. This activity is critical to preventing and mitigating atmospheric corrosion and will ensure the integrity of the facilities.

- Data Development and GIS Tool Development – The Company completed key activities for the continued development of additional gas system information, asset attributes, and validation of information to continuously improve operational tools and support the ongoing development of the DIMP, gas system load modeling and associated analytical risk models. The initiatives included mapping and data entry of service attributes for over 9,000 gas services into GIS. The initiatives also included gathering GIS on

over 82,000 points on gas mains and 71,000 points on service assets utilizing GPS-enabled locating equipment. Additionally, GPS data has been gathered on approximately 2,100 farm tap locations, 800 rotary meter sets, 6,200 valves and 500 CP test leads with approximately half of the asset locations corrected to the corresponding GPS location in the GIS system.

- Other ongoing O&M activities that are completed as part of providing safe and reliable service include, but are not limited to, pipeline patrols, customer turn-on/turn-off requests, meter testing and meter repairs.

These activities are critical for maintaining and continuing to strengthen the integrity, safety, and reliability of the gas system.

## V. PLANT INVESTMENT

**Q. Please describe how the Company identifies the need for Plant Investment.**

A. Ameren Missouri identifies the need for Plant Investment by evaluating, among other things, the operational capabilities and limitations of the existing facilities, the age and performance of the existing infrastructure, current and future economic trends, expected system loads, requirements of its customers or federal, state or local government, federal and state pipeline safety regulations, and the costs and benefits of newer or more modern technology or other system enhancements. Ameren Missouri relies on these and other planning criteria to evaluate how it should invest to replace, expand, augment or redesign its existing plant assets.

**Q. What amount of gross plant investment has Ameren Missouri included in its rate base?**

A. As identified in the testimony of Mr. Hasse, the amount of gross plant investment included in Ameren Missouri's proposed gas rate base, after ratemaking adjustments, is $901 million.

**Q. Has the Company included in its rate base the gas plant additions that the Company expects to place in service during the true up period?**

A. Yes, as identified by Mr. Hasse, the Company forecasts that it will place $90 million of gas plant additions in service during the true up period. Additionally, the Company has included in its rate review a discrete adjustment of $50 million for a single plant investment that will go into service after the true up period but before the effective date of new rates. I will discuss this discrete adjustment later in my testimony.

**Q. Please describe the Company's investments in specific capital expenditures.**

A. Beyond the investment identified above, the following multi-phase Northeast Territory Gas System Reliability Upgrade project is explained in my testimony, specifically:

- Northeast Territory Phase 1 (Phase 1)
- Northeast Territory Phase 2 (Phase 2)

**Q. Please describe the multi-phase Northeast Territory Gas System Reliability Upgrade project.**

A. The Northeast Territory Gas System Reliability Upgrade project is a 3-phase project to install approximately 33 miles of 16-inch steel direct buried pipeline paralleling an existing 8-inch Company transmission pipeline from a connection point to Panhandle Eastern Pipeline in Curryville, Missouri to a point on Ameren's distribution system near Troy, Missouri. The project will be constructed in 3 phases with each phase providing additional incremental capacity to meet customer demand and to ensure adequate service during peak winter loads. The project includes installation of a take station in Curryville, Missouri to connect to the interstate supply source along with installation of odorization equipment, cathodic protection system devices, monitoring equipment and valving stations. Phase 1 and Phase 2 will tie into the existing 8-inch transmission line. Phase 3 will additionally include installation of pressure regulating equipment to tie into the high-pressure distribution system at a connection point near Troy, Missouri and includes downgrading of the parallel 1960s era, 8-inch steel transmission line to a lower operating pressure.

**Q. Why is the Northeast Territory Gas System Reliability Upgrade project necessary?**

A. Ameren Missouri's northeast gas system is experiencing rapid customer growth and is currently operating near maximum capacity and the load modeling shows that the system is at risk for operational issues to provide adequate service to customers on a peak day during the winter of 2024-2025 without additional system capacity investment. During low temperatures in the winter of 2017-2018, multiple neighborhoods lost gas

service due to the limited capacity of the system. Ameren Missouri Gas Operations was able to perform distribution system upgrades and pressure control station upgrades along with Ameren Missouri Gas Supply acquiring additional capacity from MO Gas Pipeline to incrementally improve system performance and capacity to provide adequate service during peak winter loads during the subsequent winter heating seasons. The Wentzville area has an average annual customer growth of 2.97% over the last 5 years and the current system is projected to lose the ability to support the area's growth by winter of 2025. Phase 1 provides additional capacity to support the area's growth and to ensure adequate service during peak loads through the winter of 2024-2025. The planned phase 2 and phase 3 projects provide additional capacity to continue to support the area's growth and ensure adequate service during peak winter loads. Completion of phase 3 also provides a redundant feed which parallels the existing primary feed into the northeast area that serves over 21,000 customers and will reduce exposure for loss of service to the downstream distribution systems if a failure were to occur on the primary feed. It also allows for the existing 1960s era, 8-inch steel line to be downgraded to a lower operating pressure.

**Q. Please describe Northeast Territory Gas System Reliability Upgrade Phase 1.**

A. Phase 1 is the first phase of the Northeast Territory Gas System Reliability Upgrade 3-phase project to install approximately 33 miles of 16-inch steel direct buried pipeline paralleling an existing 8-inch pipeline from Curryville to Troy. Phase 1 includes construction of approximately 11 miles of 16-inch steel direct buried pipeline from Curryville to Highway 161 along with installation of a take station, odorization equipment,

cathodic protection system, valving stations and a tie-in into the existing 8-inch transmission line.

**Q. When was Phase 1 completed?**

A. Phase 1 was placed in service on September 26, 2024.

**Q. What is the forecasted cost for Phase 1?**

A. Phase 1 is forecasted to cost $40 million.

**Q. Do you believe that the Phase 1 additions are reasonable in amount and have been prudently incurred (i.e., necessary)?**

A. Yes. As noted above, Phase 1 is necessary to ensure safe, adequate and reliable gas service. The investments included in this rate review have been identified as prudent and necessary. Phase 1 was reviewed prior to funding for reasonableness and scope, and the project was executed consistent with Company project management policies.

**Q. Please describe Northeast Territory Gas System Reliability Upgrade Phase 2.**

A. Phase 2 is the second phase of the Northeast Territory Gas Reliability Upgrade 3-phase project to install approximately 33 miles of 16-inch steel direct buried pipeline paralleling an existing 8-inch pipeline from Curryville to Troy. Phase 2 includes construction of approximately 13 miles of 16-inch steel direct buried pipeline from Highway 161 in Ashley to Silex including installation of cathodic protection, valving stations and a tie-in into the existing 8-inch transmission line.

**Q. When does the Company expect Phase 2 to be completed?**

A. Phase 2 is expected to be placed in service by July 2025.

**Q. What is the forecasted cost for Phase 2?**

A. Phase 2 is forecasted to cost $50 million.

**Q. Do you expect that the projected plant additions in Phase 2 will be used and useful by December 31, 2024?**

A. No, the Northeast Territory Gas Reliability Upgrade Phase 2 project that is included in this rate review is a discrete adjustment and will go into service after the true up period but before the effective date of new rates. Ultimately, the true up will determine the level of 2024 investment that is included in the rate base used to establish the revenue requirement in this rate review. Mr. Wills further discusses in his testimony the policy reasons why it is reasonable to include this discrete adjustment in this rate review.

**Q. Do you believe that the completed plant additions and the projected plant additions are reasonable in amount and have been prudently incurred (i.e., necessary)?**

A. Yes. Both the completed and projected plant additions discussed in my testimony are necessary to ensure safe, adequate and reliable gas service. The investments included in this rate review have been identified as prudent and necessary. Projects are reviewed prior to funding for reasonableness and scope. Due to the scope and size of the Northeast Territory Gas Reliability Upgrade Phase 1 and Phase 2 projects, these projects are governed by the Company's Corporate Project Oversight Committee ("CPOC"). The CPOC is responsible for capital projects at Ameren. They actively approve and monitor all projects with a total cost of $20M or greater (including all materials, land, engineering, consulting, construction, Allocation for Funds Used During Construction ("AFUDC"),

etc.) as well as for setting the policies and procedures that govern projects conducted at Ameren. The CPOC is also responsible for routinely reviewing and evaluating projects for strategic alignment, benefits, feasibility, alternatives and costs. In these roles, the CPOC seeks to fulfill Ameren's strategic objectives while protecting Ameren from undue risk. Once a project is funded in the forecast, it becomes subject to guidelines and procedures to ensure the implementation of capital projects are executed in a prudent and timely manner and at a reasonable amount. Ameren Missouri's Gas Division leadership meets monthly to review the status of projects and investment spending. During these reviews, actual project costs are in comparison to project estimates, reasons for variances, justification for newly identified projects, scope changes and project budget adjustments are reviewed for reasonableness and prudency. Available capital within the limits of the approved aggregate budget may be reallocated from unused project contingency or from deferred or cancelled projects to fund necessary new projects or to supplement other projects that require additional funding. Projects may be deferred or cancelled for a variety of reasons including emergent customer requested work or customers deciding not to pursue the work, gas planning analysis identifying inadequate capacity for winter peak day, higher priority work identified due to inspection and maintenance data or integrity management assessments, emergency work that is identified, requirements of pipeline safety regulations, or government relocation work that is being requested or being deferred. Projects may also be expanded, accelerated or added to the budget during the year to address reliability concerns or changed circumstances. This ongoing process ensures high priority, previously unknown but necessary work can be funded and ensures alignment between available funds and projects which support safe and reliable service.

## VI. CONCLUSION

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

A. Yes, it does.

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

| | | |
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| In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Adjust Its Revenues for Natural Gas Service. | ) ) ) | File No.: GR-2024-0369 |

**AFFIDAVIT OF PAMELA HARRISON**

**STATE OF MISSOURI** )
) **ss**
**CITY OF ST. LOUIS** )

Pamela Harrison, being first duly sworn on her oath, states:

My name is Pamela Harrison, and hereby declare on oath that I am of sound mind and lawful age; that I have prepared the foregoing *Direct Testimony*; and further, under the penalty of perjury, that the same is true and correct to the best of my knowledge and belief.

Pamela Harrison

Sworn to me this 30th day of September 2024.