

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

The Staff of the Missouri Public Service Commission,)	
)	
Complainant,)	
)	
v.)	File No. GC-2024-0260
)	
Spire Missouri Inc. d/b/a Spire,)	
)	
Respondent.)	

NOTICE OF COMPLAINT AND ORDER DIRECTING ANSWER

Issue Date: March 28, 2024

Effective Date: March 28, 2024

On March 25, 2024, the Staff of the Commission (Staff) filed a complaint against Spire Missouri Inc. d/b/a Spire alleging violation of certain sections of the Commission’s gas safety rules. A copy of the complaint accompanies this notice.

The Commission’s provisions governing procedures before the Commission are found at Commission Rule 20 CSR 4240-2. Specific provisions relating to discovery are found at Commission Rule 20 CSR 4240-2.090. Pursuant to Commission Rule 20 CSR 4240-2.070, Spire has 30 days from the date of this notice to file an answer.

THE COMMISSION ORDERS THAT:

1. The Commission’s Data Center shall send, by certified mail, a copy of this notice and order and a copy of the complaint to the respondent at:

Spire Legal Department
700 Market Street, 6th Floor
St. Louis, MO 63101

2. Spire shall file its answer to this complaint no later than April 29, 2024.

3. This order shall be effective when issued.



BY THE COMMISSION

Nancy Dippell

Nancy Dippell
Secretary

Kenneth J. Seyer, Regulatory Law Judge,
by delegation of authority pursuant to
Section 386.240, RSMo 2016.

Dated at Jefferson City, Missouri,
on this 28th day of March, 2024.

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

The Staff of the Missouri Public Service Commission,)
)
)
 Complainant,)
v.)
)
 Spire Missouri Inc., d/b/a Spire)
)
 Respondent.)

File No. GC-2024-XXXX

COMPLAINT

COMES NOW the Staff of the Missouri Public Service Commission (“Staff”), by and through Staff Counsel’s Office, pursuant to Section 386.390 of the Revised Statutes of Missouri (“RSMo”), and 20 CSR 4240-40.030, as follow-up to its investigation in Case No. GS-2022-0047, and for its *Complaint* states as follows:

Introduction

1. The Respondent is the present operator of Spire Missouri Inc., d/b/a Spire (“Spire” or “Spire Missouri”), a regulated provider of natural gas service in Missouri. Staff contends that Spire violated certain sections of the Commission’s Gas Pipeline Safety Rule, 20 CSR 4240-40.030, with respect to the failure to requalify employees on applicable plastic pipe joining procedures within fifteen (15) months in 2020, to install plastic pipe joints in accordance with Spire’s procedures, and to investigate a plastic pipe joint failure in accordance with Spire’s procedures.

Complainant

2. Complainant is the Staff acting through Staff Counsel as authorized by Missouri Public Service Commission (“Commission”) Rule 20 CSR 4240-2.070(1).

Respondent

3. Respondent Spire Missouri, Inc. (Spire Missouri) is a Missouri general business corporation in good standing, its principal place of business is located at 700 Market Street, St. Louis, Missouri 63101 and its registered agent is Incorp Services, Inc. The registered agent’s office has now changed to 2847 South Ingram Mill Road, Suite A100, Springfield, Missouri 65804. Spire Missouri is a public utility engaged in distributing and transporting natural gas to retail customers in both western and eastern portions of Missouri. Spire Missouri serves retail customers in the City of Kansas City and thirty (30) counties in western Missouri through its Spire Missouri West operating unit and serves retail customers in the City of St. Louis and ten (10) counties in eastern Missouri through its Spire Missouri East operating unit.

Jurisdiction

4. By virtue of the activities described in the above paragraphs, Respondent is now, and at all times pertinent to the events described above was, a “gas corporation” within the definition of Section 386.020(18), RSMo, and a “public utility” within the definition of Section 386.020(43), RSMo, and thus subject to the jurisdiction of this Commission and the provisions of the Public Service Commission Law at Chapters 386 and 393, RSMo.

Powers of the Commission

5. Pursuant to Sections 386.250(1) and 393.140(1), RSMo., this Commission is charged with the supervision and regulation of public utilities engaged in the supply of natural gas at retail and is authorized by Sections 386.250(6), 386.310.1, and 393.140, RSMo, to promulgate safety rules applicable to the transportation and distribution of natural gas. Pursuant to this authority, the Commission has duly promulgated its Rule 20 CSR 4240-40.030, Safety Standards-Transportation of Gas by Pipeline (“Gas Pipeline Safety Rule”).

6. Section 386.570.1, RSMo, provides for a penalty between \$100 to \$2,000, per offense, for “[a]ny corporation, person or public utility which violates or fails to comply with any provision of the constitution of this state or any other law, or which fails, omits or neglects to obey, observe or comply with any order, decision, decree, rule, direction, demand, or requirement, or any part or provision thereof, of the commission....”

7. Section 386.572.2, RSMo, states the “maximum penalty for each violation shall [be] twenty thousand dollars” while the “maximum penalty for a continuing violation or a multiple series of violations of the same standard or rule provision shall [be] two hundred thousand dollars.”

8. Pursuant to Section 386.590, RSMo, “[a] penalties...shall be cumulative of each other, and the suit for the recovery of one penalty shall not be a bar to or affect the recovery of any other penalty or forfeiture.”

9. The Commission has authority to hear and determine complaints against public utilities pursuant to Section 386.390.1, RSMo, which provides that “[c]omplaint may be made...in writing, setting forth any act or thing done or omitted to be done by any corporation...in violation, or claimed to be in violation, of any provision of law, or of any rule or order or decision of the commission....”

10. The Commission is authorized by Section 386.310.1, RSMo, after a hearing upon a complaint, to require a public utility to maintain and operate its line, plant, systems, and equipment in such manner as to promote and safeguard the health and safety of its employees, customers, and the public, and to this end to require the performance of any other act which the health or safety of its employees, customers or the public may demand.

11. This Commission is authorized by Section 393.140(2), RSMo, to investigate the methods employed in distributing gas and “[has] power to order such reasonable improvements as will best promote the public interest, preserve the public health and protect those using such gas...and those employed in the manufacture and distribution thereof...” The Commission is authorized by Section 393.140(5), RSMo, if it shall be of the opinion after a hearing upon complaint that the property, equipment, or appliances of any such person or corporation under its supervision is unsafe, insufficient or inadequate, the Commission shall determine and prescribe the safe, efficient and adequate property, equipment and appliances thereafter to be used for the security and accommodation of the public and in compliance with the provisions of law and franchises and charters.

Factual Statement

12. On August 25-27, 2020, Staff conducted an inspection of new pipeline construction¹ being performed in the Spire Missouri East operating area for compliance with the Commission's pipeline safety standards in 20 CSR 4240-40.030. Staff observed Spire crews complete work on four projects during the inspection. During this inspection, Staff observed five Spire employees complete mechanical plastic pipe joints.² At the time of the inspection, Spire did not have documentation of the employees' joiner requalification available for Staff to review.

13. Spire provided the dates that the five employees had most recently been requalified on the applicable joining procedures following the inspection. Staff confirmed that four of the five (5) Spire employees had been requalified to join plastic pipe with mechanical fittings within 15 months as required by Commission rules.³ However, one of the Spire employees installing mechanical joints on August 26, 2020 had most recently been requalified on April 24, 2019, approximately 16 months prior to the date of Staff's inspection (approximately one month longer than the maximum 15-month interval between requalification).

¹ Construction inspections include observation of construction activity conducted on operator pipeline facilities by the operator or on the behalf of the operator, review of design documents, and review of other related records including plastic pipe joining qualification records.

² Mechanical plastic pipe joints are made using a mechanical fitting to join sections of plastic pipe. 20 CSR 4240-40.030(17)(A)5. defines a mechanical fitting as a mechanical device used to connect sections of pipe and that the term mechanical fitting only applies to stab type fittings, nut follower type fittings, bolted type fittings, and other compression type fittings.

³ 20 CSR 4240-40.030(6)(H)1. requires that a person must be requalified under an applicable procedure once each calendar year at intervals not exceeding fifteen (15) months, or after any production joint is found unacceptable by testing under subsection (10)(G).

14. Staff informed Spire following the inspection⁴ that failure to requalify this individual on the applicable procedures within 15 months of the previous requalification date was a probable violation of Commission rules.⁵ Staff requested information from Spire specific to joints completed by the individual Staff observed completing mechanical plastic pipe joints more than 15 months after their most recent previous requalification date, and before they were subsequently requalified. Staff additionally requested that Spire review its records with respect to the requalification of other Spire employees joining plastic pipe with mechanical fittings.

15. Spire performed an investigation of its records to determine which employees may have completed mechanical plastic pipe joints during a time interval when that employee had not been requalified in accordance with Commission rules. Spire determined that 431 employees⁶ exceeded 15 months for requalification between April 13, 2020 and November 25, 2020,⁷ and that all employees had been requalified by December 16, 2020. Spire estimated that these employees may have completed mechanical plastic pipe joint installations at 6,112 locations during the time intervals

⁴ Also by letter, dated September 27, 2020.

⁵ 20 CSR 4240-40.030(6)(H)1. requires that no person may make a plastic pipe joint unless that person has been qualified under the applicable joining procedure. 20 CSR 4240-40.030(6)(H)3. requires that persons making plastic pipe joints must be requalified under applicable procedures once each calendar year at intervals not to exceed fifteen (15) months.

⁶ The initial estimate provided by Spire to Staff in a July 2, 2021 email was 436 employees. Spire's response to Staff Data Request No. 0001.1 in Commission Case No. GS-2022-0047 stated that the correct number of employees was 431. Spire's response additionally stated that four duplicate employee counts and a spreadsheet formula error led to the initial employee count of 436.

⁷ Spire's response to Staff Data Request No. 0001.1 in Commission Case No. GS-2022-0047 corrected the last date of expiration from October 9, 2020 to November 25, 2020.

between qualifications exceeding 15 months and requalification.⁸

16. Spire additionally determined that two Spire employees in the Spire Missouri East operating area may have completed heat fusion plastic pipe joints⁹ without being requalified within 15 months.¹⁰ Spire estimated that these two employees may have completed up to 345 heat fusion plastic pipe joints as part of two projects during the time interval when the employees had not been requalified within 15 months, and before they were subsequently requalified.¹¹

17. Staff conducted an inspection of new pipeline construction in the Spire Missouri West operating area on October 22, 2020. During that inspection,

**

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

12

⁸ The initial estimate provided by Spire to Staff in a July 2, 2021 was 4,226 locations. Spire's response to Staff Data Request 0010.1 in Commission Case No. GS-2022-0047 stated that the correct number of potential locations was 6,112. Spire's response stated that the initial location count was based on pressure test records, and the additional locations identified utilized timecard data to determine locations where a fitting may have been installed by an employee with lapsed qualifications. Spire's response additionally stated that these additional locations were less likely to have joints installed by an unqualified person, but could not be ruled out.

⁹ Heat fusion plastic pipe joints are made by heating plastic pipe, and fittings if necessary, to the point of melting and bringing pipe ends, or pipe and a fitting, together so that the plastic can fuse together and create a joint. Types of heat fusion plastic pipe joining include butt heat fusion, saddle or sidewall fusion, and electrofusion.

¹⁰ Spire's response to Staff Data Request 0011 in Commission Case No. GS-2022-0047.

¹¹ Spire's response to Staff Data Request 0011.3 in Commission Case No. GS-2022-0047.

¹² 20 CSR 4240-40.030(6)(H)1. requires that no person may make a plastic pipe joint unless that person has been qualified under the applicable joining procedure. 20 CSR 4240-40.030(6)(H)3. requires that persons making plastic pipe joints must be requalified under applicable procedures once each calendar year at intervals not to exceed fifteen (15) months.

[REDACTED]

[REDACTED].**

18. Staff incorporates by reference the attached Staff's Investigation Report with appendices filed on November 15, 2023 in Case No. GS-2022-0047.

19. Spire filed its response to Staff's Investigation Report on January 19, 2024 in Case No. GS-2022-0047. Spire stated in its response that it acknowledges the findings of Staff's investigation and does not contest the violations that Staff put forth in its Report. Spire additionally stated in its response that it reviewed Staff's recommendations and provided a response to each of Staff's recommendations.

20. Staff filed its reply to Spire's response on February 1, 2024 in Case No. GS-2022-0047. A Staff Memorandum was attached to Staff's reply which indicates the recommendations which Spire and Staff are in agreement and which recommendations are still at issue, with a reply for each recommendation that is still at issue. Staff's reply additionally stated that further discussions or potential agreements on the remaining issues would be better suited within the forthcoming Complaint case.

COUNT I

Failure to ensure that 431 individuals making plastic pipe mechanical joints and two individuals making plastic pipe heat fusion joints in the Spire Missouri East operating area, and one individual making plastic pipe mechanical joints in the Spire Missouri West operating area were requalified under the applicable joining

procedure at an interval not exceeding 15 months was a violation of 20 CSR 4240-40.030(6)(H)3.¹³

21. The Staff's Investigation Report filed on November 15, 2023, in Case No. GS-2022-0047 at pages 12-19, and 25-26 in *Section IV.A. Qualification Requirements for Persons to Make Plastic Pipe Joints* covers the substance of this Count and is attached.

WHEREFORE, Staff prays that the Commission, after due notice and hearing, will determine that Spire violated the Commission's Gas Pipeline Safety Rule 20 CSR 4240-40.030 as stated herein and, pursuant to Section 386.600, RSMo., authorize its General Counsel to seek penalties under Sections 386.570, 386.572 and 386.590, RSMo.; and grant such other and further relief as is just in the circumstances.

COUNT II

Failure to install mechanical joints in accordance with written procedures that have been proved by test or experience to produce strong gastight joints was a violation of 20 CSR 4240-40.030(6)(B)2.¹⁴

22. Specifically, **

[REDACTED]

[REDACTED]

¹³ 20 CSR 4240-40.030(6)(H)3. requires that a person must be requalified under an applicable plastic pipe joining procedure once each calendar year at intervals not exceeding fifteen (15) months.

¹⁴ 20 CSR 4240-40.030(6)(B)2. requires that each plastic pipe joint must be made in accordance with written procedures that have been proved by test or experience to produce strong gastight joints.

.**

23. The Staff's Investigation Report filed on November 15, 2023, in Case No. GS-2022-0047 at pages 26-28 in *Section IV.B. Requirements to Follow Joining Procedures* covers the substance of this Count and is attached.

WHEREFORE, Staff prays that the Commission, after due notice and hearing, will determine that Spire violated the Commission's Gas Pipeline Safety Rule 20 CSR 4240-40.030 as stated herein and, pursuant to Section 386.600, RSMo., authorize its General Counsel to seek penalties under Sections 386.570, 386.572 and 386.590, RSMo.; and grant such other and further relief as is just in the circumstances.

COUNT III

Failure to have adequate methods in 2020 to determine that each person making joints in plastic pipelines in Spire's system is qualified in accordance with 20 CSR 4240-40.030(6) was a violation of 20 CSR 4240-40.030(6)(H)4.¹⁵

24. The Staff's Investigation Report filed on November 15, 2023, in Case No. GS-2022-0047 at pages 28-35 in *Section IV.C. Methods for Determining Qualifications* covers the substance of this Count and is attached.

WHEREFORE, Staff prays that the Commission, after due notice and hearing, will determine that Spire violated the Commission's Gas Pipeline Safety Rule

¹⁵ 20 CSR 4240-40.030(6)(H)4. requires that each operator shall establish a method to determine that each person making joints in plastic pipelines in the operator's system is qualified in accordance with this subsection.

Leak Repair Records covers the substance of this Count and is attached.

WHEREFORE, Staff prays that the Commission, after due notice and hearing, will determine that Spire violated the Commission's Gas Pipeline Safety Rule 20 CSR 4240-40.030 as stated herein and, pursuant to Section 386.600, RSMo., authorize its General Counsel to seek penalties under Sections 386.570, 386.572 and 386.590, RSMo.; and grant such other and further relief as is just in the circumstances.

COUNT V

Staff Recommendations

28. In addition to identifying violations of Commission Rules, Staff set out in its Staff's Investigation Report at pages 67-72 recommendations respecting areas related to the violations with the intended effect of implementation of the recommendations further evaluating the risks posed by the violations, and to minimize the possibility of a recurrence of the same violations. When Staff filed its Staff's Investigation Report on November 15, 2023, it also filed a cover pleading entitled *Staff's Investigation Report* that stated it would file a Complaint against Spire which would contain Staff's recommendations in addition to identifying and addressing the violations of the Commission's pipeline safety rules. Pursuant to its authority under Section 386.310.1, RSMo., to require Spire to operate its system in such manner as promotes and safeguards the health and safety of its employees, customers, and the public, its authority under Section 393.140(2), RSMo., to order such reasonable improvements in Spire's methods of operation as will best promote the public interest, preserve the public health and protect both those using gas and those employed in the distribution of gas, and its authority under other

statutory sections noted herein, the Commission may order Spire to implement these recommendations. Staff recommended in its Investigation Report and recommends through its Complaint that the Commission direct that Spire file an action plan to effectuate each recommendation.

A. Recommendations for Remedies for Installed Joints

1. Spire shall remove and a qualified joiner shall replace the ** [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED].** Spire shall provide

documentation to Staff within thirty (30) days of completion of the removal of the mechanical plastic pipe joints. Spire is in agreement with this A.1. obligation.

2. Spire shall develop and implement a written plan for removing and testing a statistically valid sample of the plastic pipe joints, which were installed by joiners during a time interval in which the joiner had not been requalified within 15 months. This sampling and testing plan shall include at a minimum:

a. A statistical basis for selecting the number of joints to be tested, including the total number of joints, and number of each different type of joint installed using a different method,

b. A method for testing the joints that will identify if the joint has been completed in accordance with the applicable requirements of 20 CSR 4240-40.030(6),

- c. A method to evaluate the results of the sampling and testing program to determine the relative probability of each joint type failure,
- d. Criteria for how the results of the sampling program will be used to evaluate the need for additional joint replacement, and
- e. A schedule for implementation of the sampling and testing program.

Spire is partially in agreement with A.2.

3. Spire shall provide a copy of its written plan for removing and testing joints (Recommendation 1) to Staff for review prior to implementation. During the implementation of the plan, Spire shall provide Staff with quarterly updates regarding the progress and results. Spire is in agreement with this A.3 obligation.

4. Spire shall track and monitor 1) the total number of leaks eliminated or repaired on plastic pipe joints that may have been completed by joiners when requalification had not been completed within 15 months and 2) the number of eliminated or repaired leaks caused by incorrect installation of plastic pipe joints that may have been completed by joiners when requalification had not been completed within 15 months. To implement this tracking and monitoring, Spire shall determine:

- a. The frequency for review of the number of eliminated or repaired leaks described above,
- b. A method to identify an increasing frequency of eliminated or repaired leaks that requires additional actions (above what is required by 20 CSR 4240-40.030) to mitigate the risk of further leaks on joints that may have been completed by

joiners when requalification had not been completed within 15 months, such as earlier repair or replacement of similar non-leaking joints,

c. A threshold frequency of eliminated or repaired leaks that requires additional actions (above what is required by 20 CSR 4240-40.030) to mitigate the risk of further leaks on joints that may have been completed by joiners when requalification had not been completed within 15 months, such as earlier repair or replacement of similar non-leaking joints, and

d. How additional actions will be developed and carried out (above what is required by 20 CSR 4240-40.030) to mitigate the risk of further leaks on joints that may have been completed by joiners when requalification had not been completed within 15 months, such as earlier repair or replacement of similar non-leaking joints.

In instances when Spire does not expose leaks on plastic pipe joints that may have been completed by joiners when requalification had not been completed within 15 months, that Spire shall attribute the cause of these leaks to be incorrect installation. Spire is partially in agreement with A.4.

5. Spire shall perform leakage surveys at intervals not exceeding fifteen (15) months but at least once each calendar year at locations where plastic pipe joints may have been completed by a joiner during a time interval in which the joiner had not been requalified within 15 months. Spire is not in agreement with A.5.

B. Additional Recommendations for Improvement

6. Spire shall develop and follow written procedures that include a detailed summary of the processes put in place by Spire’s Quality Assurance department for the purpose of monitoring of Operator Qualification (“OQ”) expiration dates and conducting field audits to verify the qualification of individuals completing work in the field. Spire shall include the installation of service lines as a work type that is prioritized for periodic field audits in addition to those listed in Spire’s response to Staff Data Request 0035.3. Spire is partially in agreement with B.6.

7. Spire shall review its OQ Plan to verify that the requalification intervals used throughout Spire’s OQ Program (e.g. in Spire’s OQ software program) are accurate and comply with minimum code requirements. Additionally, each time that Spire’s OQ Plan is updated (including the covered task list), Spire shall conduct a review to verify that the requalification intervals used throughout Spire’s OQ Program (such as in Spire’s OQ software program) are accurate and comply with minimum code requirements. Spire is in agreement with B.7.

8. Spire shall revise its procedure for determining leak causes ** [REDACTED] ** to include:

- a. When leaks must be exposed to determine the leak cause,
- b. When it is acceptable to not expose a leak,

- c. Failure category and leak classification information consistent with the information for the leak causes in PHMSA's Instructions for Completing Form PHMSA F 7100.1-1,
- d. Instructions for completing leak repair documentation and additional information for which "Leak Cause" and "Leak SubCause" field personnel should select for determining leak causes,
- e. That field personnel must document leak repairs in sufficient detail to support the leak causes that are determined, and
- f. That if a leaking facility is not exposed to determine the leak cause, the justification for that decision must be documented.

Furthermore, Spire shall train field personnel responsible for determining leak causes following procedure revisions. Spire is partially in agreement with B.8.

9. Spire shall investigate failures in accordance with Spire's ** [REDACTED] ** procedure, including testing of failed components to determine root causes of failures. Spire shall also train Spire personnel who are likely to be involved in carrying out Spire's ** [REDACTED] ** procedure. Spire is in agreement with B.9.

- 10. The Commission should order:
 - a. Spire to file an action plan, within 60 days, which addresses the recommendations (numbered 1-9 above).
 - b. Spire to include in its action plan filing when it will effectuate that action plan.

c. Require that the action plan include Spire's proposed resolution for addressing each recommendation and the timeframe for implementing the resolution.

d. Require Spire to file updates every six months as to how the plan has been effectuated.

11. If Spire believes no action is necessary, Staff recommends the Commission order Spire to further explain, and provide supporting documentation as available, the reason(s) Spire believes no further action is required.

WHEREFORE, Staff files its Complaint with respect to the findings and violations against Spire as set out above and in the Attached Investigation Report.

Respectfully submitted,

/s/ J. Scott Stacey

J. Scott Stacey

Deputy Counsel

Missouri Bar No. 59027

Missouri Public Service Commission

P.O. Box 360

Jefferson City, MO 65102

573-522-6279

573-751-9285 (Fax)

scott.stacey@psc.mo.gov

**ATTORNEY FOR STAFF OF THE
PUBLIC SERVICE COMMISSION**

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing have been transmitted by electronic mail to counsel of record this 25th day of March, 2024.

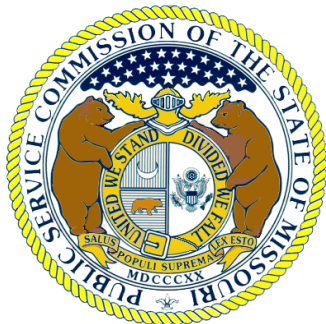
/s/ J. Scott Stacey

STATE OF MISSOURI

OFFICE OF THE PUBLIC SERVICE COMMISSION

I have compared the preceding copy with the original on file in this office and I do hereby certify the same to be a true copy therefrom and the whole thereof.

WITNESS my hand and seal of the Public Service Commission, at Jefferson City, Missouri, this 28th day of March 2024.



Nancy Dippell

Nancy Dippell
Secretary

MISSOURI PUBLIC SERVICE COMMISSION

March 28, 2024

File/Case No. GC-2024-0260

MO PSC Staff

Staff Counsel Department
200 Madison Street, Suite 800
P.O. Box 360
Jefferson City, MO 65102
staffcounsel@psc.mo.gov

**Office of the Public Counsel
(OPC)**

Marc Poston
200 Madison Street, Suite 650
P.O. Box 2230
Jefferson City, MO 65102
opc@opc.mo.gov

MO PSC Staff

Scott Stacey
200 Madison Street
Jefferson City, MO 65101
scott.stacey@psc.mo.gov

Spire

Legal Department
700 Market Street, 6th Floor
St. Louis, MO 63101
matt.aplington@spireenergy.com

Enclosed find a certified copy of an Order or Notice issued in the above-referenced matter(s).

Sincerely,



**Nancy Dippell
Secretary**

Recipients listed above with a valid e-mail address will receive electronic service. Recipients without a valid e-mail address will receive paper service.