

BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

The Staff of the Missouri Public Service Commission,	)	
	)	
Complainant,	)	
	)	<u>Case No. GC-2027-0024</u>
v.	)	
	)	
Spire Missouri Inc. d/b/a Spire,	)	
	)	
Respondent.	)	

CERTIFIED MAIL

NOTICE OF COMPLAINT AND ORDER DIRECTING ANSWER

Issue Date: July 28, 2026

Effective Date: July 28, 2026

On July 28, 2026, the Staff of the Commission filed the above-referenced complaint. 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. Commission Rule 20 CSR 4240-2.070 provides 30 days after notice to file a response to this complaint. Thirty days after this notice is August 27, 2026.

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:

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

2. Respondent shall file an answer to this complaint no later than August 27, 2026. All pleadings shall be mailed to:

Secretary of the Public Service Commission
P.O. Box 360
Jefferson City, Missouri 65102-0360

or filed using the Commission's electronic filing and information service.

3. This order is effective when issued.



BY THE COMMISSION

A handwritten signature in black ink that reads "Nancy Dippell".

Nancy Dippell
Secretary

Ronald D. Pridgin, Deputy Chief
Regulatory Law Judge,
by delegation of authority pursuant to
Section 386.240, RSMo 2016.

Dated at Jefferson City, Missouri,
on this 28th day of July, 2026.

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

The Staff of the Missouri Public Service Commission,	)	
	)	
Complainant ,	)	
	)	
vs.	)	<u>File No. GC-2027-XXXX</u>
	)	
Spire Missouri Inc., d/b/a Spire,	)	
	)	
Respondent	)	

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”), 20 CSR 4240-40.030, as follow-up to its investigation in Case No. GS-2025-0295, 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 Safety Standards – Transportation of Gas by Pipeline Rule, 20 CSR 4240-40.030, specifically related to failing to follow its written procedures for conducting operators and maintenance activities and for emergency response, and failure to implement required actions to prevent an accidental ignition where a hazardous amount of gas was venting into open air during Spire’s emergency response to a gas release in Kansas City Missouri. A Spire natural gas pipeline was damaged during backfilling of an excavation on April 22, 2025, leading to a release of

natural gas from the pipeline. Three Spire employees arriving on scene as part of Spire's emergency response ignited the released gas by excavation of the backfill material using a mini-excavator, injuring the three Spire employees. The Spire Machine Operator was hospitalized for extended treatment.

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. When the incident occurred on April 22, 2025, Section 386.572.2, RSMo, stated that beginning January 1, 2025, the maximum penalty for each violation shall be “twenty-five 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 fifty 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. The Commission's Staff ("Staff") performs routine inspections of natural gas operators jurisdictional to the Commission for gas pipeline safety,¹ as well as investigations as to causes of incidents. These include inspections and investigations for compliance with the Commission requirements for operators of natural gas pipelines to:

- a. Have and follow a written program to prevent damage to its buried pipelines by excavation activities,²
- b. Prepare and follow a manual of written procedures for conducting operations and maintenance activities and for emergency response,³ and
- c. Implement a written procedure to ensure that work completed on an operator's pipelines by its contractors complies with Commission rules.⁴

13. On April 23, 2025, the Staff requested that the Commission open a case to investigate a reportable natural gas incident that occurred on April 22, 2025, in Kansas City, Missouri, and Spire's compliance with the Commission's Rules regarding natural gas safety, and to assist Staff in conducting more formal discovery, pursuant to the Commission's rules of practice and procedure.⁵

14. Prior to the incident, on April 14, 2025, the Kansas City Missouri Water Department ("KC Water" or "the Excavator") requested marking of buried utility locations through Missouri 811 in the vicinity of Grandview Rd. north of the intersection

¹ RSMo 386.310 establishes the commission's jurisdiction with respect to gas pipeline safety jurisdiction.

² 20 CSR 4240-40.030(12)(I)1.

³ 20 CSR 4240-40.030(12)(C)1.

⁴ 20 CSR 4240-40.030(12)(B)3.

⁵ See 20 CSR 4240-2.090 and 20 CSR 4240-2.100

with Red Bud Dr. in Kansas City, Missouri. A high pressure 10-inch steel Spire natural gas main owned by Spire was located within the area identified for excavation.

15. During the KC Water work that occurred on April 22, 2025, a Spire Civic Improvement Inspector was on-site to observe the excavation work, however he departed at about 5:06 pm while the excavator was beginning backfilling work. At approximately 5:10 pm during the backfilling work, a 1-inch pipe nipple welded onto the 12:00 position (top of) the 10-inch steel natural gas pipeline was hit and bent, causing a fracture in the pipeline. The pipeline was operating at approximately 130 psig when the pipeline fracture occurred. Natural gas was blowing from the open excavation but had not yet ignited.

16. KC Water notified the Spire Civic Improvement Inspector of the pipeline damage at approximately 5:17 pm and notified Spire dispatch at 5:18 pm. Spire's first responding personnel, a Machine Operator and a Working Foreman, arrived at the incident location at 5:36 pm and unloaded Spire's excavation equipment near the damage location. A Spire Serviceperson arrived at the incident location at 5:42 pm. The Spire Working Foreman instructed KC Water personnel to move their equipment away from the blowing gas, then the Spire Machine Operator began excavating the backfill using a mini-excavator.

17. The natural gas ignited during Spire's excavation activities, resulting in severe burns to the Spire Machine Operator. The location of the pipeline damage was then made safe by closing two nearby valves. Repair was completed by removing the damaged 1-inch nipple and welding on a permanent repair sleeve. Three Spire employees,

the Machine Operator, Working Foreman, and Serviceperson, were injured. The Machine Operator was hospitalized for extended treatment.

18. Staff's investigation and review of Spire's compliance with applicable commission rules and state statutes showed sufficient facts to assert Spire failed to follow its written procedures for conducting operations, maintenance and emergency response,⁶ and failed to implement required actions to prevent accidental ignition.⁷

19. Staff incorporates by reference the attached *Staff's Gas Incident Report* ("Report") with appendices filed on April 30, 2026, in Case No. GS-2025-0295. In the Report, Staff asserted Spire violated two Commission Rules and made eight recommendations to Spire.

20. Spire filed its initial response to Staff's Incident Report on June 12, 2026, ("Response") in Case No. GS-2025-0295. Spire's Response was silent regarding the violations that Staff asserted and indicated general agreement with Staff's recommendations to Spire.

COUNT I

Spire's failure to follow Spire's written procedures for conducting operations and maintenance activities and for emergency response, including Spire's Emergency Plan, was a violation of Commission Rule 20 CSR 4240-40.030(12)(C)1. Specifically:

- a. Spire did not ** [REDACTED] ** as required by Spire's SOP 220.D.7 and instead operated machinery in the presence of a major gas leak, which resulted in injuries to Spire personnel,**

⁶ See Section III.A. *Incident Description and Emergency Response* of Staff's Gas Incident Report.

⁷ See Section III.A. *Incident Description and Emergency Response* of Staff's Gas Incident Report.

- b. Spire did not ** [REDACTED] ** or wait for
** [REDACTED]
[REDACTED] ** before entering the area around the
excavation with blowing gas as required by Spire's SOP 220.L.3., and
- c. Although working conditions on the job site had become unsafe and
hazardous, Spire employees did not follow ** [REDACTED]
[REDACTED] ** as required by Spire's SOP 110.C before the ignition occurred.

21. The Staff's Gas Incident Report filed on April 30, 2026,
in Case No. GS-2025-0295 at pages 3-14 in *Section III.A Incident Description and Emergency
Response* covers the substance of this Count and is attached.

22. Spire is required to prepare and follow a manual of written procedures
for conducting operations and maintenance activities and for emergency response.⁸
One of the minimum requirements for emergency response procedures is to take actions
directed toward protecting people first and then property.⁹

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.

⁸ Commission Rule 20 CSR 4240-40.030(12)(C)1 requires the written procedure. Commission Rule 20 CSR 4240-40.030(12)(C)2.A specifically requires procedures required for operating in accordance with Section (12) of the rule. Having written procedures to minimize the hazard resulting from a gas pipeline emergency is a required of Subsection (12)(J) of the rule.

⁹ Required by Commission Rule 20 CSR 4240-40.030(12)(J)1.E.

COUNT II

Spire's failure to implement required actions to prevent an accidental ignition was a violation of Commission Rule 20 CSR 4240-40.030(13)(X)1. Specifically in a location where a hazardous amount of gas was venting into the open air, Spire failed to remove each source of ignition and instead introduced a source of ignition that was used by Spire personnel at the location of the blowing gas.

23. The Staff's Gas Incident Report filed on April 30, 2026, in Case No. GS-2025-0295 at pages 3-14 in *Section III.A Incident Description and Emergency Response* 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

Staff Recommendations

24. In addition to identifying violations of Commission Rules, Staff set out in its Staff's Report at pages 36-37 recommendations respecting areas related to the violations with the intended effect of implementation of the recommendations to minimize the possibility of a recurrence of the same violations.

A. Staff recommends that Spire review the clarity of requirements and priorities in Spire's procedures pertaining to emergency response to ensure that actions

related to protecting people first are clearly articulated in each procedure without need to reference other procedures; and provide additional training to Spire personnel who may be involved in emergency response activities on the requirements and priorities in emergency responses to blowing gas with emphasis on safe work practices and communication between response personnel. (See *Section III.A. Incident Description and Emergency Response* of the Report).

B. Staff recommends that Spire include simulated emergencies and mock drills in the additional training and that discussion should occur about the circumstances of this incident. (See *Section III.A. Incident Description and Emergency Response* of the Report).

C. Staff recommends that Spire update SOPs 220.L ** [REDACTED] ** and 230.H ** [REDACTED] ** to limit when work can be performed in an excavation ** [REDACTED] [REDACTED] **. Specifically, Staff recommends changing ** [REDACTED] ** in SOPs 220.L and 230.H to “Spire pipelines”. (See *Section III.A. Incident Description and Emergency Response* of the Report).

D. Staff recommends that Spire provide the status of implementation for action items 1-10 in Confidential Table 2 of this report and for items not completed, provide quarterly updates to the Commission until the action items have been completed satisfactorily. If any action item is no longer considered to be necessary by Spire, the reason(s) should be explained when providing the status of implementation. (See *Section III.B. Investigation of Failures and Incidents* of the Report).

E. Staff recommends that going forward, if Spire continues to use the 5 Whys approach for conducting RCAs, that Spire complete the questioning until either five why questions have been asked and answered, or until no logical why questions remain. (See *Section III.B. Investigation of Failures and Incidents* of the Report).

F. Staff recommends that when Spire determines the need for an on-site inspection by Spire personnel of an excavation, that Spire also inspect the backfilling when the backfilling activity will be in proximity to the Spire pipeline like occurred in this incident. (See *Section III.D. Damage Prevention Program* of the Report).

G. Staff recommends in the future that to the extent that Spire has personnel available who can perform the required tasks, Spire utilize personnel who were not directly involved in the incident to perform the emergency response actions. (See *Section III.E. Drug and Alcohol Testing* of the Report).

H. Staff recommends that Spire report to Staff the status of the DIMP Plan action to use ticket management system risk modeling for targeted excavator inspections. If this action has not been completed, Staff recommended that Spire complete this DIMP Plan action and inform Staff when it is completed and implemented. (See *Section III.G. Distribution Integrity Management Program (“DIMP”) of the Report*).

I. The Commission should issue an order:

a. Requiring the action plan include Spire’s proposed resolution for addressing each recommendation and the timeframe for implementing the resolution.

b. Requiring Spire to file updates every six months as to how the plan has been effectuated.

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 Incident Report.

Respectfully submitted,

/s/ J. Scott Stacey

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**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 28th day of July, 2026.

/s/ J. Scott Stacey

MISSOURI PUBLIC SERVICE COMMISSION

STAFF'S GAS INCIDENT REPORT

Grandview Road
Kansas City, MO
April 22, 2025



Spire Missouri, Inc.

Case No. GS-2025-0295

*Industry Analysis Division
Safety Engineering Department
April 30, 2026 - Jefferson City, Missouri*

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STAFF’S GAS INCIDENT REPORT
SPIRE MISSOURI, INC.
CASE NO. GS-2025-0295**

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STAFF’S GAS INCIDENT REPORT
SPIRE MISSOURI, INC.
CASE NO. GS-2025-0295

I. EXECUTIVE SUMMARY

On April 14, 2025, the Kansas City Missouri Water Department (“KC Water” or “the Excavator”) requested through Missouri 811 that buried utilities be marked in the vicinity of Grandview Rd north of the intersection with Red Bud Dr. in Kansas City, Missouri. Natural gas service is provided in the Kansas City area by Spire Missouri West (“Spire”). A high pressure 10-inch steel Spire natural gas main owned by Spire was located within the area identified for excavation. Spire responded in the Missouri 811 ticket system that its facilities had been marked on April 16, 2025.

Commission Rule 20 CSR 4240-40.030(12)(I)4 requires natural gas pipeline operators to evaluate the need for and extent of on-site inspections during excavation activities, and lists factors to consider. These factors include the proximity to operator facilities and potential for serious incidents should damage occur. Spire’s procedure to address this requirement lists some factors where on-site inspections should be considered, three of which were applicable to the planned KC Water excavation near Grandview Rd.¹

During the KC Water work that occurred on April 22, 2025, a Spire Civic Improvement Inspector was on-site to observe the excavation work, but he departed at about 5:06 pm at the start of backfilling work. At approximately 5:10 pm during the backfilling work, a 1-inch pipe nipple welded onto the 12:00 position (top of) the 10-inch steel natural gas pipeline was hit and bent, causing a fracture in the pipeline. The pipeline was operating at approximately 130 psig when the pipeline fracture occurred. Natural gas was blowing from the open excavation but had not yet ignited.

KC Water notified the Spire Civic Improvement Inspector of the pipeline damage at approximately 5:17 pm, and notified Spire dispatch at 5:18 pm. Spire’s first responding personnel, a Machine Operator and a Working Foreman, arrived at the incident location at 5:36 pm and

¹ The three applicable factors from the Spire Damage Prevention Program Standard Operating Procedure (SOP) 220.C.9 were: ** [REDACTED]

**

unloaded Spire's excavation equipment near the damage location. A Spire Serviceperson arrived at the incident location at 5:42 pm. The Spire Working Foreman instructed KC Water personnel to move their equipment away from the blowing gas, then the Spire Machine Operator began excavating the backfill using a mini-excavator.

The natural gas ignited during Spire's excavation activities, resulting in severe burns to the Spire Machine Operator. The location of the pipeline damage was then made safe by closing two nearby valves. Repair was completed by removing the damaged 1-inch nipple and welding on a permanent repair sleeve. Three Spire employees, the Machine Operator, Working Foreman, and Serviceperson were injured. The Machine Operator was hospitalized for extended treatment.

As a result of this investigation, Staff found sufficient facts and information² exist to assert the following violations of Commission Rules:

- 1) Failure to follow Spire's written procedures for conducting operations and maintenance activities and for emergency response, including Spire's Emergency Plan, was a violation of Commission Rule 20 CSR 4240-40.030(12)(C)1. Specifically,
 - a. Spire did not ** [REDACTED] ** as required by Spire's Standard Operating Procedure (SOP) 220.D.7 and instead operated machinery in the presence of a major gas leak, which resulted in injuries to Spire personnel,
 - b. Spire did not ** [REDACTED] ** or wait for ** [REDACTED]
[REDACTED]
[REDACTED] ** before entering the area around the excavation with blowing gas as required by Spire's SOP 220.L.3.
 - c. Although working conditions on the job site had become unsafe and hazardous, Spire employees did not follow ** [REDACTED] ** as required by Spire's SOP 110.C before the ignition occurred.(See Section III.A. Incident Description and Emergency Response of this Report)

- 2) Failure to implement required actions to prevent an accidental ignition was a violation of Commission Rule 20 CSR 4240-40.030(13)(X)1. Specifically, in a location where a hazardous

² Prior to finalizing this report, Staff provided a copy of the factual basis for its analysis to Spire to provide an opportunity to correct any factual inaccuracies and to identify confidential content. A copy of the information edited to address Spire's comments is provided in Appendix A – Pipeline Failure Investigation Report checklist and Appendix B – Failure Investigation Report (FIR) of this Report.

amount of gas was venting into the open air, Spire failed to remove each source of ignition and instead introduced a source of ignition that was used by Spire personnel at the location of the blowing gas.

(See Section III.A. *Incident Description and Emergency Response* of this Report)

II. PURPOSE AND SCOPE OF STAFF'S INVESTIGATION

The purpose and scope of Staff's investigation was to:

- Identify the probable cause(s) of the incident,
- Investigate, analyze and determine if there have been violations of Commission Rules related to:
 - o Incident Reporting Requirements in 20 CSR 4240-40.020;
 - o Missouri Pipeline Safety Standards in 20 CSR 4240-40.030, including but not limited to the operator's³ damage prevention program and actions required by its damage prevention program, emergency response, prevention of accidental ignition, and failure investigation; and
 - o Drug and Alcohol Testing requirements in 20 CSR 4240-40.080.
- Make recommendations, as applicable to Spire, with an objective of minimizing the possibility of recurrence.

III. STAFF ANALYSIS OF INCIDENT

A. Incident Description and Emergency Response

On April 14, 2025, the Kansas City Missouri Water Department ("KC Water" or "the Excavator") requested that buried utilities be marked to repair a water main in the vicinity of a high pressure 10-inch steel main operated by Spire in Kansas City, Missouri.⁴ Spire indicated that the

³ "Operator" is defined in 20 CSR 4240-40.030(1)(B)26 as "a person who engages in the transportation of gas." "Person" is defined in 20 CSR 4240-40.030(1)(B)27 as "any individual, firm, joint venture, partnership, corporation, association, county, state, municipality, political subdivision, cooperative association, or joint stock association, and including any trustee, receiver, assignee, or personal representative of them." Transportation of gas is defined in 20 CSR 4240-40.030(1)(B)41 as "the gathering, transmission, or distribution of gas by pipeline or the storage of gas in Missouri."

⁴ Missouri 811 Ticket No. 251045717 – ticket type routine.

location had been marked in the Missouri 811 ticket system by updating the ticket status as "Marked" at 11 am on April 16, 2025.

The excavation occurred on April 22, 2025. A Spire Civic Improvement Inspector (** [REDACTED] **) was on-site to observe the excavation work but departed at about 5:06 pm at the start of backfilling work. At approximately 5:10 pm during the backfilling work, a 1-inch nipple welded onto the 12:00 position (top of) the 10-inch steel natural gas pipeline was bent during backfill work, causing a fracture in the 10-inch pipeline at a location close to where the nipple had been welded onto the pipeline. Figure 1 shows the approximate location where the incident occurred.

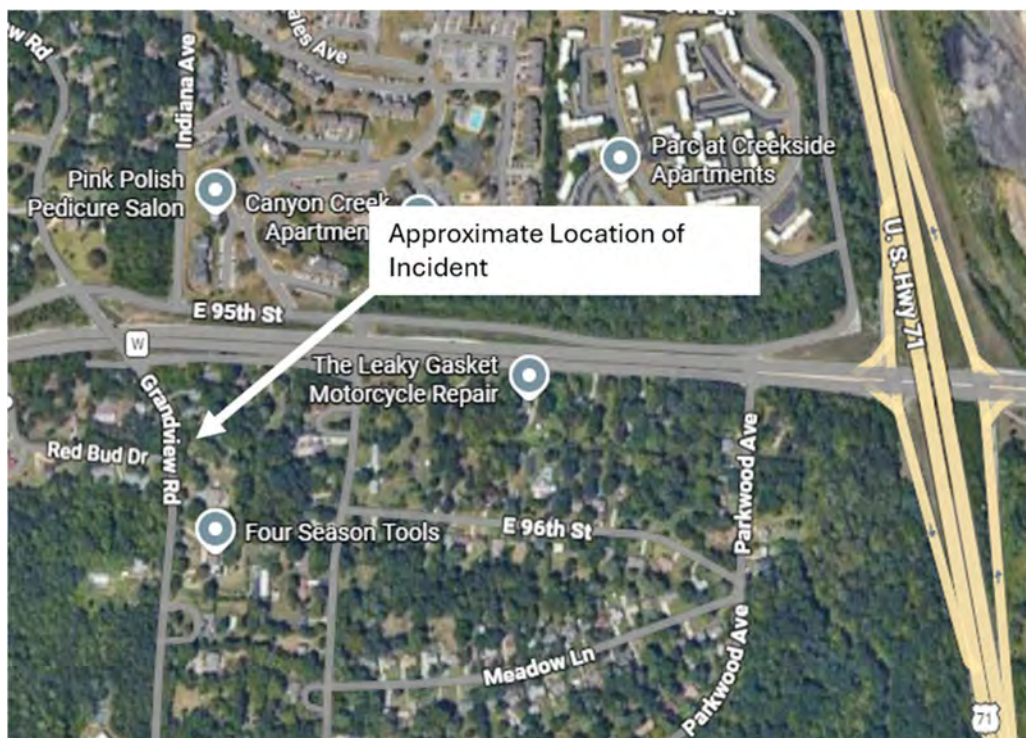


Figure 1: Approximate Location of Incident, 9509 Grandview Rd, Kansas City, MO
(Source: Google Maps, Staff added arrow and text box)

The pipeline was operating at approximately 130 psig when the damage occurred. KC Water notified the Spire Civic Improvement Inspector of the damage at approximately 5:17 pm and then notified Spire dispatch at 5:18 pm. Spire's first responding personnel, a Machine Operator (** [REDACTED] **) and Working Foreman (** [REDACTED] **), arrived at 5:36 pm and unloaded Spire's excavation equipment near the damage location. A Spire Serviceperson (** [REDACTED] **) arrived at 5:42 pm. Spire's Working Foreman instructed KC Water personnel

to move their excavation equipment away from the blowing gas, then Spire began excavating the backfill using a mini-excavator. The natural gas ignited during Spire's excavation activities, resulting in severe burns to the Spire Machine Operator. The location of the pipeline damage was then made safe by closing two nearby valves. Temporary repair was made on the pipeline by removing the 1-inch pipe nipple from the pipeline installing a band clamp. Permanent repair was completed by welding on a permanent repair sleeve around the 10-inch pipeline. Figure 2 shows the pipeline following repair.



Figure 2: Pipeline Following Repair (Source: Staff Photograph)

Three Spire employees, the Machine Operator, Working Foreman, and Serviceperson were injured as a result of the incident. The Machine Operator was hospitalized for extended treatment.

A summary of events is provided in Table 1:

TABLE 1: SUMMARY OF EVENTS

Date and Time	Activity
9:35 pm / 4-14-25	KC Water submitted a locate request to Missouri 811, Ticket No. 251045717.
11:00 pm / 4-16-25	The location of the gas line was marked on behalf of Spire by ** [REDACTED] **.
3:30 pm / 4-21-25	The Spire Civic Improvement Inspector contacted KC Water and asked when work would begin adjacent to Spire's gas main. KC Water informed him this work would not begin until sometime on the next day.
12:00 pm / 4-22-25	The Spire Civic Improvement Inspector contacted KC Water and was informed work had already begun adjacent to Spire's main.
1:07 pm / 4-22-25	Spire Civic Improvement Inspector arrived and work by KC Water was already in progress.
5:06 pm / 4-22-25	The Spire Civic Improvement Inspector left the site while KC Water was starting to backfill the excavation.
5:10 pm / 4-22-25	While backfilling, KC Water damaged a 10-inch steel pipe by hitting and bending a welded-on fitting (1 inch nipple) and observed a hissing sound.
5:17 pm / 4-22-25	KC Water called the Spire Civic Improvement Inspector and informed him of the damage to Spire's gas main.
5:18 pm / 4-22-25	KC Water notified Spire dispatch of the damage.
5:20 pm / 4-22-25	The Spire Civic Improvement Inspector notified the Spire Leak and Maintenance (L&M) Supervisor of the damage.
5:23 pm / 4-22-25	The Spire L&M Supervisor notified the first Spire L&M crew to respond to the damage.
5:25 pm / 4-22-25	The Kansas City Fire Department notified Spire dispatch that 911 had been called by KC Water and requested Spire to arrive on site.
5:28 pm / 4-22-25	The Kansas City Fire Department arrived.
5:31 pm / 4-22-25	The Spire L&M Supervisor notified the Spire Gas Operations Manager and requested Spire Pressure & Measurement (P&M) assistance to isolate the area of the damage.
5:36 pm / 4-22-25	The first Spire L&M personnel (Working Foreman and Machine Operator) arrived on site. They started actions to assess the situation and unloaded a Spire mini-excavator.
5:42 pm / 4-22-25	The first Spire Serviceperson arrived and began to assist the Spire L&M personnel.

TABLE 1: SUMMARY OF EVENTS

Date and Time	Activity
5:44 pm/ 4-22-25	The Spire Field Operations Manager contacted Spire Gas Operations Manager to discuss a plan of action, including potentially isolating and closing two valves, exposing/uncovering the damaged fitting, installing a circle band clamp and a full encirclement sleeve fitting to repair the leaking pipeline.
5:52 pm/ 4-22-25	The first responding Spire Serviceperson was holding a fire extinguisher and standing upwind of the excavation. The Spire Machine Operator was downwind of the blowing gas while operating a mini excavator positioned immediately adjacent to the excavation to remove backfill from the excavation.
5:57 pm/ 4-22-25	Ignition occurred.
6:02 pm/ 4-22-25	KC Water personnel called 911. Police were dispatched to site by the Kansas City Police Department.
6:10 pm/ 4-22-25	The Machine Operator was transported via ambulance to Research Medical Center, where he was treated for burns.
6:40 pm/ 4-22-25	Spire's Pipeline Safety Distribution Manager notified the Missouri Public Service Commission of the incident.
7:00 pm/ 4-22-25	The Working Foreman was transported via ambulance to Research Medical Center, where he was treated and released the same day.
7:24 pm/ 4-22-25	The first responding Spire P&M Operator arrived at the 3305 Red Bud Road valve location #VLV001288678 and closed the valve.
7:38 pm/ 4-22-25	Spire's Distribution, Integrity & Engagement Manager notified the National Response Center ("NRC") of the incident.
7:38 pm/ 4-22-25	The second responding Spire P&M Operator arrived at the Bannister Road and U.S. Highway 71 valve location #VLV001287430 and closed the valve. This in conjunction with closing the valve #VLV001288678 stopped the flow of gas to the damaged pipeline segment and interrupted service to multiple customers.
8:37 pm / 4-22-25	Spire submitted an emergency locate request to Missouri 811, Ticket No. 251125457.
8:50 pm / 4-22-25	Fire at damage location was extinguished and a circle band clamp was installed over the pipeline fracture.
8:55 pm / 4-22-25	Spire L&M personnel began performing leak surveys in the area.
8:57 pm / 4-22-25	A Missouri Public Service Commission Staff Investigator arrived to begin Staff's Investigation of the Incident.
9:20 pm / 4-22-25	Spire began permanent repair of the pipeline.

TABLE 1: SUMMARY OF EVENTS	
Date and Time	Activity
9:32 pm / 4-22-25	KC Water notified Missouri 811 of the damage to Spire's main ("Dig Up" Ticket No. 251125528).
9:34 pm/ 4-22-25	Samples were collected from Spire's first responding Serviceperson for drug and alcohol testing.
10:12 pm / 4-22-25	Samples were collected from Spire's Working Foreman for drug and alcohol testing.
2:43 am / 4-23-25	Spire completed permanent repairs to the pipeline.
4:36 pm / 4-23-25	Spire completed conducting leak surveys in the area.
6:32 pm / 4-23-25	Spire began restoring service to customers affected by shutting off gas flow.

1. Regulatory Requirements for Emergency Response and Prevention of Accidental Ignition:

Commission Rule 20 CSR 4240-40.030(12)(C)1. requires in part that each operator prepare and follow a manual of written procedures for conducting operations and maintenance activities and for emergency response.

Commission Rule 20 CSR 4240-40.030(12)(J) Emergency Plans requires in relevant parts that:

1. Each operator shall establish written procedures to minimize the hazard resulting from a gas pipeline emergency. At a minimum, the procedures must provide for the following:
 - A. Receiving, identifying, and classifying notices of events which require immediate response by the operator;
 - B. Establishing and maintaining adequate means of communication with the appropriate public safety answering point (i.e., 9-1-1 emergency call center);
 - C. Responding promptly and effectively to a notice of each type of emergency, including the following:
 - (I) Gas detected inside or near a building;
 - (II) Fire located near or directly involving a pipeline facility;
 - (III) Explosion occurring near or directly involving a pipeline facility; and
 - (IV) Natural disaster;

- D. Making available personnel, equipment, tools, and materials, as needed at the scene of an emergency;
- E. Taking actions directed toward protecting people first and then property;
- F. Taking necessary actions, including but not limited to emergency shutdown, valve shut-off, or pressure reduction, in any section of the operator's pipeline system, to minimize hazards of released gas to life, property, or the environment;
- G. Making safe any actual or potential hazard to life or property;
- H. Notifying the appropriate public safety answering point (i.e., 9-1-1 emergency call center) where direct access to a 9-1-1 emergency call center is available from the location of the pipeline, and fire, police, and other public officials, of gas pipeline emergencies to coordinate and share information to determine the location of the emergency, including both planned responses and actual responses during an emergency. The operator must immediately and directly notify the appropriate public safety answering point or other coordinating agency for the communities and jurisdictions in which the pipeline is located after receiving a notification of potential rupture, as defined in subsection (1)(B), to coordinate and share information to determine the location of any release, regardless of whether the segment is subject to the requirements of subsections (4)(U), (12)(X), or (12)(Z);
- I. Safely restoring any service outage;
- J. Beginning action under subsection (12)(L) (192.617), if applicable, as soon after the end of the emergency as possible;

Commission Rule 20 CSR 4240-40.030(13)(X) requires each operator to take steps to minimize the danger of accidental ignition of gas in any structure or area where the presence of gas constitutes a hazard of fire or explosion, including the following:

1. When a hazardous amount of gas is being vented into open air, each potential source of ignition must be removed from the area and a fire extinguisher must be provided;
2. Gas or electric welding or cutting may not be performed on pipe or on pipe components that contain a combustible mixture of gas and air in the area of work; and
3. Warning signs shall be posted, where appropriate.

2. Spire Actions to Comply with 20 CSR 4240-40.030(12)(J)1. and (13)(X):

Spire provided a copy of its plan, Emergency Plan SOP 220.D.7, Reissue Date 11/14/2023 ("Emergency Plan") that was effective at the time of the incident.⁵ The Spire Emergency Plan requires in relevant parts **[Emphasis added.]**:

- ** [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] **
- ** [REDACTED]
[REDACTED]
[REDACTED] **
- ** [REDACTED]
[REDACTED]
[REDACTED] **

Spire provided a copy of its written SOP 230.H.4 titled Prevention of Accidental Ignition reissued on April 11, 2025, that was in effect at the time of the incident.⁶ ** [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED] ** Specifically, relevant subsections state **[Emphasis added.]**:

- ** [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
0 [REDACTED]
[REDACTED]

⁵ Spire response to Staff Data Request 0003 and Spire Attachment 3; SOP 230.D.7 is in FIR Exhibit 4 in Appendix B of this Report.

⁶ Spire response to Staff Data Request 0012 and Spire Attachment 12; SOP 230.H.4 is in FIR Exhibit 4 in Appendix B of this Report.

- [REDACTED]
[REDACTED]
- [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
- 0 [REDACTED]
[REDACTED]
[REDACTED] **

In accordance with 20 CSR 4240-40.030(1)(J), Spire submitted to Staff a copy of SOP 220.L.⁷ titled Hazardous Atmospheres (Reissued on December 6, 2024), which was ** [REDACTED]
[REDACTED] **. SOP 220.L requires the following **[Emphasis added.]**:

- ** [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
- 0 [REDACTED]
0 [REDACTED]
[REDACTED]
[REDACTED]
- [REDACTED]
0 [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

⁷ SOP 220.L.3 is in FIR Exhibit 4 in Appendix B of this Report.

[REDACTED]

0 [REDACTED]

[REDACTED]

0 [REDACTED]

[REDACTED]

- [REDACTED]

- [REDACTED]

0 [REDACTED]

- [REDACTED]

■■

Spire provided a copy of SOP 110.C titled Stop Work Responsibility (new procedure issued on August 9, 2024) that was in effect at the time of the incident.⁸ This SOP allows employees and contractors to stop work if it becomes unsafe and includes the following provisions **[Emphasis added.]**:

- ** [REDACTED]

⁸ Spire response to Staff Data Request 0031 and Spire Attachment 31; SOP 110.C is in FIR Exhibit 4 in Appendix B of this Report.

- [REDACTED]
[REDACTED]
[REDACTED]
0 [REDACTED]
[REDACTED]
[REDACTED]
0 [REDACTED]
[REDACTED]
[REDACTED]
0 [REDACTED]
[REDACTED]
[REDACTED]
- [REDACTED] [REDACTED]
0 [REDACTED]
[REDACTED]
0 [REDACTED] [REDACTED]
0 [REDACTED] [REDACTED]
0 [REDACTED] [REDACTED] **

3. Staff Analysis:

Spire's emergency response failed to meet the requirements of certain applicable Commission rules and Spire procedures:

- Spire did not take actions directed towards protecting people first and then property as required to be in Spire's Emergency Plan by Commission Rule 20 CSR 4240-40.030(12)(J)1.E and did not follow the associated procedure in Spire's Emergency Plan when Spire failed to ** [REDACTED] ** and instead operated machinery in the presence of a major gas leak.
- Spire did not take steps to minimize the danger of accidental ignition of gas as required by Commission Rule 20 CSR 4240-40.030(13)(X).

- o Commission Rule 20 CSR 4240-40.030(13)(X)1 requires that when a hazardous amount of gas is being vented into open air, each source of ignition must be removed from the area. Despite the release of a hazardous amount of gas into the air above the damaged pipeline, Spire operated engine-driven machinery that was a source of ignition.
- o Contributing factors to the ignition were Spire emergency response personnel did not ** [REDACTED] ** per SOP 220.L.3 where the engine-driven machinery was being operated, did not ** [REDACTED] ** per SOP 110.C when an unsafe condition was present prior to ignition, and did not communicate with supervisory personnel who were ** [REDACTED] ** in accordance with SOP 220.L.3.

** [REDACTED]

[REDACTED] ** per SOP 220.L.3 would have allowed for safe repair of the damaged pipeline, which did occur at later time after the ignition when the valves were closed. Spire's Working Foreman and Machine Operator should have been advised by Spire supervisors to maintain a safe distance from the blowing gas until the pipeline could be depressurized. Staff believes that Spire's response to this incident highlights the need for Spire to review and improve as necessary:

- a) The clarity of requirements and priorities in its procedures pertaining to emergency response;
- b) Training and qualification of Spire personnel on requirements and priorities in emergency responses to blowing gas with emphasis on safe work practices and communication between response personnel. Simulated emergencies and mock drills should be included in the training⁹.

⁹ Staff notes that ** [REDACTED]

[REDACTED] ** (See Section III.B. Investigation of Failures and Incidents of this Report).

4. Violations:

1) Failure to follow Spire's written procedures for conducting operations and maintenance activities and for emergency response, including Spire's Emergency Plan, was a violation of Commission Rule 20 CSR 4240-40.030(12)(C)1. Specifically,

- a. Spire did not ** [REDACTED] ** as required by Spire's SOP 220.D.7 and instead operated machinery in the presence of a major gas leak, which resulted in injuries to Spire personnel,
- b. Spire did not ** [REDACTED] ** or wait for ** [REDACTED]
[REDACTED]
[REDACTED] ** before entering the area around the excavation with blowing gas as required by Spire's SOP 220.L.3.
- c. Although working conditions on the job site had become unsafe and hazardous, Spire employees did not follow ** [REDACTED] ** as required by Spire's SOP 110.C before the ignition occurred.

2) Failure to implement required actions to prevent an accidental ignition was a violation of Commission Rule 20 CSR 4240-40.030(13)(X)1. Specifically, in a location where a hazardous amount of gas was venting into the open air, Spire failed to remove each source of ignition and instead introduced a source of ignition that was used by Spire personnel at the location of the blowing gas.

5. Staff Recommendations:

- 1) Staff recommends that Spire:
 - a. Review the clarity of requirements and priorities in Spire's procedures pertaining to emergency response to ensure that actions related to protecting people first are clearly articulated in each procedure without need to reference other procedures;
 - b. Provide additional training to Spire personnel who may be involved in emergency response on the requirements and priorities in emergency responses to blowing gas with emphasis on safe work practices and communication between response personnel.

2) Staff recommends that simulated emergencies and mock drills be included in the additional training and that discussion should occur about the circumstances of this incident.

3) Staff recommends that Spire update SOPs 220.L ** [REDACTED] ** and 230.H
 ** [REDACTED] ** to limit when work can be performed in an excavation ** [REDACTED]
 [REDACTED]
 [REDACTED] **. Specifically, Staff recommends changing ** [REDACTED]
 [REDACTED] ** in SOPs 220.L and 230.H to “Spire pipelines”.

B. Investigation of Failures and Incidents

1. Regulatory Requirements and Applicable Commission Orders:

Commission Rule 20 CSR 4240-40.030(12)(L)2. requires in part that each operator must develop, implement, and incorporate lessons learned from a post-failure or incident review into its written procedures, including personnel training and qualification programs, and design, construction, testing, maintenance, operations, and emergency procedure manuals and specifications.

Paragraph 9 of the Stipulation and Agreement¹⁰ approved by the Commission¹¹ in Case No. GC-2022-0087 requires:

Spire agrees to implement a root cause analysis procedure to investigate failures resulting in certain consequences by April 15, 2022. Such consequences will include but not be limited to the following: A reportable incident resulting in:

- a. Death
- b. An Injury beyond basic first aid
- c. Property Damage in excess of \$50,000
- d. An Overpressurization of the system
- e. An unintended outage of 100+ customers

The procedure will address how to determine the predominant reason(s) that the event occurred, and to identify where a change in behavior would reasonably be expected to

¹⁰ Case No. GC-2022-0087, Item 13, file date January 20, 2022.

¹¹ Case No. GC-2022-0087, Item 14, effective date March 4, 2022.

lead to a change in the outcome, i.e. avoidance of the event. The root cause analysis may be conducted as part of an attorney-client privileged or work product protected incident review.

2. Spire Actions to Comply with 20 CSR 4240-40.030(12)(L) and Applicable Commission Orders:

Spire provided its written procedure to investigate and analyze incidents, Investigation of SOP 220.O.2 (Reissue Date 12/6/2024) that was effective at the time of the incident.¹²

Spire's procedure requires ** [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] **. Additionally, Spire's procedure requires that ** [REDACTED]

[REDACTED]

[REDACTED] **.

Spire provided its December 15, 2025, Post-Incident Review (PIR) for the April 22, 2025, incident,¹³ which included a list of events and actions, the results of Spire's procedure effectiveness review, and a list of action items to be taken by Spire. A copy of the Confidential PIR is provided in Appendix B of this Report¹⁴. Spire provided the results of its Confidential Root Cause Analysis (RCA) of the incident;¹⁵ a copy is provided in Appendix B of this Report¹⁶. Spire's supplemental data request response stated: "Attached is the RCA. For its RCA process, Spire has recently implemented the "5 Why" methodology. Please advise if Staff has any questions."

In its PIR, Spire identified eight action items to be completed by Spire (Action Numbers 1-8 in Confidential Table 2 of this Report). Spire further identified five possible solution items to be considered by Spire in its RCA; one added an action item (Action Number 9 in Confidential Table 2 of this Report), two repeated Action Numbers 1 and 5, and two added more specific actions related to Action Numbers 1 and 6 (Action Numbers 10-11 in Confidential Table 2 of this Report).

¹² Spire response to Staff Data Request 0009 and Spire Attachment 9.

¹³ Spire supplemental response to Staff Data Request 0009 and Spire Attachment PIR – 9509 Grandview Rd.

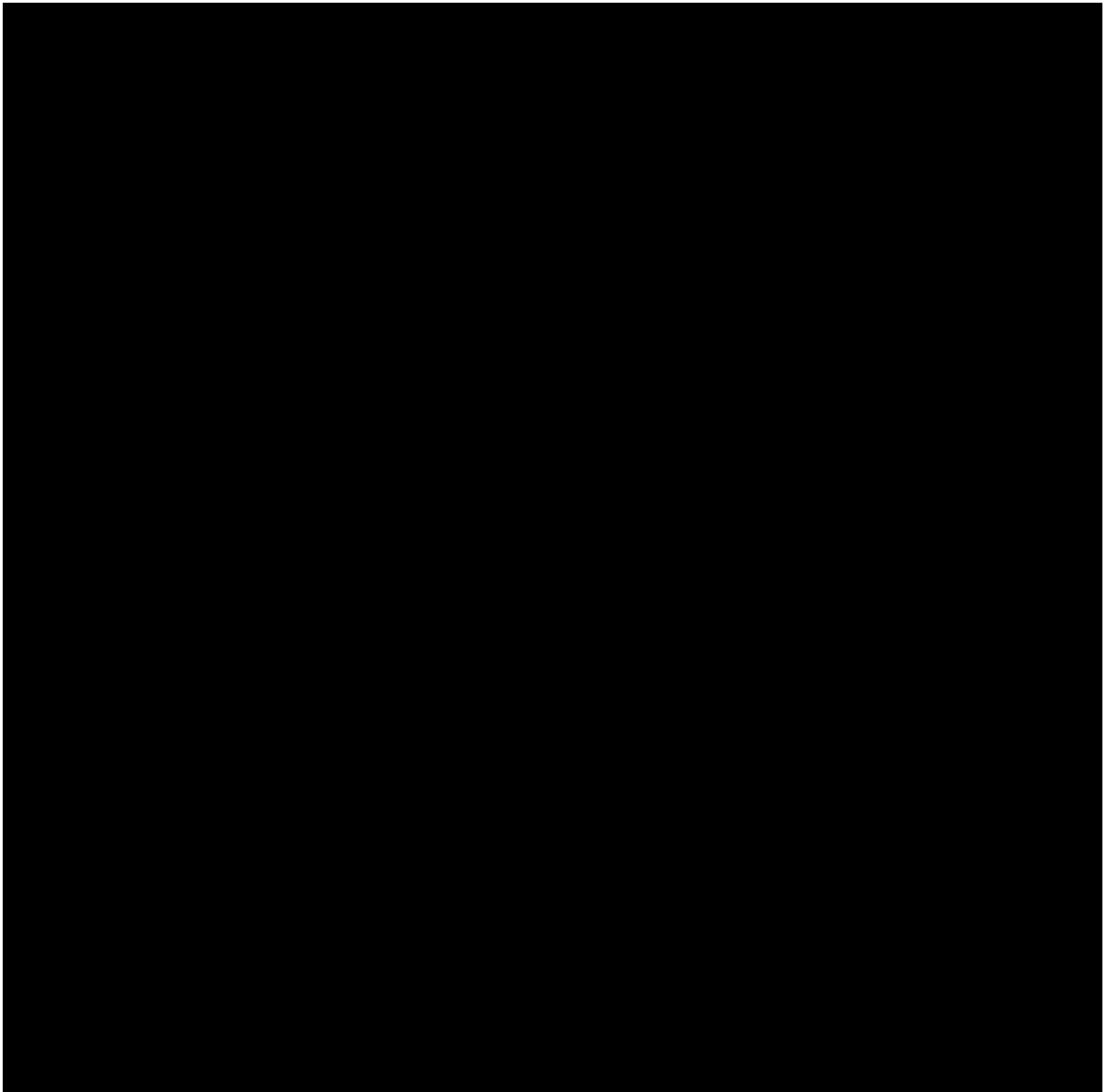
¹⁴ Spire PIR is in FIR Exhibit 5 in Appendix B of this Report.

¹⁵ Spire supplemental response to Staff Data Request 0019 and Spire Attachment Grandview RCA.

¹⁶ Spire RCA is in FIR Exhibit 5 in Appendix B of this Report.

Confidential Table 2: Action Items Identified by Spire to be Completed by Spire

**



**

The PIR list for Action Numbers 1-8 includes target dates from April 22, 2025, through August 31, 2026, and the RCA does not include target dates for Action Numbers 9-11. The information provided by Spire does not include the status of these action items.

3. Staff Analysis:

Spire's investigation of the April 22, 2025 incident in Grandview, Missouri, appears to have met the minimum requirements of 20 CSR 4240-40.030(12)(L)2. Staff has not been provided with documentation showing progress towards completion of actions items for the PIR and RCA thus far and will recommend that updates be provided. Staff concurs with the action items identified by Spire except for Action Number 11, which only proposes to add ** [REDACTED] [REDACTED] ** to SOP 220.L. Staff recommends that in lieu of the text change proposed in Spire Action Number 11, Spire instead include all pipeline materials and pressures. This Staff recommendation was addressed in *Section III.A* of this Report.

Regarding Spire’s compliance with the Commission approved Stipulation and Agreement in Case No. GC-2022-0087, Spire has used a different approach for conducting its RCA than Staff has seen Spire use in the past. In the data request response providing the RCA, Spire noted recent implementation of the 5 Whys methodology for its RCA process. While the “5 Whys”¹⁷ approach is a recognized method to evaluate root causes, Staff questions whether Spire has fully implemented this approach.

For example, regarding the third **

** For any of these potential answers,

additional why questions could be asked.

¹⁷ An example of additional information about this approach is available at <https://sixsigmastudyguide.com/5-whys/>.

4. Violations:

Although Staff has identified no violation of 20 CSR 4240-40.030(12)(L)2. regarding Spire's investigation of this incident, Staff has recommendations for Spire regarding implementation of actions and the approach for conducting RCAs.

5. Staff Recommendations:

1. Staff recommends that Spire provide the status of implementation for action items 1-10 in Confidential Table 2 of this report and for items not completed, provide quarterly updates to the Commission until the action items have been completed satisfactorily. If any action item is no longer considered to be necessary by Spire, the reason(s) should be explained when providing the status of implementation.

2. Staff recommends that going forward, if Spire continues to use the 5 Whys approach for conducting RCAs, that Spire complete the questioning until either five why questions have been asked and answered, or until no logical why questions remain.

C. Incident Reporting Requirements

1. Regulatory Requirements and Applicable Commission Orders:

Commission Rule 20 CSR 4240-40.020(3)(A) requires that at the earliest practicable moment following discovery, but no later than one (1) hour after confirmed discovery,¹⁸ each operator shall give notice, in accordance with subsection (3)(B), of each federal incident as defined in section (2).

Commission Rule 20 CSR 4240-40.020(3)(B) requires that each notice required by subsection (3)(A) must be made to the NRC.¹⁹

¹⁸ 20 CSR 4240-40.020(2)(C) (defining "confirmed discovery" to mean when it can be reasonably determined, based on information available to the operator at the time a reportable event has occurred, even if only based on a preliminary evaluation.).

¹⁹ The NRC abbreviation represents the federal National Response Center which is operated by the United States Environmental Protection Agency in cooperation with the United States Coast Guard.

Commission Rule 20 CSR 4240-40.020(3)(C) requires that within forty-eight (48) hours after the confirmed discovery of an incident,²⁰ to the extent practicable, an operator must revise or confirm its initial telephonic notice required in subsection (3)(B) with an estimate of the amount of gas released, an estimate of the number of fatalities and injuries, and all other significant facts that are known by the operator that are relevant to the cause of the incident or extent of the damages. If there are no changes or revisions to the initial report, the operator must confirm the estimates in its initial report.

Commission Rule 20 CSR 4240-40.020(4)(A) requires operators to notify designated Commission personnel by telephone within two hours following discovery of a Missouri reportable incident²¹ by the operator, or as soon thereafter as practicable if emergency efforts to protect life and property would be hindered.

Commission Rule 20 CSR 4240-40.020(6) requires that operators of distribution pipeline systems must submit U.S. Department of Transportation Form PHMSA F 7100.1 as soon as practicable but not more than 30 days after detection of an incident required to be reported under section (3).

²⁰ 20 CSR 4240-40.020(2)(D) defines a Federal incident to mean any of the following events:

1. An event that involves a release of gas from a pipeline, gas from an underground natural gas storage facility (UNGSF), liquefied natural gas (LNG), liquefied petroleum gas, refrigerant gas, or gas from an LNG facility, and that results in one (1) or more of the following consequences:
 - A. A death or personal injury necessitating inpatient hospitalization; or
 - B. Estimated property damage of one hundred twenty-nine thousand three hundred dollars (\$129,300) or more, including loss to the operator and others, or both, but excluding the cost of gas lost; or
 - C. Unintentional estimated gas loss of three (3) million cubic feet or more;
2. An event that results in an emergency shutdown of an LNG facility or an UNGSF. Activation of an emergency shutdown system for reasons other than an actual emergency does not constitute an incident; or
3. An event that is significant, in the judgment of the operator, even though it did not meet the criteria of paragraph (2)(D)1. or (2)(D)2.

²¹ 20 CSR 4240-40.020(4)(A) (requiring reporting of the following events within areas served by the operator:

1. An event that involves a release of gas involving the operator's actions or pipeline system, or where there is a suspicion by the operator that the event may involve a release of gas involving the operator's actions or pipeline system, and results in one (1) or more of the following consequences: A. A death; B. A personal injury involving medical care administered in an emergency room or health care facility, whether inpatient or outpatient, beyond initial treatment and prompt release after evaluation by a health care professional; or C. Estimated property damage of seventeen thousand five hundred dollars (\$17,500) or more, including loss to the gas operator or others, or both, and including the cost of gas lost;
2. An event that is significant, in the judgment of the operator, even though it did not meet the criteria of paragraph (4)(A)1.; or
3. An event that is reported as a Federal incident under section (3).

A Commission approved²² Stipulation and Agreement in Case No. GC-2022-0087 required in part that Spire amend its Spire Missouri Inc. Operations Procedure Manual (OPM) to include the 48-hour telephonic update to the NRC within 48 hours after the confirmed discovery of an incident as required by 20 CSR 4240-40.020(3)(C).²³

2. Spire Actions to Comply with 20 CSR 4240-40.020(2)(C), (3), (4), and (6) and Applicable Commission Orders:

The time of the ignition occurred at approximately 6:02 pm on April 22, 2025 at 9509 Grandview Road, Kansas City, MO.

Spire notified Staff of the incident by telephone at 6:40 pm on April 22, 2025.²⁴

The Spire Manager of Distribution, Integrity, and Engagement, ** [REDACTED], ** notified the National Response Center at 7:38 pm on April 22, 2025.²⁵

Spire submitted an initial U.S. Department of Transportation Form PHMSA F 7100 on May 22, 2025, and a supplemental – final Form PHMSA F 7100 on December 5, 2025²⁶.

3. Staff Analysis:

According to the dates and times provided by Spire, all reporting rule requirements have been met.

4. Violations:

Staff found no violations with respect to compliance with the Commission's rules pertaining to incident reporting.

5. Staff Recommendations:

Staff has no recommendations with respect to compliance with the Commission's rules pertaining to incident reporting.

²² Approved in Commission Order filed February 02, 2022, in Case No. GC-2022-0087.

²³ Paragraph 8 of the Stipulation and Agreement filed January 20, 2022, in Case No. GC-2022-0087.

²⁴ According to the Post Incident Review submitted 9/8/25.

²⁵ According to the Post Incident Review submitted 9/8/25.

²⁶ Supplemental – Final Form PHMSA F 7100 is in FIR Exhibit 3 in Appendix B of this Report.

D. Damage Prevention Program

1. Regulatory Requirements and Applicable Commission Orders:

Commission Rule 20 CSR 4240-40.030(12)(C)1. requires that each operator prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response, including each of the requirements of section (12).²⁷

Commission Rule 20 CSR 4240-40.030(12)(I)1. requires each operator of buried pipelines to have and carry out a written program to prevent pipeline damage by excavation activities, which include excavation, blasting, boring, tunneling, backfilling, the removal of aboveground structures by either explosive or mechanical means, and other earthmoving operations.

Commission Rule 20 CSR 4240-40.030(12)(I)3.G. requires that the written program provide for temporary marking of buried pipelines in the area of excavation activity before, as far as practical, the activity begins.

Commission Rule 20 CSR 4240-40.030(12)(I)4. requires that each notification of intent to excavate should be evaluated to determine the need for and extent of inspections by the operator. Factors that should be considered in determining the need for and extent of those inspections include:

- A. The type and duration of the excavation activity involved;
- B. The proximity to the operator's facilities;
- C. The type of excavating equipment involved;
- D. The importance of the operator's facilities;
- E. The type of area in which the excavation activity is being performed;
- F. The potential for serious incident should damage occur;
- G. The prior history of the excavator with the operator; and
- H. The potential for damage occurring which may not be easily recognized by the excavator.

The definition of "Excavation" in Section 319.015 RSMo of the "Underground Facility Safety and Damage Prevention Act" includes backfilling.

²⁷ 20 CSR 4240-40.030(12)(C)2.B. requires that the manual includes procedures for safe operating and maintaining the pipeline in accordance with each of the requirements of sections (12), (13) and (14) of 20 CSR 4240-40.030.

2. Spire Actions to Comply with 20 CSR 4240-40.030(12)(I) and Chapter 319 RSMo:

Spire provided a copy of its Damage Prevention Program SOP 220.C.9 reissued on March 3, 2025, that was in effect at the time of the incident.²⁸ The Damage Prevention Program requires

** [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] **.

On April 14, 2025, KC Water requested that buried utilities be marked to repair a water main in the vicinity of a high pressure 10-inch steel main operated by Spire in Kansas City, Missouri (Missouri 811 Ticket No. 251045717 – ticket type routine). Spire indicated that the location had been marked by updating the ticket status as “Marked” at 11 am on April 16, 2025. The proposed excavation was identified by Spire as needing an inspection. The excavation by KC Water occurred on April 22, 2025, and a Spire employee was on-site to observe during the water main repair but departed at the start of backfilling work.

3. Staff Analysis:

The temporary markings of Spire’s buried pipelines in the proposed excavation area were made prior to the excavation by KC Water and were within the “approximate location”²⁹ of Spire’s facilities.

The proposed excavation by KC Water met at least three of the factors in the Damage Prevention Program for considering when Spire personnel should make on-site inspections of excavation activities³⁰. Spire’s Civic Improvement Inspector was on site to observe part of the excavation activity, but he left the site prior to completion of backfilling work by KC Water. Backfilling is included in the definition of “excavation” in section 319.015 RSMo, is included in “excavation activities” in 20 CSR 4240- 40.030(12)(I)1. and is ** in [REDACTED]

[REDACTED] **. The rule requirements and

²⁸ Spire response to Staff Data Request 0016 and Spire Attachment 16; SOP 230.C.9 is in FIR Exhibit 4 in Appendix B of this Report.

²⁹ The definition of “approximate location” in section 319.015, RSMo is: “a strip of land not wider than the width of the underground facility plus two feet on either side thereof.”

³⁰ ** [REDACTED]
[REDACTED] **

** [REDACTED] ** do not specify which excavations must be inspected or to what extent – instead they require Spire to evaluate each excavation notification to determine the need for and extent of excavations. Spire conducted an excavation inspection at the incident excavation and as demonstrated by the excavation damage during backfilling that resulted in an incident, Spire personnel should have also stayed on-site to inspect the backfilling next to the pipeline and could have then taken steps to prevent the excavation damage.

4. Violations:

No violations were identified by Staff with regards to Spire's Damage Prevention Program related to this incident.

5. Staff Recommendations:

Staff recommends that when Spire determines the need for an on-site inspection by Spire personnel of an excavation, that Spire also inspect the backfilling when the backfilling activity will be in proximity to the Spire pipeline like occurred in this incident.

E. Drug and Alcohol Testing

1. Regulatory Requirements:

Missouri pipeline safety rules adopt the Federal Drug and Alcohol Testing regulations³¹ by reference.³² At the time the incident occurred, the Commission Rules adopted the Code of Federal Regulations ("CFR") dated October 1, 2019, 49 CFR parts 40 and 199 by reference.³³ The descriptions and quotations of applicable requirements below are based on the October 1, 2019, 49 CFR parts 40 and 199.

49 CFR § 199.101 requires each operator to maintain and follow a written anti-drug plan that conforms to Part 199 and the Department of Transportation ("DOT") Procedures.³⁴ 49 CFR § 199.202 requires each operator to maintain and follow a written alcohol misuse plan that conforms to Part 199 and the DOT Procedures.

³¹ 49 CFR §§ 40 and 199, effective October 1, 2019, incorporated by reference by the Commission at the time of the incident, effective January 30, 2022.

³² 20 CSR 4240-40.080(1).

³³ Subsequent to the incident, Commission has opened a case to adopt more recent Federal amendments in File No. GX-2025-0249.

³⁴ 49 CFR § 199.3 (defining DOT procedures as the Procedures for Transportation Workplace Drug and Alcohol Testing Programs published by the Office of the Secretary of Transportation in part 40 of Title 49).

20 CSR 4240-40.080(4)(B) states that the references to “accident” in 49 CFR § § 199.105 and 199.225 should refer to a “federal incident reportable under 20 CSR 4240-40.020.”

49 CFR § 199.3 defines “employee” and “covered employee” as: a person who performs a covered function, including persons employed by operators, contractors engaged by operators, and persons employed by such contractors.³⁵

49 CFR § 199.3 defines “covered function” as: an operations, maintenance, or emergency-response function regulated by part 192, 193, or 195 of this chapter that is performed on a pipeline or on an LNG facility.³⁶

49 CFR § 199.3 defines “prohibited drug” as follows:

Prohibited drug means any of the following substances specified in Schedule I or Schedule II of the Controlled Substances Act (21 U.S.C. 812): marijuana, cocaine, opiates, amphetamines, and phencyclidine (PCP).³⁷

With respect to contractor employees, 49 CFR §§ 199.115 and 199.245 state that an operator may provide by contract that the drug and alcohol testing, education and training required by 49 CFR § 199 be carried out by the contractor, provided that a) the operator remains responsible for ensuring compliance with the requirements of 49 CFR § 199 and 40 and b) the contractor allows access to property and records by the operator, the Administrator, and if the operator is subject to the jurisdiction of a state agency, a representative of the state agency for the purpose of monitoring the operator's compliance with the requirements of this part.

Drug tests are required for covered employees for: pre-employment, post-accident and at any time during employment as part of a pool of covered employees subject to random selection for testing. These requirements are as follows:

- Pre-employment: 49 CFR § 199.105(a) requires that: “No operator may hire or contract for the use of any person as an employee unless that person passes a drug test or is covered by an anti-drug program that conforms to the requirements of this part.”³⁸

³⁵ 49 CFR § 199.3.

³⁶ *Id.*

³⁷ *Id.*

³⁸ 49 CFR § 199.105(a).

- Randomly during employment: 49 CFR § 199.105(c) provides that “except as provided in paragraphs (c)(2) through (4) of this section, the minimum annual percentage rate for random drug testing shall be 50 percent of covered employees.”³⁹
- Post-Accident: 49 CFR § 199.105(b) provides the post-accident⁴⁰ drug testing requirements: “As soon as possible but no later than 32 hours after an accident, an operator shall drug test each employee whose performance either contributed to the accident or cannot be completely discounted as a contributing factor to the accident. An operator may decide not to test under this paragraph but such a decision must be based on the specific information that the covered employee’s performance had no role in the cause(s) or severity of the accident.”⁴¹

Alcohol tests are required for covered employee’s post-accident:

- Post-Accident: 49 CFR § 199.225(a) provides the post-accident⁴² alcohol testing requirements: “As soon as practicable following an accident, each operator must test each surviving covered employee for alcohol if that employee’s performance of a covered function either contributed to the accident or cannot be completely discounted as a contributing factor to the accident. The decision not to administer a test under this section must be based on specific information that the covered employee’s performance had no role in the cause(s) or severity of the accident. If a test required by this section is not administered within eight (8) hours following the accident, the operator shall cease attempts to administer an alcohol test and shall state in the record the reasons for not administering the test.”⁴³

³⁹ 49 CFR § 199.105(c)(1).

⁴⁰ 20 CSR 4240-40.080(4)(B)(stating that the references to “accident” in §§199.3, 199.100, 199.105, 199.200, 199.221, 199.225, 199.227 and 199.234 should refer to a “federal incident reportable under 20 CSR 4240-40.020” instead.).

⁴¹ 49 CFR § 199.105(b)(1).

⁴² 20 CSR 4240-40.080(4)(B) (stating that the references to “accident” in §§199.3, 199.100, 199.105, 199.200, 199.221, 199.225, 199.227 and 199.234 should refer to a “federal incident reportable under 20 CSR 4240-40.020” instead.).

⁴³ 49 CFR § 199.225(1)-(2).

2. Spire's Actions to Comply with 20 CSR 4240-40.080:

Spire provided copies of the Drug and Alcohol Testing Policies for Spire employees that were in effect at the time of the incident.⁴⁴

Spire identified a total of three individuals who were assigned to the project and on site at the time of the incident: Spire employees ** [REDACTED] ** (machine operator), ** [REDACTED] ** (serviceperson), and ** [REDACTED] ** (working foreman).⁴⁵

Pre-Employment Drug Testing:

Spire provided documentation of pre-employment drug testing for all of its three employees on site at the time of the incident: ** [REDACTED] **. ⁴⁶

Random Drug Testing:

Spire provided documentation of the number of random drug testing performed during calendar year 2024 for Spire.⁴⁷

Post Incident Drug Testing:

Spire identified a total of three individuals who were assigned to the project and on site at the time of the incident: ** [REDACTED] **. ⁴⁸ Two of the three employees were tested in a timely manner resulting in negative test results.

** [REDACTED] ** was unable to be tested due to his medical condition.⁴⁹

3. Staff Analysis:

Drug and Alcohol Plans:

Spire's drug and alcohol Testing Policies are adequate.

Pre-employment Drug Testing:

Spire provided documentation of pre-employment drug testing for all of its three employees on site at the time of the incident: ** [REDACTED] **. ⁵⁰

⁴⁴ Spire's response to Staff Data Request 0004.

⁴⁵ Post Incident Review.

⁴⁶ Spire's Confidential Attachment 5B provided in response to Staff Data Request 0005.

⁴⁷ Spire's Confidential Attachment 6C provided in response to Staff Data Request 0006.

⁴⁸ Spire's Confidential Attachment 7B provided in response to Staff Data Request 0007.

⁴⁹ Spire's Confidential Attachment 7D provided in response to Staff Data Request 0007.

Random Drug Testing:

Random test percentages were adequate for the calendar year 2024 at ** [REDACTED] **. According to 49 CFR 199.105, the minimum annual percentage rate for random drug testing for calendar year 2024 was 25 percent of covered employees.

Post Incident Testing:

Spire identified three employees who should have been tested for the presence of drugs and alcohol as soon as possible following the incident because their performance of a covered function either contributed to the incident or could not be completely discounted as a contributing factor.⁵⁰

Drug testing is required to be performed as soon as possible, but not later than 32 hours after the incident.⁵¹ Alcohol testing is required within two hours following the incident⁵². If testing is not performed within these time frames the operator is required to prepare and maintain on file a record stating the reasons the tests were not promptly administered.

Regarding drug testing, Spire performed drug testing as required for two of the three identified employees within the required time frame. The reason Spire provided for not testing the third employee ** [REDACTED] ** which seems reasonable to Staff and consistent with rule requirements.

Regarding alcohol testing, Spire did not perform alcohol testing as required for any of the three identified employees within the required time frame. The reason Spire provided for not testing two of the employees, ** [REDACTED] ** within the required time frame were respectively ** [REDACTED] **, which appears to be reasonable to Staff and consistent with rule requirements. The reason Spire provided for not testing the third employee ** [REDACTED] **. ** Staff notes that a number of Spire personnel were deployed to the incident location both before and following ignition of the natural gas. Staff believes that whenever possible, in circumstances when an employee was present at an incident and especially when that employee's actions cannot be immediately discounted as a contributing factor to the incident, that Spire utilize personnel who were not directly involved in the incident to perform the emergency response tasks.

⁵⁰ Required by Commission Rule 20 CSR 4240-40.080, which adopts 49 CFR Parts 40 and 199.

⁵¹ Required by 49 CFR 199.105(b).

⁵² Required by 49 CFR 199.225(a)(2)(i).

4. Violations:

Staff found no violations with respect to compliance with the Commission's rules pertaining to drug and alcohol testing.

5. Staff Recommendations:

Staff recommends in the future that to the extent that Spire has personnel available who can perform the required tasks, Spire utilize personnel who were not directly involved in the incident to perform the emergency response actions.

F. Operator Qualification

1. Regulatory Requirements:

20 CSR 4240-40.030(12)(D), Qualification of Pipeline Personnel, prescribes the required qualifications of individuals performing covered tasks on a pipeline facility,⁵³ including any other entity or individual performing covered tasks on behalf of the operator.⁵⁴ A "covered task" is defined by 20 CSR 4240-40.030(12)(D)1.B. as "an activity, identified by the operator, that:

- (I) Is performed on a pipeline facility;
- (II) Is an operations, maintenance or emergency-response task;
- (III) Is performed as a requirement of this rule; and
- (IV) Affects the operation or integrity of the pipeline."⁵⁵

20 CSR 4240-40.030(12)(D)2.C. defines "qualified" to mean "that an individual has been evaluated and can:

- (I) Perform assigned covered tasks; and
- (II) Recognize and react to abnormal operating conditions."⁵⁶

Therefore, an individual must be evaluated in order to be considered qualified to perform covered tasks.

⁵³ 20 CSR 4240-40.030(1)(B)33 (defining a "pipeline facility" as "new and existing pipelines, rights-of-way, and any equipment, facility, or building used in the transportation of gas or in the treatment of gas during the course of transportation.").

⁵⁴ 20 CSR 4240-40.030(12)(D)1.A. ("This subsection applies to all individuals who perform covered tasks, regardless of whether they are employed by the operator, a contractor, a subcontractor, or any other entity performing covered tasks on behalf of the operator.").

⁵⁵ 20 CSR 4240-40.030(12)(D)1.B.

⁵⁶ 20 CSR 4240-40.030(12)(D)2.A. (defining "abnormal operating condition" as "a condition identified by the operator that may indicate a malfunction of a component or deviation from normal operations that may: (a) indicate a condition exceeding design limits; (b) result in a hazard(s) to persons, property, or the environment; or (c) require an emergency response.").

Program Requirements:

20 CSR 4240-40.030(12)(D)3., requires that each operator have and follow a written qualification program that includes provisions to:

- A. Identify covered tasks;
- B. Provide training, as appropriate, to ensure that individuals performing covered tasks have the necessary knowledge and skills to perform the tasks in a manner that ensures the safe operation of pipeline facilities;
- C. Ensure through evaluation that individuals performing covered tasks are qualified and have the necessary knowledge and skills to perform the tasks in a manner that ensures the safe operation of pipeline facilities;
- D. Allow individuals that are not qualified pursuant to this subsection to perform a covered task if directed and observed by an individual that is qualified;
- E. Evaluate an individual if the operator has reason to believe that the individual's performance of a covered task contributed to an incident meeting the Missouri reporting requirements in 20 CSR 4240-40.020(4)(A);
- F. Evaluate an individual if the operator has reason to believe that the individual is no longer qualified to perform a covered task;
- G. Communicate changes, including changes to rules and procedures, that affect covered tasks to individuals performing those covered tasks and their supervisors, and incorporate those changes in subsequent evaluations;
- H. Identify the interval for each covered task at which evaluation of the individual's qualifications is needed, with a maximum interval of thirty-nine (39) months;
- I. Evaluate an individual's possession of the knowledge and skills under paragraph (12)(D)4. at intervals not to exceed thirty-nine (39) months;
- J. Ensure that covered tasks are:
 - (I) Performed by qualified individuals, or
 - (II) Directed and observed by qualified individuals.⁵⁷

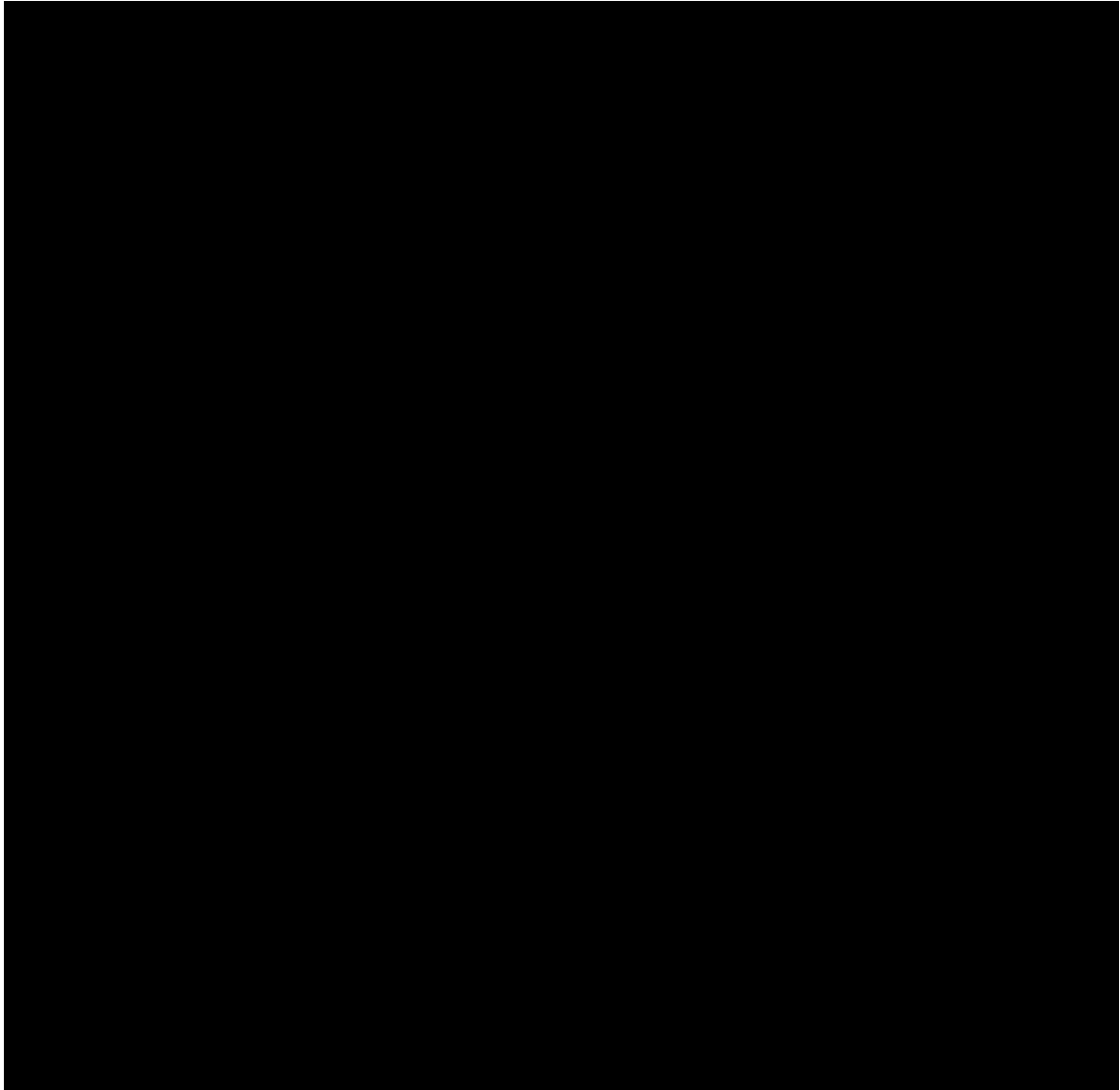
⁵⁷ 20 CSR 4240-40.030(12)(D)3.A-I.

2. Spire's Actions to Comply with 20 CSR 4240-40.030(12)(D):

Spire identified covered tasks that were performed by Spire personnel prior to the incident or in response to the incident.⁵⁸

Confidential TABLE 3: Spire Personnel Covered Tasks

**



**

3. Staff Analysis:

Staff notes that while the listed covered tasks appear to be consistent with work required to investigate and repair leaks on pipelines, there does not appear to be any listed covered tasks

⁵⁸ Spire response to Staff Data Request 0008.

specific to performing emergency response actions or prevention of accidental ignition in the information provided to Staff by Spire. As discussed in *Section III.A* of this Report, Staff believes that the actions taken by Spire personnel in response to this gas leak highlight the need for review of Spire's emergency response procedures and for additional training of personnel on emergency responses.

4. Violations:

No violations were identified by Staff with regards to Spire's OQ Program and records related to this incident.

5. Staff Recommendations:

See recommendations in *Section III.A* of this Report pertaining to training of Spire personnel.

G. Distribution Integrity Management Program ("DIMP")

1. Regulatory Requirements:

Commission Rule 20 CSR 4240-40.030(17) required each gas distribution operator, other than a master meter operator, to develop and implement a Gas Distribution Integrity Management Program ("DIMP") no later than August 2, 2011. Program elements must include a demonstrated knowledge of the system, identification of threats, evaluation and ranking of risk, identification and implementation of measures to address risks, measurement of performance, monitoring of results and evaluation of effectiveness. Sources of data to be considered in DIMP includes but is not limited to incident history. In implementation of DIMP, a baseline is established for threats to monitor the effectiveness of the program.

At a minimum, operators must consider the following categories of threats to each gas distribution pipeline:

- Corrosion,
- Natural Forces,
- Excavation Damage,
- Other Outside Force Damage,
- Material or Welds,
- Equipment Failure,
- Incorrect Operation, and
- Other concerns that could threaten the integrity of its pipeline.

To comply with the knowledge of the system part of this rule,⁵⁹ an operator must:

- Demonstrate an understanding of its gas distribution system developed from reasonably available information, identify the characters of the pipeline's design and operations and the environmental factors that are necessary to assess the applicable threats and risks to its distribution pipeline,
- Consider information from past design, operations and maintenance, and
- Identify additional information needed and provide a plan for gaining that information over time through normal activities conducted on the pipeline.

Gas distribution system operators must consider reasonably available information to identify existing and potential threats,⁶⁰ evaluate the relative importance of each threat, and estimate and rank the risks posed to its pipeline.⁶¹ Operators must determine and implement measures to address the risks,⁶² then measure performance and evaluate the effectiveness of the program in controlling each identified threat.⁶³

2. *Spire Actions to Comply with 20 CSR 4240-40.030(17):*

Spire provided a copy of its written DIMP Plan titled Spire, Gas Distribution Integrity Management Program published August 31, 2021, that was in effect at the time of the incident.⁶⁴ In its incident report provided to PHMSA⁶⁵, Spire lists the apparent cause of the incident as "Excavation Damage". "Excavation Damage" is one of the threat categories that must be considered in an operator's DIMP. The DIMP Plan that was effective for Spire at the time of the incident included a written action plan *Damage Prevention Action Plan, Version 3.0*. This action plan addressed excavation damage sub-threats including "Excavation Practices Not Sufficient" with an action for targeted excavator inspections using ticket management system risk modeling.

⁵⁹ 20 CSR 4240-40.030(17)(D)1.

⁶⁰ 20 CSR 4240-40.030(17)(D)2.

⁶¹ 20 CSR 4240-40.030(17)(D)3.

⁶² 20 CSR 4240-40.030(17)(D)4.

⁶³ 20 CSR 4240-40.030(17)(D)5.

⁶⁴ Spire response to Staff Data Request 0011.

⁶⁵ Spire response to Staff Data Request 0010.

The most recent version of Spire's DIMP Plan submitted to Staff in accordance with 20 CSR 4240-40.030(1)(J) was SOP 220.C.11 (Reissued on December 12, 2025). At subsection 12.1 regarding observation of excavation activities include a note that states:

** [REDACTED]
[REDACTED] **

3. Staff Analysis:

Staff reviewed the Spire, Gas Distribution Integrity Management Program and found that it met the minimum requirements of 20 CSR 4240-40.030(17). Spire targeted the excavation involved in this incident for an inspection; however, it appears that the DIMP Plan action to develop a risk model using the ticket management system was not completed as of December 12, 2025.

4. Violations:

Staff found no violations of 20 CSR 4240-40.030(17).

5. Staff Recommendations:

Staff recommends that Spire report to Staff the status of the DIMP Plan action to use ticket management system risk modeling for targeted excavator inspections. If this action has not been completed, Staff recommends that Spire complete this DIMP Plan action and inform Staff when it is completed and implemented.

IV. STAFF'S FINDINGS

As a result of its investigation, Staff found that sufficient facts/information exist to assert the following violations:

- 1) Failure to follow Spire's written procedures for conducting operations and maintenance activities and for emergency response, including Spire's Emergency Plan, was a violation of Commission Rule 20 CSR 4240-40.030(12)(C)1. Specifically,

- a. Spire did not ** [REDACTED] ** as required by Spire's SOP 220.D.7 and instead operated machinery in the presence of a major gas leak, which resulted in injuries to Spire personnel,
- b. Spire did not ** [REDACTED] ** or wait for ** [REDACTED]
[REDACTED]
[REDACTED] ** before entering the area around the excavation with blowing gas as required by Spire's SOP 220.L.3.

- c. Although working conditions on the job site had become unsafe and hazardous, Spire employees did not follow ** [REDACTED] ** as required by Spire's SOP 110.C before the ignition occurred.

(See Section III.A. Incident Description and Emergency Response of this Report)

- 2) Failure to implement required actions to prevent an accidental ignition was a violation of Commission Rule 20 CSR 4240-40.030(13)(X)1. Specifically, in a location where a hazardous amount of gas was venting into the open air, Spire failed to remove each source of ignition and instead introduced a source of ignition that was used by Spire personnel at the location of the blowing gas.

(See Section III.A. Incident Description and Emergency Response of this Report)

V. STAFF'S RECOMMENDATIONS

In summary, throughout this Report, Staff has identified several areas that either require improvement or are violations of Commission Rules. Staff summarizes below its recommendations related to these areas requiring improvement and violations of Commission Rules.

- 1) Staff recommends that Spire:
 - a. Review the clarity of requirements and priorities in Spire's procedures pertaining to emergency response to ensure that actions related to protecting people first are clearly articulated in each procedure without need to reference other procedures; and
 - b. Provide additional training to Spire personnel who may be involved in emergency response activities on the requirements and priorities in emergency responses to blowing gas with emphasis on safe work practices and communication between response personnel.

(See Section III.A. Incident Description and Emergency Response of this Report)

- 2) Staff recommends that simulated emergencies and mock drills be included in the additional training and that discussion should occur about the circumstances of this incident.

(See Section III.A. Incident Description and Emergency Response of this Report)

- 3) Staff recommends that Spire update SOPs 220.L ** [REDACTED] ** and 230.H ** [REDACTED] ** to limit when work can be performed in an excavation ** [REDACTED] [REDACTED] [REDACTED] **. Specifically, Staff recommends changing ** [REDACTED] [REDACTED] ** in SOPs 220.L and 230.H to "Spire pipelines".

(See Section III.A. Incident Description and Emergency Response of this Report)

- 4) Staff recommends that Spire provide the status of implementation for action items 1-10 in Confidential Table 2 of this report and for items not completed, provide quarterly updates to the Commission until the action items have been completed satisfactorily. If any action item is no longer considered to be necessary by Spire, the reason(s) should be explained when providing the status of implementation.

(See Section III.B. Investigation of Failures and Incidents of this Report)

- 5) Staff recommends that going forward, if Spire continues to use the 5 Whys approach for conducting RCAs, that Spire complete the questioning until either five why questions have been asked and answered, or until no logical why questions remain.

(See Section III.B. Investigation of Failures and Incidents of this Report)

- 6) Staff recommends that when Spire determines the need for an on-site inspection by Spire personnel of an excavation, that Spire also inspect the backfilling when the backfilling activity will be in proximity to the Spire pipeline like occurred in this incident.

(See Section III.D. Damage Prevention Program of this Report)

- 7) Staff recommends in the future that to the extent that Spire has personnel available who can perform the required tasks, Spire utilize personnel who were not directly involved in the incident to perform the emergency response actions.

(See Section III.E. Drug and Alcohol Testing of this Report)

- 8) Staff recommends that Spire report to Staff the status of the DIMP Plan action to use ticket management system risk modeling for targeted excavator inspections. If this action has not been completed, Staff recommends that Spire complete this DIMP Plan action and inform Staff when it is completed and implemented.

(See Section III.G. Distribution Integrity Management Program ("DIMP") of this Report)

In the Matter of an Investigation into)
 Spire Missouri Inc. d/b/a Spire) **Case No. GS-2025-0295**
 Concerning a Natural Gas Incident in)
 Kansas City, Missouri)

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

Further the Affiant sayeth not.

Jason Dickneite
JASON DICKNEITE

Subscribed and sworn before me, a duly constituted and authorized Notary Public,
in and for the County of Cole, State of Missouri, at my office in Jefferson City, on
this 30th day of April 2026.

DIANNA L. VAUGHT
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: July 18, 2027
Commission Number: 15207377

Dianne L. Vaughn
Notary Public

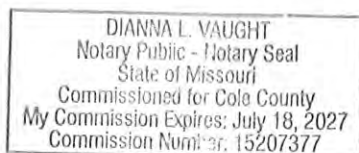
In the Matter of an Investigation into)
 Spire Missouri Inc. d/b/a Spire) **Case No. GS-2025-0295**
 Concerning a Natural Gas Incident in)
 Kansas City, Missouri)

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

Further the Affiant sayeth not.

John D. Kottwitz
JOHN D. KOTTWITZ

Subscribed and sworn before me, a duly constituted and authorized Notary Public,
in and for the County of Cole, State of Missouri, at my office in Jefferson City, on
this 29th day of April 2026.



Dianne L. Vaughn
Notary Public

In the Matter of an Investigation into)
 Spire Missouri Inc. d/b/a Spire) **Case No. GS-2025-0295**
 Concerning a Natural Gas Incident in)
 Kansas City, Missouri)

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

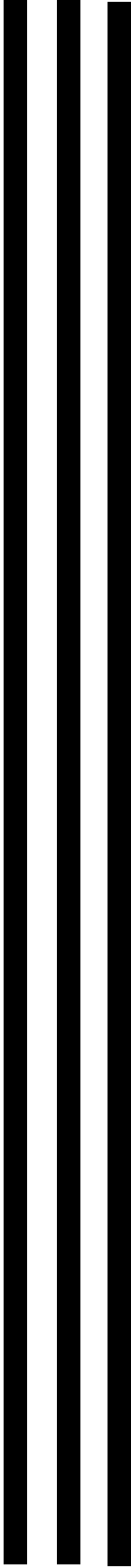
Further the Affiant sayeth not.


KATHLEEN A. McNELIS, PE

Subscribed and sworn before me, a duly constituted and authorized Notary Public,
in and for the County of Cole, State of Missouri, at my office in Jefferson City, on
this 29th day of April 2026.

DIANNA L. VAUGHT
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: July 18, 2027
Commission Number: 15207377

Dianna L. Vaughn
Notary Public



MISSOURI PUBLIC SERVICE COMMISSION

STAFF'S GAS INCIDENT REPORT

**Grandview Road
Kansas City, MO
April 22, 2025**

APPENDIX A

FACTS

**Spire Missouri, Inc.
Case No. GS-2025-0295**

*Industry Analysis Division
Safety Engineering Department
April 30, 2026 - Jefferson City, Missouri*

Pipeline Failure Investigation Report Checklist

Pipeline System: Distribution feeder line Operator: Spire Missouri West
Operator ID: 30769 Unit Number: _____ Activity Number: _____
Location: 9509 Grandview Rd, Kansas City, MO Date of Occurrence: April 22, 2025
Material Released: Natural gas Quantity: 130 MCF per PHMSA F7100.1
PHMSA Arrival Time & Date: N/A Total Damages \$: \$177,240 per PHMSA F7100.1
Investigation Responsibility: ☒ State ☐ PHMSA ☐ NTSB ☐ Other _____

Company Reported Apparent Cause:	Company Reported Sub-Cause (from PHMSA Form 7000-1/7100.2):
☐ Corrosion	
☐ Natural Force Damage	
☒ Excavation Damage	Excavation Damage by Third Party
☐ Other Outside Force Damage	
☐ Material Failure (Pipe, Joint, Weld)	
☐ Equipment Failure	
☐ Incorrect Operation	
☐ Other	

Accident/Incident Resulted in (check all that apply):	Comments:
☐ Rupture	
☒ Leak	Leak at damaged fitting on top of main
☒ Fire	Escaping gas ignited during Spire's emergency response
☐ Explosion	
☒ Evacuation	Number of Persons: <u>16</u> Area: _____

Narrative Summary
Short summary of the Incident/Accident scenario
On April 14, 2025, the Kansas City Missouri Water Department ("KC Water") requested that buried utilities be marked to repair a water main in the vicinity of a high pressure 10-inch steel main operated by Spire Missouri West ("Spire") in Kansas City, Missouri (Missouri 811 Ticket No. 251045717 – ticket type routine). Spire indicated that the location had been marked by updating the ticket status as "Marked" at 11 am on April 16, 2025. The excavation occurred on April 22, 2025 and a Spire employee was on-site to observe, but departed prior to the backfilling work. A 1-inch nipple at the 12:00 position on the 10-inch steel natural gas pipeline was damaged during backfilling at approximately 5:10 pm. The pipeline was operating at approximately 130 psig. KC Water notified the Spire employee that had observed the excavation at approximately 5:17 pm, and notified Spire dispatch at 5:18 pm. Spire's first responding personnel were a two-person Spire crew consisting of a machine operator and working foreman – they arrived at 5:36pm and unloaded Spire's excavation equipment near the damage location. A Spire service person arrived at 5:42pm. Spire personnel instructed KC Water personnel to move their equipment away from the blowing gas, then began excavating the backfill using a mini-excavator. The natural gas ignited during Spire's excavation activities, resulting in severe burns to the Spire machine operator. The pipeline condition was made safe by closing two nearby valves and repair was completed by removing the damaged 1-inch nipple and welding on a permanent repair sleeve. Three Spire employees (machine operator, working foreman, and service person) were injured as a result of the incident (see Injuries section below). The machine operator was hospitalized for extended treatment.

Region/State: Central / Missouri

Reviewed by: _____

Principal Investigator: *** [REDACTED] **

Title: Associate Engineer

Date: _____

Date: _____

Pipeline Failure Investigation Report Checklist

Failure Location & Response							
Location (City, Township, Range, County/Parish): Kansas City, MO; Jackson County (Maps provided in response to Staff Data Request #2)			(Acquire Map)				
Address or M.P. on Pipeline: ⁽¹⁾ 9509 Grandview Rd, Kansas City, MO		Type of Area (Rural, City): ⁽¹⁾ City: Kansas City					
Coordinates of failure location (Latitude): 38.95367504 (Longitude): -94.54989956							
Date: April 22, 2025		Time of Failure: 17:10					
Time Detected: 17:10		Time Located: 17:36					
How Located: 3 rd party reported at 17:10; Spire arrived at 17:36							
NRC Report #: (Attach Report) 1429178 (initial) and 1429366 (48-hour)		Time Reported to NRC: 19:38 on 4/22/2025					
Reported by: Spire (** [REDACTED] **)							
Type of Pipeline: <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 25%;"> Gas Distribution ☐ LP ☐ Municipal ☒ Public Utility ☐ Master Meter </td> <td style="text-align: center; width: 25%;"> Gas Transmission ☐ Interstate Gas ☐ Intrastate Gas ☐ Gas Gathering ☐ Offshore Gas ☐ Offshore Gas - High H₂S </td> <td style="text-align: center; width: 25%;"> Hazardous Liquid ☐ Interstate Liquid ☐ Intrastate Liquid ☐ Offshore Liquid ☐ Liquid Gathering ☐ CO₂ ☐ Low Stress Liquid ☐ HVL </td> <td style="text-align: center; width: 25%;"> ☐ LNG </td> </tr> </table>				Gas Distribution ☐ LP ☐ Municipal ☒ Public Utility ☐ Master Meter	Gas Transmission ☐ Interstate Gas ☐ Intrastate Gas ☐ Gas Gathering ☐ Offshore Gas ☐ Offshore Gas - High H ₂ S	Hazardous Liquid ☐ Interstate Liquid ☐ Intrastate Liquid ☐ Offshore Liquid ☐ Liquid Gathering ☐ CO ₂ ☐ Low Stress Liquid ☐ HVL	☐ LNG
Gas Distribution ☐ LP ☐ Municipal ☒ Public Utility ☐ Master Meter	Gas Transmission ☐ Interstate Gas ☐ Intrastate Gas ☐ Gas Gathering ☐ Offshore Gas ☐ Offshore Gas - High H ₂ S	Hazardous Liquid ☐ Interstate Liquid ☐ Intrastate Liquid ☐ Offshore Liquid ☐ Liquid Gathering ☐ CO ₂ ☐ Low Stress Liquid ☐ HVL	☐ LNG				
Pipeline Configuration (Regulator Station, Pump Station, Pipeline, etc.): 10-inch distribution feeder line with a 1-inch drilling nipple on top of 10-inch main.							

Operator/Owner Information	
Owner: Spire Missouri, Inc. Address: 700 Market St. Louis, MO 63101 Company Official: ** [REDACTED] ** Senior Vice President, Engineering, Gas Supply and Operations Services Phone No.: ** [REDACTED] ** Fax No.:	Operator: Spire Missouri West Company Official: ** [REDACTED] ** Senior Vice President, Engineering, Gas Supply and Operations Services Phone No. ** [REDACTED] ** Fax No. (Cell)
<u>Drug and Alcohol Testing Program Contacts</u> ☐ N/A	
Drug Program Contact & Phone: ** [REDACTED] ** Alcohol Program Contact & Phone: ** [REDACTED] **	

1 Photo documentation

Pipeline Failure Investigation Report Checklist

<i>Damages</i>			
Product/Gas Loss or Spill ⁽²⁾ 130 MCF	Estimated Property Damage \$ 175,915		
Amount Recovered	Associated Damages ⁽³⁾ \$ 500		
Estimated Amount \$ 825	Total Cost 177,240		
Description of Property Damage: Spire mini-excavator; Spire fire suit; above-grade components of Spire regulator station #152; telephone pole			
Customers out of Service: ☒ Yes ☐ No Number: 16 Suppliers out of Service: ☐ Yes ☒ No Number:			

<i>Fatalities and Injuries</i> <u> </u> N/A					
Fatalities: ☐ Yes ☒ No	Company:	Contractor:	Public:		
Injuries - Hospitalization: ☒ Yes ☐ No	Company: X	Contractor:	Public:		
Injuries - Non-Hospitalization: ☒ Yes ☐ No	Company: X	Contractor:	Public:		
Total Injuries (including Non-Hospitalization): 3	Company: 3	Contractor:	Public:		
Name	Job Function	Yrs. w/ Comp.	Yrs. Exp.	Type of Injury	
** [REDACTED] **	Machine Operator	3.6	0.37	** [REDACTED] **	
** [REDACTED] **	Service person	17.7	14.6	** [REDACTED] **	
** [REDACTED] **	Working Foreman - Maintenance	4.1	0.67	** [REDACTED] **	

<i>Drug/Alcohol Testing</i> <u> </u> N/A					
Were all employees that could have contributed to the incident, post-accident tested within the 2 hour time frame for alcohol or the 32 hour time frame for all other drugs? ☐ Yes ☒ No					
Job Function	Test Date & Time	Location	Results		Type of Drug
			Pos	Neg	
** [REDACTED] **	4/22/25 10:12 pm	Quest Diagnostics, Collection Site 64532		X	
** [REDACTED] **	4/22/25 9:34 pm	Quest Diagnostics, Collection Site 64132		X	

2 Initial volume lost or spilled

3 Including cleanup cost

Pipeline Failure Investigation Report Checklist

System Description
Describe the Operator's System: The damage occurred on a 10-inch steel main in a distribution feeder line system that transports gas to several district regulator stations supplying distribution systems in the Kansas City area. The MAOP of the distribution feeder line system is 150 psig and it was operating at approximately 130 psig when the incident occurred.

Pipe Failure Description		___ N/A
Length of Failure (inches, feet, miles): 0.5" hole from 1-inch nipple (PHMSA F7100.1 entry in Part C at Leak Type) (1)		
Position (Top, Bottom, include position on pipe, 6 O'clock): ⁽¹⁾ Damaged fitting at top of 10-inch steel main, 12 O'clock.	Description of Failure (Corrosion Gouge, Seam Split): ⁽¹⁾ Crack in pipe at base of fitting	
Laboratory Analysis: ___ Yes <u>X</u> No		
Performed by:		
Preservation of Failed Section or Component: <u>X</u> Yes ___ No		
If Yes - Method: Evidence storage		
In Custody of: Spire Missouri West		
Develop a sketch of the area including distances from roads, houses, stress inducing factors, pipe configurations, direction of flow, etc. Bar Hole Test Survey Plot, if included, should be outlined with concentrations at test points.		

Component Failure Description		___ N/A
Component Failed:	Fitting (1-inch drilling nipple) welded to top of 10-inch steel main (1)	
Manufacturer: Unknown	Model: Unknown	
Pressure Rating: Unknown	Size: 1-inch	
Other (Breakout Tank, Underground Storage): NA		

Pipe Data		___ N/A
Material: Steel	Wall Thickness/SDR: 0.247 inches	
Diameter (O.D.): 10-inch	Installation Date: 1929	
SMYS: Unknown	Manufacturer: Unknown	
Longitudinal Seam: ERW	Type of Coating: Bare steel pipe (no coating)	
Pipe Specifications (API 5L, ASTM A53, etc.): Unknown		

Joining		___ N/A
Type: Fitting welded to top of 10-inch main	Procedure: Fillet	
NDT Method: NA for fitting	Inspected: ___ Yes <u>X</u> No (Unknown)	

Pressure @ Time of Failure @ Failure Site		___ N/A
Pressure @ Failure Site: 130.2 psig	Elevation @ Failure Site: About 610' above sea level	

Pipeline Failure Investigation Report Checklist

Pressure @ Time of Failure @ Failure Site N/A				
Pressure Readings @ Various Locations: N/A			Direction from Failure Site	
Location/M.P./Station #	Pressure (psig)	Elevation (ft msl)	Upstream	Downstream

Upstream Pump Station Data X N/A	
Type of Product:	API Gravity:
Specific Gravity:	Flow Rate:
Pressure @ Time of Failure ⁽⁴⁾	Distance to Failure Site:
High Pressure Set Point:	Low Pressure Set Point:

Upstream Compressor Station Data X N/A	
Specific Gravity:	Flow Rate:
Pressure @ Time of Failure ⁽⁴⁾	Distance to Failure Site:
High Pressure Set Point:	Low Pressure Set Point:

Operating Pressure N/A	
Max. Allowable Operating Pressure: 150 psig	Determination of MAOP: 192.619(a)(3)
Actual Operating Pressure: 130 psig	
Method of Over Pressure Protection: Monitor regulator at inlet station to west and monitor regulator at inlet station to east – two way feed with SCADA at each inlet station to monitor pressure.	
Relief Valve Set Point: No relief valve, monitor regulator	Capacity Adequate? ☐ Yes ☐ No (NA - no relief)

Integrity Test After Failure N/A	
Pressure test conducted in place? (Conducted on Failed Components or Associated Piping): ☒ Yes ☐ No	
If No, tested after removal? ☐ Yes ☐ No	
Method: Soap test of welded repair sleeve	
Describe any failures during the test: No failure.	

Soil/water Conditions @ Failure Site N/A	
Condition of and Type of Soil around Failure Site (Color, Wet, Dry, Frost Depth): No soil around pipe at failure site; gravel backfill was around the fitting and pipe at the failure site that was in an excavation to repair a water main leak.	
Type of Backfill (Size and Description): Gravel fill by Kansas City Water Division.	
Type of Water (Salt, Brackish): Normal groundwater plus water from water main leak,	Water Analysis ⁽⁵⁾ ☐ Yes ☒ No

External Pipe or Component Examination N/A	
--	--

4 Obtain event logs and pressure recording charts

5 Attach copy of water analysis report

Pipeline Failure Investigation Report Checklist

External Pipe or Component Examination N/A	
External Corrosion? ☐ Yes ☒ No ⁽¹⁾	Coating Condition (Disbonded, Non-existent): ⁽¹⁾ Non-existent (bare steel)
Description of Corrosion: N/A	
Description of Failure Surface (Gouges, Arc Burns, Wrinkle Bends, Cracks, Stress Cracks, Chevrons, Fracture Mode, Point of Origin): Crack in pipe at base of fitting.	
Above Ground: ☐ Yes ☒ No ⁽¹⁾	Buried: ☒ Yes ☐ No ⁽¹⁾
Stress Inducing Factors: Backhoe bucket tooth ⁽¹⁾	Depth of Cover: Main – 32 inches; fitting – 30 inches ⁽¹⁾

Cathodic Protection N/A	
P/S (Surface): -0.98 V	P/S (Interface): No soil at interface – in excavation.
Soil Resistivity: Unknown pH: Unknown	Date of Installation: Rectifier installed on July 20, 2010
Method of Protection: Rectifier	
Did the Operator have knowledge of Corrosion before the Incident? ☐ Yes ☒ No	
How Discovered? (Close Interval Survey, Instrumented Pig, Annual Survey, Rectifier Readings, ECDA, etc): NA - Cathodic protection was adequate with no corrosion leaks or anomalies requiring repair.	

Internal Pipe or Component Examination N/A	
Internal Corrosion: ☐ Yes ☒ No ⁽¹⁾	Injected Inhibitors: ☐ Yes ☒ No
Type of Inhibitors: N/A	Testing: ☐ Yes ☒ No
Results (Coupon Test, Corrosion Resistance Probe): Visual inspection of fitting – no internal corrosion.	
Description of Failure Surface (MIC, Pitting, Wall Thinning, Chevrons, Fracture Mode, Point of Origin): N/A	
Cleaning Pig Program: ☐ Yes ☒ No	Gas and/or Liquid Analysis: ☐ Yes ☒ No
Results of Gas and/or Liquid Analysis ⁽⁶⁾ N/A	
Internal Inspection Survey: ☐ Yes ☒ No	Results ⁽⁷⁾ N/A
Did the Operator have knowledge of Corrosion before the Incident? ☐ Yes ☒ No	
How Discovered? (Instrumented Pig, Coupon Testing, ICDA, etc.): N/A	

Outside Force Damage N/A

6 Attach copy of gas and/or liquid analysis report

7 Attach copy of internal inspection survey report

Pipeline Failure Investigation Report Checklist

Outside Force Damage		<u> </u> <i>N/A</i>
Responsible Party: Kansas City Water		Telephone No.: (816) 513-1313
Address: 4800 East 63 rd Street, Kansas City, Missouri		
Work Being Performed: Repair of water main leak		
Equipment Involved: Backhoe ⁽¹⁾	Called One Call System? ☒ Yes ☐ No	
One Call Name: Missouri 811	One Call Report # ⁽⁸⁾ 251045717	
Notice Date: 4/14/25	Time: 9:34 pm	
Response Date: 4/16/25	Time: 11:00 am	
Details of Response: Ticket 251045717 indicated work was to begin at 7:00 am on 4/17/25, so the locate was completed on-time.		
Was Location Marked According to Procedures? ☒ Yes ☐ No		
Pipeline Marking Type: Paint & flags ⁽¹⁾	Location: 259' South of South Pavement Edge (SSPE) of E. 95th Terrace, and 1' East of East Pavement Edge (EEPE) of Grandview Road ⁽¹⁾	
State Law Damage Prevention Program Followed? ☒ Yes ☐ No ☐ No State Law		
Notice Required: ☒ Yes ☐ No		Response Required: ☒ Yes ☐ No
Was Operator Member of State One Call? ☒ Yes ☐ No		Was Operator on Site? ☐ Yes ☒ No
Did a deficiency in the Public Awareness Program contribute to the accident? ☐ Yes ☒ No		
Is OSHA Notification Required? ☐ Yes ☒ No		

Natural Forces	<u> X </u> <i>N/A</i>
Description (Earthquake, Tornado, Flooding, Erosion):	

Failure Isolation		<u> </u> <i>N/A</i>
Squeeze Off/Stopple Location and Method: N/A		⁽¹⁾
Valve Closed - Upstream: Time: 7:50 p.m.	I.D.: VLV001287430 - Bannister Rd and 71 Highway M.P.:	
Valve Closed - Downstream: Time: 7:24 p.m.	I.D.: VLV001288678 - 3305 Red Bud Rd M.P.:	
Pipeline Shutdown Method: ☒ Manual ☐ Automatic ☐ SCADA ☐ Controller ☐ ESD		
Failed Section Bypassed or Isolated: Isolated		
Performed By: Spire P&M department	Valve Spacing: 0.8 miles	

8 Attach copy of one-call report

Pipeline Failure Investigation Report Checklist

Odorization N/A	
Gas Odorized: ☒ Yes ☐ No	Concentration of Odorant (Post Incident at Failure Site): 0.26
Method of Determination: ☒ Yes ☐ No	% LEL: ☐ Yes ☒ No % Gas In Air: ☒ Yes ☐ No
Odorator II	Time Taken: ☐ Yes ☒ No
Was Odorizer Working Prior to the Incident? ☒ Yes ☐ No	Type of Odorizer (Wick, By-Pass): YZ Injection
Odorant Manufacturer: Model: YZ Odorizer	Type of Odorant: Mercaptan
Amount Injected: Unknown	Monitoring Interval (Weekly): Monthly
Odorization History (Leaks Complaints, Low Odorant Levels, Monitoring Locations, Distances from Failure Site): To Spire's knowledge, there have been no odorization issues near this site leading up to this incident. For the KC South system, monitoring locations are at 18th & Indiana, 64th and Belmont, Richard Gebaur airbase, 9800 Holmes, 107th & Elm, 107th & Greenwood and 12613 Grandview Road. Monitoring post-incident was on 4/29/2025, with 0.26% gas-in-air reading at 9800 Holmes (2 miles from failure site).	

Weather Conditions N/A	
Temperature: 78 °F	Wind (Direction & Speed): South 12 mph
Climate (Snow, Rain): No precipitation	Humidity: 37-38%
Was Incident preceded by a rapid weather change? ☐ Yes ☒ No	
Weather Conditions Prior to Incident (Cloud Cover, Ceiling Heights, Snow, Rain, Fog): Winds had reached 18 mph about 4 hours prior to the incident. *Information gathered using historical data from www.wunderground.com	

Gas Migration Survey X N/A	
Bar Hole Test of Area: ☐ Yes ☐ No	Equipment Used:
Method of Survey (Foundations, Curbs, Manholes, Driveways, Mains, Services) ⁽⁹⁾ (1)	

Environment Sensitivity Impact X N/A	
Location (Nearest Rivers, Body of Water, Marshlands, Wildlife Refuge, City Water Supplies that could be or were affected by the medium loss): (1)	
OPA Contingency Plan Available? ☐ Yes ☐ No	Followed? ☐ Yes ☐ No

Class Location/High Consequence Area N/A	
Class Location: 1 ☐ 2 ☐ 3 ☒ 4 ☐	HCA Area? ☐ Yes ☐ No ☒ N/A
Determination: City residential area	Determination:
Odorization Required? ☒ Yes ☐ No ☐ N/A	

9 Plot on site description page

Pipeline Failure Investigation Report Checklist

<i>Pressure Test History</i> <u>X</u> N/A						
<i>(Expand List as Necessary)</i>						
	Req'd ⁽¹⁰⁾ Assessment Deadline Date	Test Date	Test Medium	Pressure (psig)	Duration (hrs)	% SMYS
Installation	N/A					
Next						
Next						
Most Recent						
Describe any problems experienced during the pressure tests.						

<i>Internal Line Inspection/Other Assessment History</i> <u>X</u> N/A					
<i>(Expand List as Necessary)</i>					
	Req'd ⁽¹⁰⁾ Assessment Deadline Date	Assessment Date	Type of ILI Tool ⁽¹¹⁾	Other Assessment Method ⁽¹²⁾	Indicated Anomaly If yes, describe below
Initial					__ Yes __ No
Next					__ Yes __ No
Next					__ Yes __ No
Most Recent					__ Yes __ No
Describe any previously indicated anomalies at the failed pipe, and any subsequent pipe inspections (anomaly digs) and remedial actions.					

<i>Pre-Failure Conditions and Actions</i> <u>X</u> N/A	
Was there a known pre-failure condition requiring ⁽¹⁰⁾ the operator to schedule evaluation and remediation? __ Yes (describe below or on attachment) __ No	
If there was such a known pre-failure condition, had the operator established and adhered to a required ⁽¹⁰⁾ evaluation and remediation schedule? Describe below or on attachment. __ Yes __ No __ N/A	
Prior to the failure, had the operator performed the required ⁽¹⁰⁾ actions to address the threats that are now known to be related to the cause of this failure? __ Yes __ No __ N/A	
List below or on an attachment such operator-identified threats, and operator actions taken prior to the accident.	
Describe any previously indicated anomalies at the failed pipe, and any subsequent pipe inspections (anomaly digs) and remedial actions.	

<i>Maps & Records</i> <u> </u> N/A
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10 As required of Pipeline Integrity Management regulations in 49CFR Parts 192 and 195

11 MFL, TFI, UT, Combination, Geometry, etc.

12 ECDA, ICDA, SCCDA, "other technology," etc.

Pipeline Failure Investigation Report Checklist

Are Maps and Records Current? ⁽¹³⁾ ☒ X Yes ☐ No Comments:
--

Leak Survey History	<u> X </u> N/A
Leak Survey History (Trend Analysis, Leak Plots):	

Pipeline Operation History	<u> </u> N/A
Description (Repair or Leak Reports, Exposed Pipe Reports): No prior repairs or leak reports at failure location (corrosion repair 0.5 miles to west in 2017). No prior exposed pipe reports at failure site (7 exposed pipe reports at 0.1 to 0.2 miles to east in 2018 – each marked “Good”).	
Did a Safety Related Condition Exist Prior to Failure? ☐ Yes ☒ X No Reported? ☐ Yes ☐ No	
Unaccounted For Gas: N/A for this distribution feeder line. (Unaccounted gas for entire Spire West was 1.69% in annual report for 2024.)	
Over & Short/Line Balance (24 hr., Weekly, Monthly/Trend): N/A for this distribution feeder line.	

Operator/Contractor Error		<u> </u> N/A
Name: 1) ** [REDACTED] ** 2) ** [REDACTED] **	Job Function: 1) Machine Operator 2) Foreman	
Title: 1) Machine Operator 2) Working Foreman	Years of Experience: 1) 3.6 (total); 0.37 (operator) 2) 4.1(total); 0.67 (working foreman).	
Training (Type of Training, Background): 1) Background: 3.7 years of experience. Training: Completed OQ tasks for excavation and leak repair. Completed annual reviews of emergency procedures. 2) Background: 4.1 years of experience. Training: Completed OQ tasks for excavation and leak repair. Completed annual reviews of emergency procedures.		
Was the person “Operator Qualified” as applicable to a precursor abnormal operating condition? ☒ X Yes ☐ No ☐ N/A		
Was qualified individual suspended from performing covered task ☐ Yes ☒ X No ☒ X N/A – Employee 1 didn’t return to work due to injuries.		
Type of Error (Inadvertent Operation of a Valve): Causing an accidental ignition during excavation for a pipe repair		
Procedures that are required: Emergency Response and Prevention of Accidental Ignition		
Actions that were taken: 1) Operating excavation equipment downwind in the presence of blowing gas 2) Advised KC Water personnel to move their excavation equipment in the vicinity (adjacent upwind) of blowing gas		
Pre-Job Meeting (Construction, Maintenance, Blow Down, Purging, Isolation): N/A emergency response		
Prevention of Accidental Ignition (Tag & Lock Out, Hot Weld Permit): N/A emergency response		
Procedures conducted for Accidental Ignition: Prevention of Accidental Ignition Standard Operating Procedure (SOP) Document number 230.H.4		
Was a Company Inspector on the Job? ☐ Yes ☒ X No		

13 Obtain copies of maps and records

Pipeline Failure Investigation Report Checklist

Operator/Contractor Error					<u> </u> N/A
Was an Inspection conducted on this portion of the job? <u> </u> Yes <u> X </u> No					
Additional Actions (Contributing factors may include number of hours at work prior to failure or time of day work being conducted):					
Training Procedures: OQ Plan – MO West-MO East Revised 2/18/2025; Emergency procedures – annual review.					
Operation Procedures: 1) Emergency Response - SOP 220.D.7 2) Prevention of Accident Ignition – SOP 230.H.4					
Controller Activities: N/A					
Name	Title	Years Experience	Hours on Duty Prior to Failure	Shift	
Alarm Parameters: Nearest SCADA point at 9800 Holmes: Low alarm at 100 psig and Low-Low at 95 psig. SCADA pressure prior to event was 130.6 psig and after event was 130.2 psig – no alarm activated.					
High/Low Pressure Shutdown: No shutdown by SCADA.					
Flow Rate: NA					
Procedures for Clearing Alarms: NA					
Type of Alarm: NA					
Company Response Procedures for Abnormal Operations: NA					
Over/Short Line Balance Procedures: N/A					
Frequency of Over/Short Line Balance: N/A					
Additional Actions:					

Pipeline Failure Investigation Report Checklist

<i>Additional Actions Taken by the Operator</i> ___N/A
Make notes regarding the emergency and Failure Investigation Procedures (Pressure reduction, Reinforced Squeeze Off, Clean Up, Use of Evacuators, Line Purging, closing Additional Valves, Double Block and Bleed, Continue Operating downstream Pumps): Emergency procedures after ignition: Closed valves to east and west of failure location to isolate and depressurize the involved pipeline segment. After gas depressurized and fire extinguished, repairs were made. Pipeline segment was purged and pressurized, and service to affected customers was re-established. Post Incident Review was conducted on December 15, 2025, and PIR Report was provided to Staff on February 6, 2026 in response to Data Request 9. Root Cause Analysis was conducted after PIR and results were provided to Staff on March 6, 2026 in response to Data Request 19.

<i>Photo Documentation ⁽¹⁾</i>			
Overall Area from best possible view. Pictures from the four points of the compass. Failed Component, Operator Action, Damages in Area, Address Markings, etc.			
Photo No.	Description	Photo No.	Description
1	Damaged fitting on main	16	
2	Damaged fitting after removal	17	
3	Photos of fitting at storage	18	
4	Photos of Spire mini-excavator and repair	19	
5	Photos of damaged power pole and line marker	20	
6	Photo of KC Water Dept. backhoe	21	
7	View looking south at gas fire	22	
8	View looking north with nearby regulator station	23	
9		24	
10		25	
11		26	
12		27	
13		28	
14		29	
15		30	
Camera Type:			

Pipeline Failure Investigation Report Checklist

<i>Additional Information Sources</i>			
Agency	Name	Title	Phone Number
Police:	Kansas City		
Fire Dept.:	Kansas City		
State Fire Marshall:	No		
State Agency:	Missouri PSC		
NTSB:	No		
EPA:	No		
USCG:	No		
FBI:	No		
ATF:	No		
OSHA:	No		
Insurance Co.:	No		
FRA:	No		
MMS:	No		
Television:	No		
Newspaper:	No		
Other:	Kansas City Water		

<i>Persons Interviewed</i>		
Name	Title	Phone Number
** [REDACTED] **	Damage Prevention Coordinator	
** [REDACTED] **	Civic Improvement Inspector	
** [REDACTED] **	Supervisor of Field Operations	
** [REDACTED] **	Serviceperson	
** [REDACTED] **	Manager of Field Operations	
** [REDACTED] **	Claims Specialist	
** [REDACTED] **	Leak & Maintenance Specialist for Field Operations	
** [REDACTED] **	Manager of Gas Operations	
** [REDACTED] **	Kansas City Water General Supervisor	
** [REDACTED] **	Kansas City Water Maintenance Worker	
** [REDACTED] **	Kansas City Water Senior Equipment Operator	
** [REDACTED] **	Working Foreman	

Pipeline Failure Investigation Report Checklist

<i>Event Log</i>	
Sequence of events prior, during, and after the incident by time. (Consider the events of all parties involved in the incident, Fire Department and Police reports, Operator Logs and other government agencies.)	
Time / Date	Event
9:35 pm/ 4-14-25	The third-party excavator submitted a locate request to Missouri 811, ticket #251045717.
11:00 pm/ 4-16-25	The locate was accurately completed by ** [REDACTED] **.
3:30 pm/ 4-21-25	The Civic Improvement Inspector ** [REDACTED] ** contacted the excavator and asked when work would begin adjacent to Spire's gas main. The excavator informed him this work would not begin until sometime on the following date.
12:00 pm/ 4-22-25	The Civic Improvement Inspector contacted the excavator and was informed work had already begun adjacent to Spire's main.
1:07 pm/ 4-22-25	The Civic Improvement Inspector arrived on site, where work by a third-party excavator, KC Water Company, was already in progress.
5:06 pm/ 4-22-25	** [REDACTED] ** left the site while the excavator was backfilling an excavation.
5:10 pm/ 4-22-25	While backfilling, the excavator damaged a 10-inch steel pipe and fitting (1 inch nipple) and observed a hissing sound.
5:17 pm/ 4-22-25	The excavator called ** [REDACTED] ** and informed him of the damage to Spire's gas main.
5:18 pm/ 4-22-25	The excavator notified Work Plan Execution (Spire dispatch) of the damage.
5:20 pm/ 4-22-25	** [REDACTED] ** notified Leak and Maintenance (L&M) Supervisor ** [REDACTED] ** of the damage.
5:23 pm/ 4-22-25	** [REDACTED] ** notified the first L&M crew to respond to the damage.
5:25 pm/ 4-22-25	The fire department notified Spire dispatch that 911 had already been called by the excavator, requested Spire to arrive on site, and began setting up a restricted zone.
5:28 pm/ 4-22-25	The fire department arrived.
5:31 pm/ 4-22-25	** [REDACTED] ** notified Gas Ops Manager ** [REDACTED] ** of the damage and requested Pressure & Measurement (P&M) assistance to isolate the area of the damage.
5:36 pm/ 4-22-25	The first L&M crew (Working Foreman ** [REDACTED] ** and Machine Operator ** [REDACTED] **) arrived on site.
5:42 pm/ 4-22-25	Serviceperson ** [REDACTED] ** arrived.
5:44 pm/ 4-22-25	Field Ops Manager ** [REDACTED] ** contacted ** [REDACTED] ** to discuss a plan of action, including potentially isolating and closing two valves, exposing/uncovering the damaged fitting, installing a circle band clamp and a pumpkin fitting.
5:48 pm/ 4-22-25	** [REDACTED] ** returned to the site.
5:52 pm/ 4-22-25	** [REDACTED] ** was holding a fire extinguisher and standing upwind of the excavation. ** [REDACTED] ** was downwind of the blowing gas while operating a mini excavator immediately adjacent to the excavation.
5:57 pm/ 4-22-25	Ignition occurred.
6:02 pm/ 4-22-25	The excavator called 911. Police were dispatched to site.
6:07 pm/ 4-22-25	The second L&M crew arrived.
6:10 pm/ 4-22-25	** [REDACTED] **
6:40 pm/ 4-22-25	Pipeline Safety Distribution Manager ** [REDACTED] ** notified the Missouri Public Service Commission.
7:00 pm/ 4-22-25	** [REDACTED] **
7:24 pm/ 4-22-25	P&M Operator ** [REDACTED] ** arrived at the 3305 Red Bud Road valve location #VLV001288678 and closed the valve.

Pipeline Failure Investigation Report Checklist

<i>Event Log</i>	
Sequence of events prior, during, and after the incident by time. (Consider the events of all parties involved in the incident, Fire Department and Police reports, Operator Logs and other government agencies.)	
7:38 pm/ 4-22-25	Distribution, Integrity & Engagement Manager ** [REDACTED] ** notified the National Response Center.
7:38 pm/ 4-22-25	P&M Operator ** [REDACTED] ** arrived at the Bannister Road and U.S. Highway 71 valve location #VLV001287430 and closed the valve.
8:09 pm/ 4-22-25	The third L&M crew arrived.
8:37 pm/ 4-22-25	Spire submitted an emergency locate request to Missouri 811, ticket #251125457.
8:50 pm/ 4-22-25	Fire at damage location was extinguished and the site was made gas safe by installing a circle band clamp.
8:50 pm/ 4-22-25	Spire worked with police and firefighters to help make the site safe.
8:55 pm/ 4-22-25	Spire personnel began performing leak surveys in the area.
8:57 pm/ 4-22-25	The Missouri Public Service Commission arrived.
9:20 pm/ 4-22-25	The permanent repair process began.
9:32 pm/ 4-22-25	The excavator notified Missouri 811 of the damage to Spire's main (dig-up #251125528).
9:34 pm/ 4-22-25	** [REDACTED] **
10:12 pm/ 4-22-25	** [REDACTED] **
11:30 pm/ 4-22-25	The third shift crew arrived.
2:43 am/ 4-23-25	Permanent repairs were completed.
1:32 pm/ 4-23-25	OSHA was notified by Senior Safety Specialist ** [REDACTED] ** of the hospitalization of ** [REDACTED] **
4:36 pm/ 4-23-25	Leak surveys completed.
6:32 pm/ 4-23-25	The re-lights of the affected customers began.
9:36 pm/ 4-23-25	The re-lights were completed (where possible).
3:34 pm/ 4-24-25	48-hour update to NRC provided, NRC #1429366.

Pipeline Failure Investigation Report Checklist

Investigation Contact Log			
Time	Date	Name	Description
8:03PM	4/22/25	** [REDACTED] **	• Received call from ** [REDACTED] ** requesting me to travel to incident site at 9509 Grandview Rd. ** [REDACTED] ** (Spire) included on the call and gave further details: ○ Damage to pipe ○ There was an ignition ○ Potential flash fire burn to Spire employee, who was assessed by an EMT and transported to hospital.
8:57 PM	4/22/25	** [REDACTED] **	• Arrived on-site at 8:57PM – received verbal situation report from ** [REDACTED] **: ○ Address near to damage is 9509 Grandview Rd., Kansas City, MO 64137 ○ Dispatch first received info of damage to the line at 5:27PM ▪ KC Water reports cap blown off main which is hissing ○ 6:08PM – Spire first receives notification that there was an injury ○ ~6:40PM – initial notification to ** [REDACTED] ** ○ 7:38PM – NRC report after determined that injuries may require in-patient hospitalization ○ 150 psig MAOP; 10" steel

Pipeline Failure Investigation Report Checklist

Investigation Contact Log			
Time	Date	Name	Description
9:10 PM	4/22/25	** [REDACTED] **	• Observations: ○ KCPD and KCFD on-scene ○ Power cut to area upon arrival ○ Spire reports Evergy originally had outage of ~200 customers, currently understood to be around 20 customers ○ Spire reports around 10-20 customers out for them ○ Spire reports 10" line is valved off in two locations to isolate the line, however there appears to be some bleed by ○ Observed Spire employees checking for gas in the area with CGIs ○ Spire working to excavate the damaged section of the line before determining how to repair • Spire Damage Prevention dept. ** [REDACTED] ** reports that ** [REDACTED] ** (Spire Civic Improvement Inspector) was on-site to observe KC Water excavating near the 10" line for a few hours, and understands that line was damaged during KC Water's backfilling, at which point ** [REDACTED] ** was no longer on-site. • Observed damage visually: ○ Appeared to be damage to a 1"-2" diameter nipple coming off the top of the 10" line, damage appeared to be at the connection weld between the nipple and the 10" line ○ No photos taken due to gas in air • At 10:30 Spire's plan was to weld a bottle fitting over the damaged portion of the line to encapsulate the damage. • Departed site around 11PM

Pipeline Failure Investigation Report Checklist

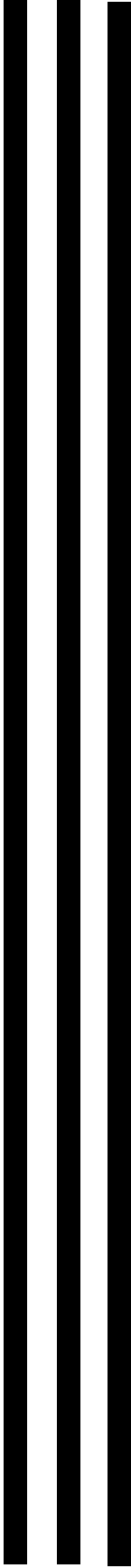
Investigation Contact Log			
Time	Date	Name	Description
12 AM	4/23/25		Received phone update from ** [REDACTED] ** around 12AM reporting that due to them not being able to stop bleed-by gas, they now plan to use a bolt-on clamp/sleeve to stop gas leakage and then will weld a full encapsulating pumpkin around the damage as a permanent repair.
10 AM	4/23/25	** [REDACTED] **	- Observed completed repair, included a welded full encapsulating pumpkin. - Pumpkin welds were reported to be tested with mag particle NDT - At 10:28AM Spire personnel took a pressure reading on the 10" line and it was at 39psig - Spire reporting that 10-20 customers out of service still ** [REDACTED] ** ** [REDACTED] ** gave two names for welders who completed the repair (** [REDACTED] **)

Failure Investigation Documentation Log				
Operator: Spire Missouri		Unit #:	CPF #:	Date:
Staff Data Request Number	Documentation Description	Date	FOIA	
		Received	Yes	No
Data Request 0001.0	Narrative Description of Incident	6/6/25		
Data Request 0001.1	Damaged Fitting Information	7/1/25		
Data Request 0001.2	Damaged Fitting Photograph and Information	7/1/25		
Data Request 0001.3	Incident Photographs	7/1/25		
Data Request 0002.0	Pipeline Information	6/6/25		
Data Request 0003.0	Emergency Plan	6/6/25		
Data Request 0007.0	Post Incident Drug and Alcohol Testing 49 CFR 199.105(b) and .221	6/6/25		
Data Request 0008.0	Operator Qualification 20 CSR 4240-40.030(12)(D)	6/6/25		
Data Request 0009.0	Failure Investigation – Final Post Incident Review	2/6/26		
Data Request 0010.0	Incident Notifications 20 CSR 4240-40.020	6/6/25		
Data Request 0012.0	Prevention of Accidental Ignition 20 CSR 4240-40.030(13)(X)	6/6/25		
Data Request 0013.0	Isolation of Gas Flow	6/6/25		

Pipeline Failure Investigation Report Checklist

<i>Failure Investigation Documentation Log</i>				
Operator: Spire Missouri		Unit #:	CPF #:	Date:
Staff Data Request Number	Documentation Description	Date Received	FOIA	
			Yes	No
Data Request 0014.0	Fire Department Report	8/26/25		
Data Request 0015.0	Police Department Report	8/26/25		
Data Request 0016.0	Damage Prevention Program Standard Operating Procedure	8/26/25		
Data Request 0019.0	Root Cause Analysis	3/6/26		
Data Request 0021.0	Injuries	11/5/25		
Data Request 0023.0	Pipe Failure Description (sketch of the area)	10/9/25		
Data Request 0024.0	Pipe Data	10/9/25		
Data Request 0025.0	Exposed Pipe Report	10/9/25		
Data Request 0026.0	Odorization	10/9/25		
Data Request 0027.0	Operator Qualification for Repairing Pipe	10/9/25		
Data Request 0028.0	Additional Actions Taken by the Operator	3/6/26		
Data Request 0032.0	Pressure System	1/15/26		
Data Request 0033.0	Cathodic protection	1/15/26		
Data Request 0034.0	Pipeline Operation History	1/15/26		
Data Request 0036.0	Pressure System Monitoring	1/13/26		
Other Documents				
MO 811 #251045717	Missouri 811 Ticket	10/28/25		
NRC#1429178	NRC notice on April 22, 2025 (public version)	10/27/25		
NRC#1429366	NRC notice on April 24, 2025 (public version)	10/27/25		
PHMSA F7100.1	Incident Report	5/22/25		

<i>Site Description</i>
Provide a sketch of the area including distances from roads, houses, stress inducing factors, pipe configurations, etc. Bar Hole Test Survey Plot should be outlined with concentrations at test points. Photos should be taken from all angles with each photo documented. Additional areas may be needed in any area of this guideline.



MISSOURI PUBLIC SERVICE COMMISSION

STAFF'S GAS INCIDENT REPORT

**Grandview Road
Kansas City, MO
April 22, 2025**

APPENDIX B

Failure Investigation Report (FIR)

Spire Missouri, Inc.

Case No. GS-2025-0295

*Industry Analysis Division
Safety Engineering Department
April 30, 2026 - Jefferson City, Missouri*

Appendix B

Failure Investigation Report (FIR)

Principal Investigators Missouri PSC – ** [REDACTED] **
responded to incident site on April 22 and 23, 2025.
Date of Report 04/28/2026
Subject Failure Investigation Report – Spire Missouri West – Third Party Damage

Operator, Location, and Consequences

Date of Failure - April 22, 2025

Commodity Released - Natural Gas

City, County, State – Kansas City, Jackson, MO

OpID and Operator Name – Spire Missouri West, #30769 (“Spire”)

Milepost / Location – 9509 Grandview Rd, Kansas City, MO

Type of Failure – Leak at damaged fitting on top of 10-inch steel main; escaping gas ignited during Spire’s emergency response.

Fatalities – 0

Injuries – 3

Description of the Impacted Area – Class 3 Location, city residential area; open excavation in street.

Total Costs - \$177,240 per PHMSA F7100.1

Executive Summary

On April 22, 2025, the Kansas City Missouri Water Department was backfilling a water main repair excavation and damaged a 10-inch steel gas main operating at 130 psig, resulting in blowing gas. Spire emergency response personnel used excavation equipment in the vicinity of the blowing gas and an ignition occurred, resulting in injuries to Spire personnel. The emergency response by Spire personnel was inadequate and did not prevent accidental ignition of the blowing gas. Contributing factors to the excavation damage were the absence of the Spire inspector who had been present earlier that day during excavation activities to remove soil for a water main repair and unsafe digging practices by Kansas City Water when backfilling with a backhoe next to the 10-inch steel main. Contributing factors to the ignition were Spire emergency response personnel did not test the atmosphere where the engine-driven machinery was being operated, did not halt the work when an unsafe condition was present prior to ignition, and did not communicate with supervisory personnel who were planning to close valves and depressurize the pipeline.

System Details

Spire Missouri Inc. (“Spire”) operates the natural gas distribution system in the City of Kansas City. The damage occurred on a 10-inch steel main (installed in 1929) in a distribution feeder line system that transports gas to several district regulator stations supplying distribution systems in the Kansas City area. The MAOP of the distribution feeder line system is 150 psig and it was operating at approximately 130 psig when the incident occurred.

Events Leading Up to the Failure

On April 14, 2025, the Kansas City Missouri Water Department requested that buried utilities be marked to repair a water main in the vicinity of a high pressure 10-inch steel main operated by Spire in Kansas City, Missouri. Spire indicated that the location had been marked by updating the ticket status as “Marked” at 11 am on April 16, 2025.

The excavation met multiple risk factors in Spire’s Damage Prevention Program for determining if Spire should observe excavation activities. These factors included ** [REDACTED]

[REDACTED] **. A Spire employee was on-site on April 22, 2025, to observe excavations during the water main repair, but departed prior to the backfilling work. A 1-inch fitting at the 12:00 position on the 10-inch steel natural gas pipeline was damaged by a backhoe bucket during backfilling at approximately 5:10 pm.

Emergency Response

Spire was notified at approximately 5:17 pm. Spire’s first responding personnel were a two-person Spire crew consisting of a machine operator and working foreman – they arrived at 5:36 pm and unloaded Spire’s excavation equipment near the damage location. A Spire serviceman arrived at 5:42 pm. Spire personnel instructed KC Water personnel to move the City’s excavation equipment away from the blowing gas, then Spire moved in its own mini-excavator and began excavating the backfill with the serviceman manning a fire extinguisher and the two-person crew wearing fire suits. The natural gas ignited during Spire’s excavation activities, resulting in severe burns to the Spire machine operator. The pipeline condition was made safe by closing two nearby valves. Three Spire employees were injured as a result of the incident; the machine operator was hospitalized for extended treatment. Notifications were made to NRC and Missouri PSC. (See Exhibits 2 and 3).

Summary of Return-to-service

Repair was completed by removing the damaged 1-inch fitting and welding on a permanent repair sleeve.

Investigation Details

Staff responded to the incident site and arrived at 8:57 pm on April 22, 2025. Staff observed that a steel fitting on top of the 10-inch steel main was damaged. No photograph was taken by Staff due to venting gas in the air at that location. (A photograph of the damaged fitting was later obtained from Spire – see Exhibit 1). The City’s backhoe bucket striking the fitting on top of the steel main was the probable cause of a fracture in the steel main next to the fitting weld. No lab analysis was performed on the fracture edge at the removed fitting. (Note: The fracture edge at the main was not accessible after containment inside a repair sleeve.)

The emergency response by Spire involved sending a Leak and Maintenance (L&M) two-person crew and a serviceman to the damage location and requesting Pressure and Measurement (P&M) personnel to isolate the damaged pipeline. ** [REDACTED]

[REDACTED] ** The serviceman on fire watch was located upwind of the blowing gas, but the Spire excavation equipment was downwind. The Spire L&M crew did not prevent accidental ignition in accordance with 49 CFR 192.751 [20 CSR 4240-40.030(13)(X)] because engine-driven machinery was used in the vicinity of blowing gas and the gas ignited.

The emergency response under 49 CFR 192.615 [20 CSR 4240-40.030(12)(J)] was inadequate because the Spire personnel operated engine-driven machinery in the vicinity of the blowing gas resulting in an ignition that resulted in injuries to the Spire personnel. Prior to the ignition, natural gas was escaping into the atmosphere and ignition sources were not kept away from the blowing gas until the pipeline could be valved off and depressurized. ** [REDACTED]

[REDACTED] **, but this information was not provided to the L&M crew before they started excavation – and the L&M crew did not consult supervision about an action plan before starting excavation.

SOP 110.C Stop Work Responsibility
SOP 220.C Damage Prevention Program
SOP 220.D Emergency Plan
SOP 220.L Hazardous Atmosphere
SOP 230.H Prevention of Accidental Ignition

- Case No. GS-2025-0295**
Appendix B, Page 4 of 5

Investigation Findings and Contributing Factors

The 3rd-party damage to the pipeline was caused by the excavator hitting a fitting on top of the natural gas main with a backhoe bucket while backfilling with gravel. The excavator did not follow safe digging practices during backfilling when moving gravel with mechanized equipment in immediate proximity to the natural gas main and fittings. A contributing factor was the absence of the Spire inspector who had been present earlier that day during excavation activities to remove soil for a water main repair, but left the site prior to the excavation activities to backfill the repair hole with gravel that were occurring at the time of the 3rd-party excavation damage. In response to Staff Data Request 0018 about whether Spire should have had a qualified representative on-site to observe the specific excavation activity of backfilling, Spire stated:

** [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] **

The natural gas escaping from the excavation damage was ignited when Spire personnel were operating engine-driven machinery in proximity to the blowing gas during the emergency response. A contributing factor is Spire personnel did not test the atmosphere where the engine-driven machinery was being operated. ** [REDACTED]
[REDACTED] ** did not follow the procedures in SOP 230.H Prevention of Accidental Ignition and SOP 220.L Hazardous Atmosphere.

Further contributing to the ignition is that the three Spire personnel working in the vicinity of blowing gas did not halt the work when an unsafe condition and hazard was present prior to the ignition. Spire SOP 110.C Stop Work Responsibility ** [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] **

Exhibits

Exhibit 1– Map and Photographs - Confidential

Exhibit 2 – NRC Reports

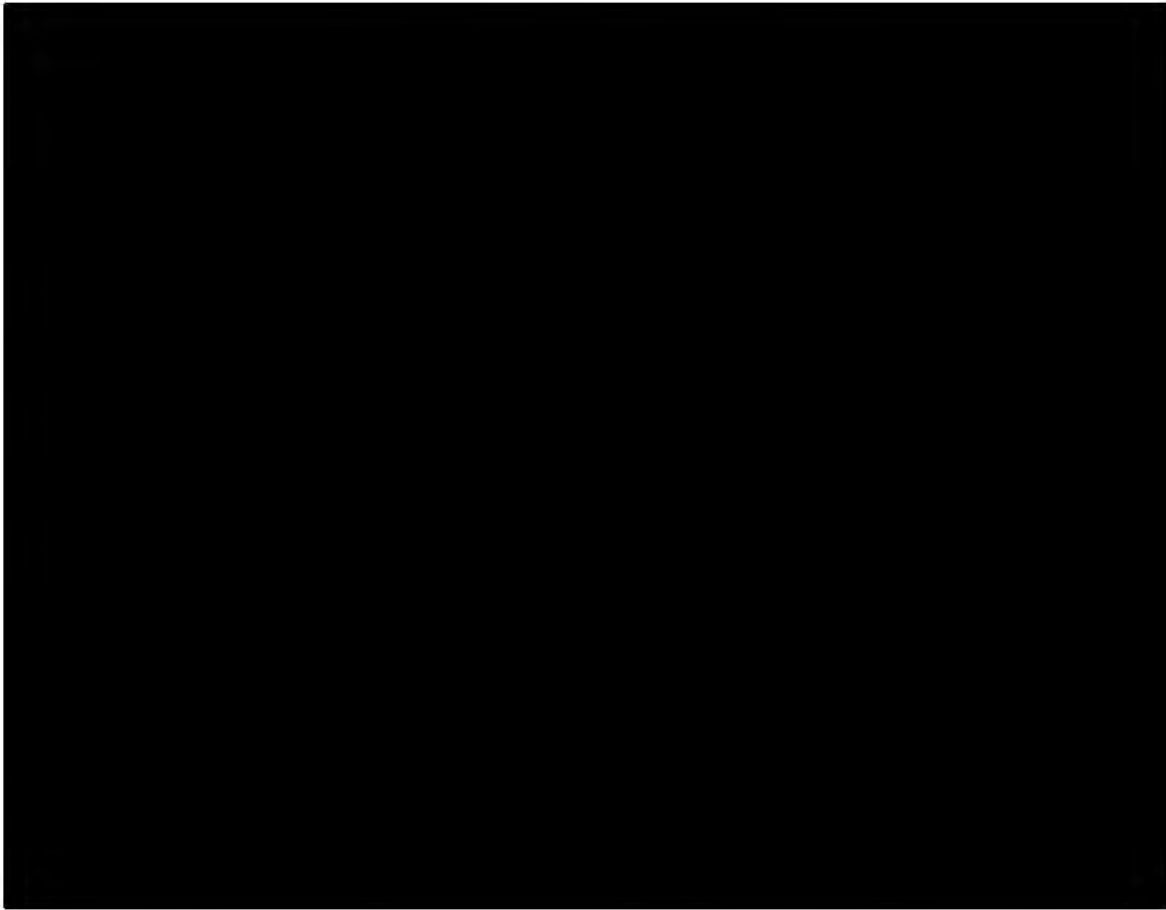
Exhibit 3 – Operator Incident Report to PHMSA

Exhibit 4 – Operator Procedures and Records - Confidential

Exhibit 5 – Operator Failure Investigation Report - Confidential

Map and Photographs

**



**

Figure 1: 9509 Grandview Rd Leak Survey Sketch (Source: Spire Attachment 23.D)



Figure 2: Damaged Fitting on Main (Source: Spire Response to Staff Data Request 0001.3A)



Figure 3: Damaged Fitting After Removal (Source: Spire Response to Staff Data Request 0001.3B)

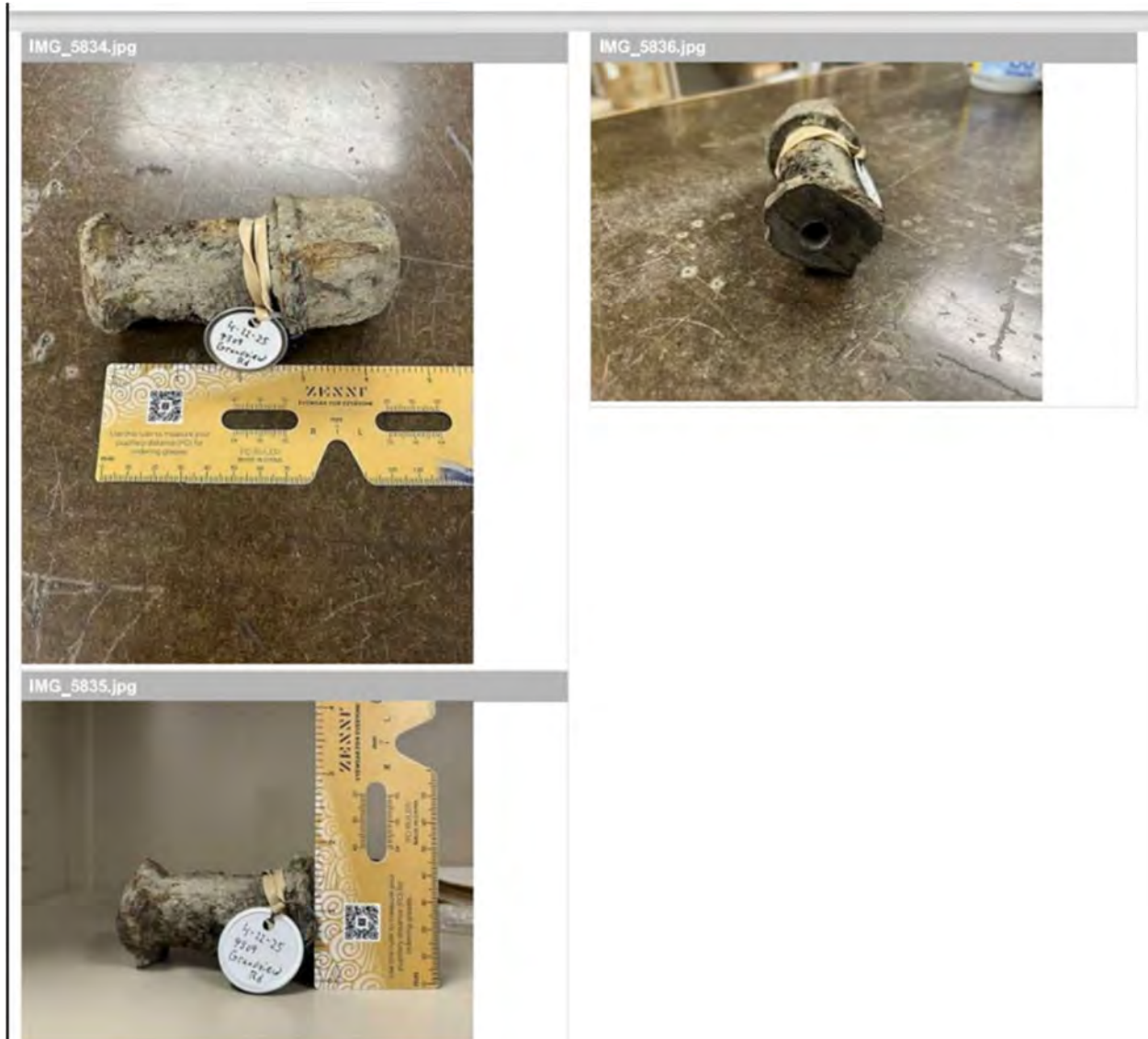


Figure 4: Fitting Measurements (Source Spire Response to Staff Data Request 0001.2)

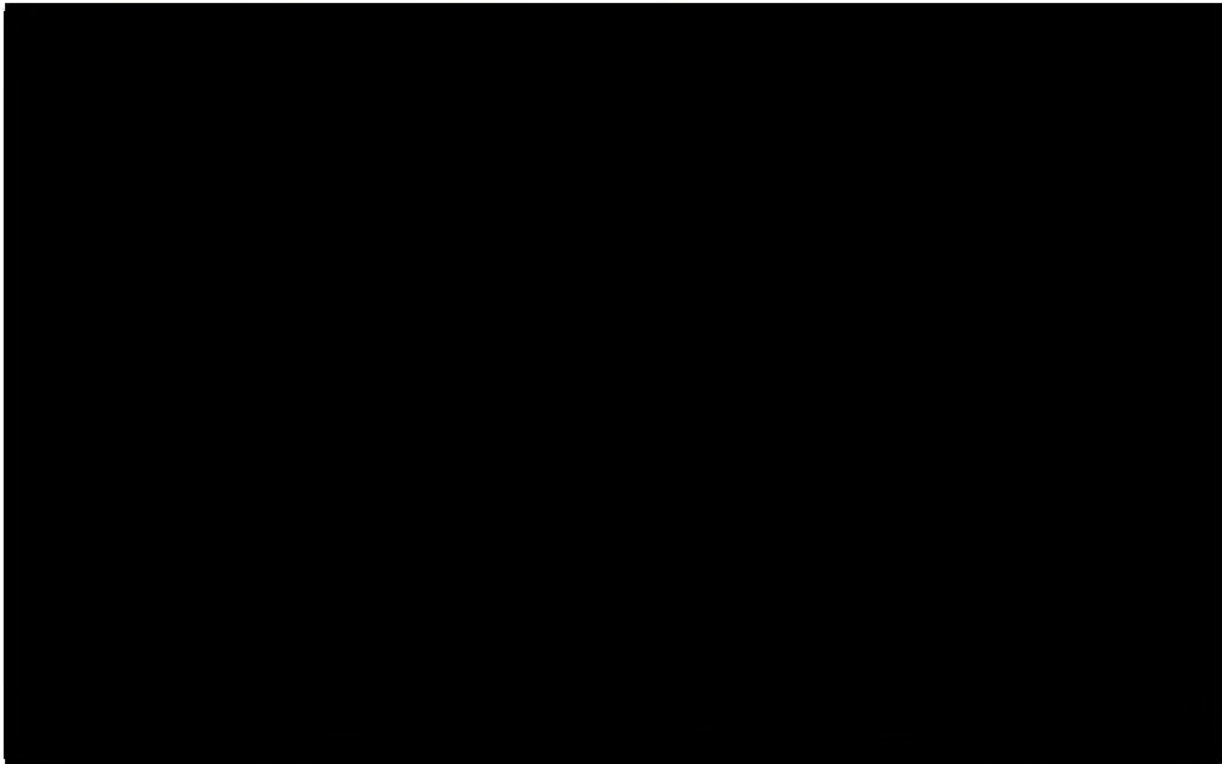
IMG_4947.jpg



IMG_4948.jpg



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Figure 5: Spire Mini-Excavator and Pipe Repair (Source Spire Response to Staff Data Request 0001.3B).

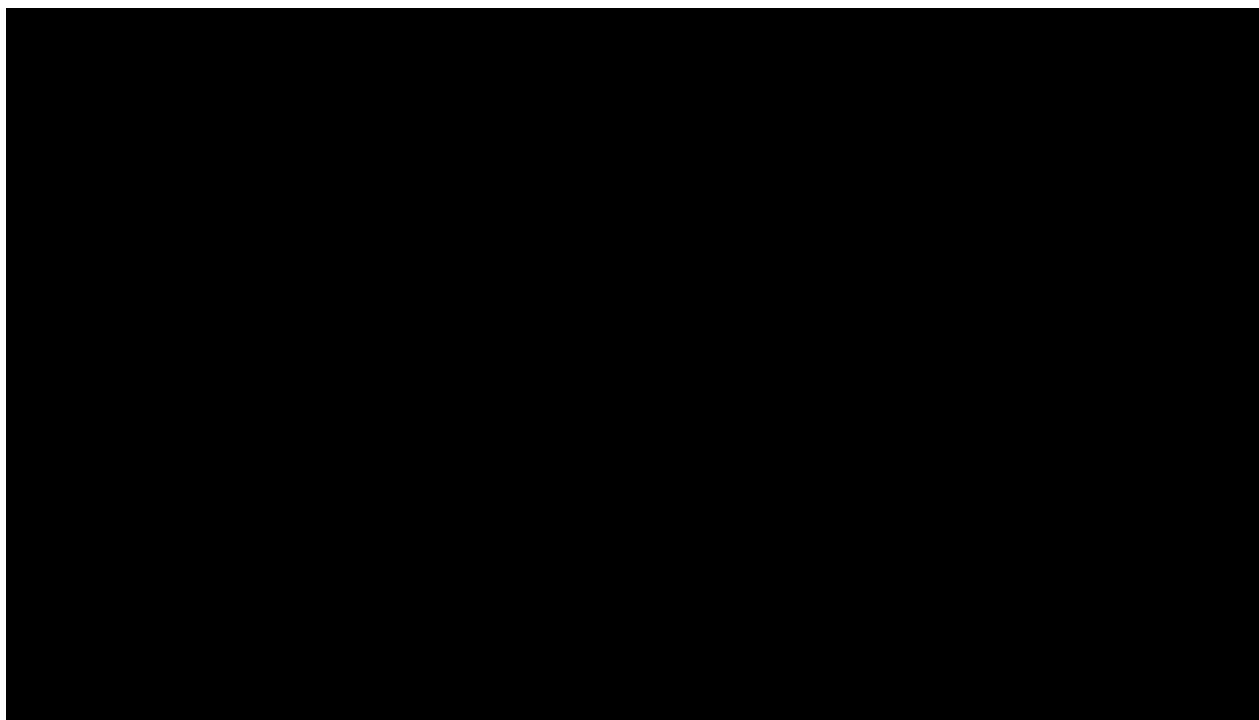
IMG_4956.jpg



IMG_4957.jpg



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Figure 6: Damaged Power Pole and Pipeline Marker (Source: Spire Response to Staff Data Request 0001.3B)



Figure 7: Kansas City Water Department Backhoe (Source: Spire Response to Staff Data Request 0001.3B)

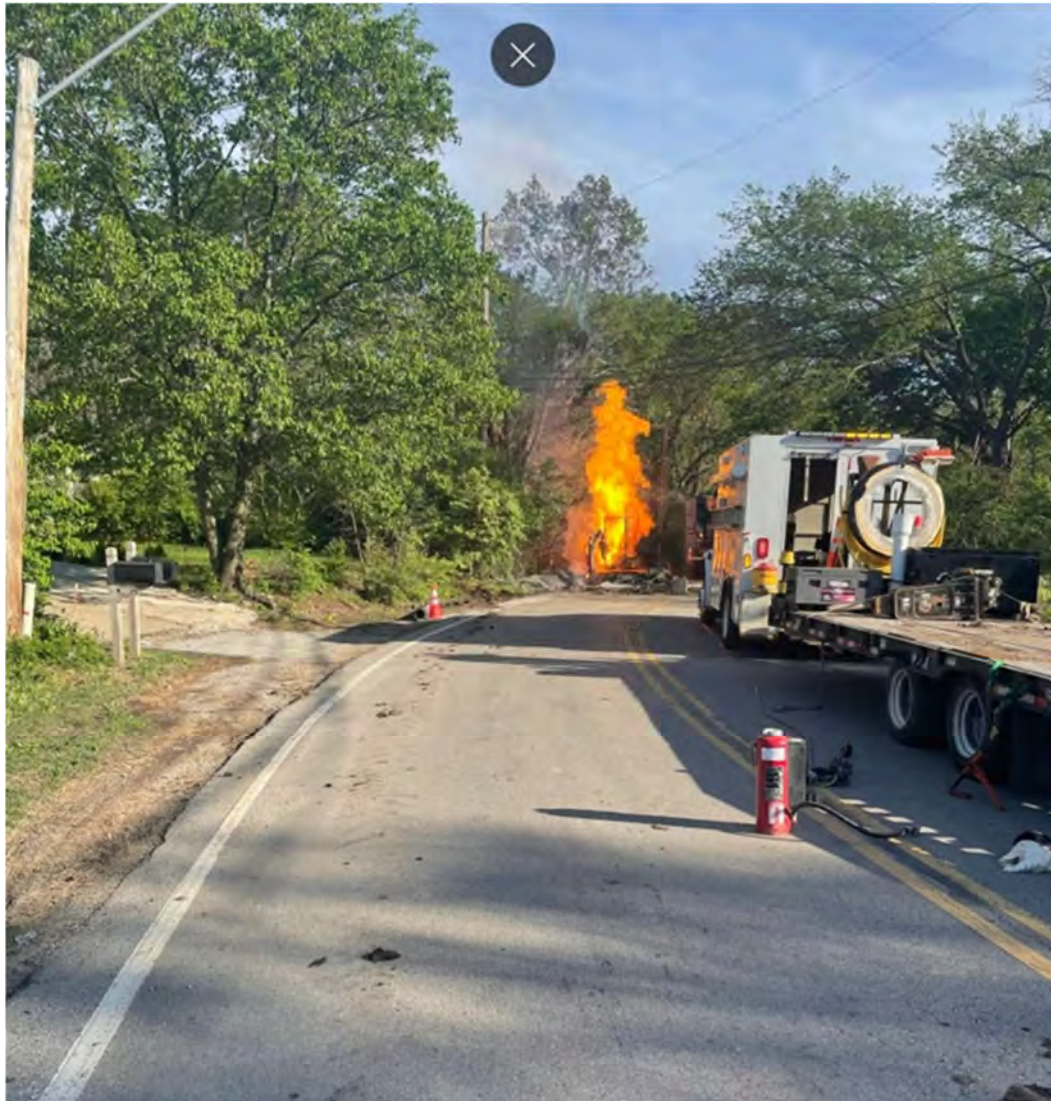
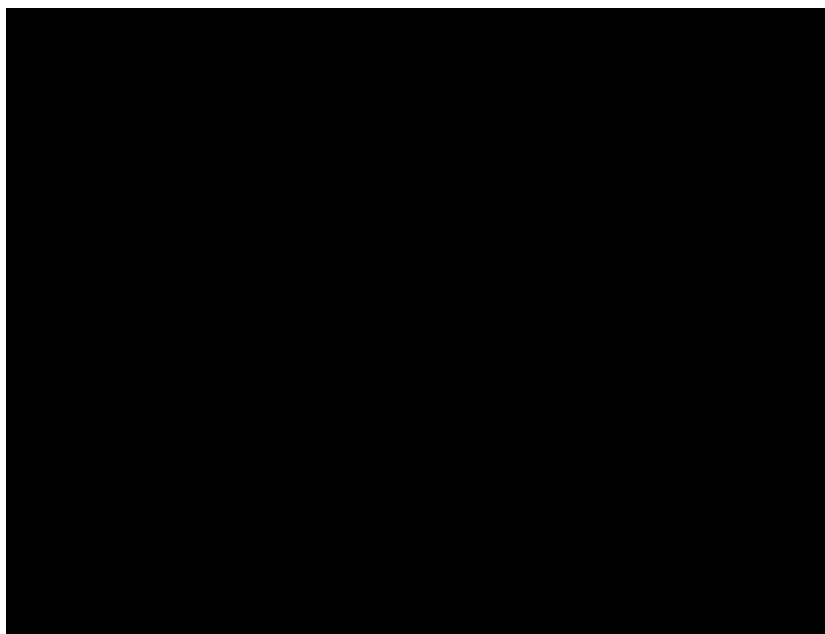


Figure 8: View Looking South at Gas Fire (Source: Spire Response to Staff Data Request 0001.3B)

**



**

Figure 9: View Looking North with Nearby Regulator Station (Source: Spire Response to Staff Data Request 0001.3B).

From: HQS-SMB-NRC@uscg.mil
To: [Kottwitz, John](#)
Subject: NRC#1429366
Date: Monday, October 27, 2025 3:47:44 PM

NATIONAL RESPONSE CENTER 1-800-424-8802

*** For Public Use ***

Information released to a third party shall comply with any applicable federal and/or state Freedom of Information and Privacy Laws

Incident Report # 1429366

INCIDENT DESCRIPTION

*Report taken by NRC on 24-APR-25 at 16:34 ET.

Incident Type: PIPELINE

Incident Cause: OPERATOR ERROR

Affected Area:

Incident was discovered on 22-APR-25 at 17:36 local incident time.

Affected Medium: AIR / ATMOSPHERE

SUSPECTED RESPONSIBLE PARTY

Organization: KANSAS CITY WATER

Type of Organization: PUBLIC UTILITY

INCIDENT LOCATION

9509 GRAND VIEW RD County: JACKSON

City: KANSAS CITY State: MO

RELEASED MATERIAL(S)

CHRIS Code: ONG Official Material Name: NATURAL GAS

Also Known As:

Qty Released: 0 UNKNOWN AMOUNT

DESCRIPTION OF INCIDENT

/// THIS IS A 48-HOUR UPDATE TO NRC REPORT 1429178 ///

THE UPDATE IS AS FOLLOWS: THE RELEASE WAS SECURED LATE TUESDAY EVENING. PERMANENT REPAIR HAS BEEN COMPLETED AND SERVICES HAVE BEEN RESTORED.

/// ORIGINAL REPORT BELOW ///

CALLER REPORTED EXCAVATION DAMAGE ON A TEN INCH STEEL GAS MAIN THAT CAUSED AN IGNITION AND RELEASE OF NATURAL GAS TO THE ATMOSPHERE. THERE IS ONE REPORTED INJURY. EMERGENCY SERVICES ARE ON SCENE. THE RELEASE IS ONGOING AND THERE IS A FIRE AT THIS TIME.

INCIDENT DETAILS

Pipeline Type: DISTRIBUTION
DOT Regulated: YES
Pipeline Above/Below Ground: BELOW
Exposed or Under Water: NO
Pipeline Covered: UNKNOWN

IMPACT

Fire Involved: NO Fire Extinguished: UNKNOWN

INJURIES: YES 1 Sent to Hospital:1 Empl/Crew: Passenger:
FATALITIES: NO Empl/Crew: Passenger: Occupant:
EVACUATIONS:NO Who Evacuated: Radius/Area:

Damages: UNKNOWN

	Hours	Direction of
Closure Type Description of Closure	Closed	Closure

Air: NO

	Major
Road: NO	Artery:NO

Waterway:NO

Track: YES GRAND VIEW AVE
Passengers Transferred: NO
Environmental Impact: UNKNOWN
Media Interest: UNKNOWN

REMEDIAL ACTIONS

PERMANENT REPAIR HAS BEEN COMPLETED, AND SERVICES HAVE BEEN RESTORED.
Release Secured: YES
Release Rate:
Estimated Release Duration:

WEATHER

ADDITIONAL AGENCIES NOTIFIED

Federal:
State/Local:
State/Local On Scene: LOCAL EMERGENCY SERVICES
State Agency Number:

NOTIFICATIONS BY NRC

AGCY TOXIC SUBST & DISEASE REGISTRY (HHS)
24-APR-25 16:40
CENTERS FOR DISEASE CONTROL (GRASP)
24-APR-25 16:40
CG INVESTIGATIVE SVC PACIFIC REGION (INTELLIGENCE)
24-APR-25 16:40
CHEM SAFETY AND HAZARD INVEST BOARD (MAIN OFFICE)
24-APR-25 16:40
DEPT OF HEALTH AND HUMAN SERVICES (SECRETARY OPERATION CENTER (SOC))
24-APR-25 16:40

DHS CISA (REGION VII)
24-APR-25 16:40
DHS CISA (CISA CENTRAL)
24-APR-25 16:40
DOI HEADQUARTERS (IOC OFFICE OF EMERGENCY MANAGEMENT)
24-APR-25 16:40
OFFICE OF ENV. POLICY & COMPLIANCE (OEPC REGION 7)
24-APR-25 16:40
OFFICE OF ENV. POLICY & COMPLIANCE (DOI OFFICE OF ENVIRONMENTAL POLICY AND COMPLIANCE)
24-APR-25 16:40
DOT CRISIS MANAGEMENT CENTER (MAIN OFFICE)
24-APR-25 16:40
U.S. EPA VII (MAIN OFFICE)
24-APR-25 16:44
U.S. EPA VII (CRIMINAL INVESTIGATION DIVISION)
24-APR-25 16:40
WASTE AND CHEMICAL ENFORCEMENT (OFFICE OF CIVIL ENFORCEMENT)
24-APR-25 16:40
GSA OFFICE OF MISSION ASSURANCE (REGION 7 KANSAS CITY)
24-APR-25 16:40
IA HOMELAND SECURITY & EMERG MGMT (IA NATIONAL GUARD JOINT FORCES HEADQUARTERS)
24-APR-25 16:40
JOINT TASK FORCE CIVIL SUPPORT (CBRN ANALYSIS CELL)
24-APR-25 16:40
KANSAS INTEL FUSION CENTER (US DHS I&A, SLPO)
24-APR-25 16:40
MO INFORMATION ANALYSIS CENTER (COMMAND CENTER)
24-APR-25 16:40
MO DEPT OF HEALTH AND SENIOR SVC (COMMAND CENTER)
24-APR-25 16:40
MISSOURI EMERGENCY MGMT AGENCY (COMMAND CENTER)
24-APR-25 16:40
NOAA RPTS FOR MO (MAIN OFFICE)
24-APR-25 16:40
NTSB PIPELINE (MAIN OFFICE)
24-APR-25 16:40
OTHER UNIT (ADDITIONAL)
27-OCT-25 16:47
PIPELINE & HAZMAT SAFETY ADMIN (OFFICE OF PIPELINE SAFETY (AUTO))
24-APR-25 16:40
PIPELINE & HAZMAT SAFETY ADMIN (OFFICE OF PIPELINE SAFETY WEEKDAYS (VERBAL))
24-APR-25 16:45
PIPELINE & HAZMAT SAFETY ADMIN (HAZARDOUS MATERIAL ACCIDENT INVESTIGATION)
24-APR-25 16:40
REPORTING PARTY (RP SUBMITTER)
24-APR-25 16:40
DEPT HEALTH AND ENV (MAIN OFFICE)
24-APR-25 16:40
MODNR ATTN: DUTY OFFICER (MAIN OFFICE)
24-APR-25 16:40
TSA OFFICE OF SECURITY OPERATIONS (SURFACE OPS/PSAT - MISSOURI OFFICE)
24-APR-25 16:40
TSA ST LOUIS (TWIC ENFORCEMENT--SURFACE)
24-APR-25 16:40
USCG DISTRICT 8 (MAIN OFFICE)

24-APR-25 16:40
USDA FOREST SERVICE (NATIONAL FOREST SYSTEM RM REGION)
24-APR-25 16:40

ADDITIONAL INFORMATION

*** END INCIDENT REPORT #1429366 ***

*****ATTENTION*****

The NRC is in the process of updating its Incident Reporting Information System (IRIS) and wants your feedback! This system provides all reports and data to the NRT, making your feedback essential to ensure that current and future reporting requirements are met.

If you have recommendations for improvements, suggested capabilities, or any other items that would be helpful in the performance of your duties, we want to know!

Please submit your feedback to SMB-COMDT-NRCIRIS@uscg.mil no later than August 8, 2025.

We greatly appreciate your assistance and thank you for your attention!

Report any problems by calling 1-800-424-8802

PLEASE VISIT OUR WEB SITE AT [https://urldefense.com/v3/http://nrc.uscg.mil;!!EErPFA7f--AJOw!D0kj0wNa_vsR5A19jc6diOhlBcljxGHerF8zFEyE-ZLzPO5UvNh4T5HEvJs_YDlo_JC-0pDJG1YCCNnz5f5ZEG-73R9YLPm\\$](https://urldefense.com/v3/http://nrc.uscg.mil;!!EErPFA7f--AJOw!D0kj0wNa_vsR5A19jc6diOhlBcljxGHerF8zFEyE-ZLzPO5UvNh4T5HEvJs_YDlo_JC-0pDJG1YCCNnz5f5ZEG-73R9YLPm$)

NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty as provided in 49 USC 60122.		OMB NO: 2137-0635 EXPIRATION DATE: 6/30/2026
 U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration	Original Report Date:	05/22/2025
	No.	20250031-41663 ----- (DOT Use Only)

INCIDENT REPORT - GAS DISTRIBUTION SYSTEM

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0635. Public reporting for this collection of information is estimated to be approximately 12 hours per response, including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding the burden or any other aspect of this collection of information, including suggestions for reducing the burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

INSTRUCTIONS

Important: Please read the separate instructions for completing this form before you begin. They clarify the information requested and provide specific examples. If you do not have a copy of the instructions, you can obtain one from the PHMSA Pipeline Safety Community Web Page at <https://www.phmsa.dot.gov/pipeline/library/forms>

PART A - KEY REPORT INFORMATION

Report Type: (select all that apply)	Original:	Supplemental:	Final:
		Yes	Yes
Last Revision Date	12/05/2025		
1. Operator's OPS-issued Operator Identification Number (OPID):	30769		
2. Name of Operator	SPIRE MISSOURI INC. WEST		
3. Address of Operator:			
3a. Street Address	700 MARKET STREET		
3b. City	Saint Louis		
3c. State	Missouri		
3d. Zip Code	63101		
4. Local time (24-hr clock) and date of incident:	04/22/2025 17:10		
4a. Time Zone for local time (select only one)	Central		
4b. Daylight Saving in effect?	Yes		
5. Location of Incident:			
5a. Street Address or location description	9509 Grandview Rd		
5b. City	Kansas City		
5c. County or Parish	Jackson		
5d. State:	Missouri		
5e. Zip Code:	64137		
5f. Latitude / Longitude	38.95367504, -94.54989956		
6. Gas released:	Natural Gas		
- Other Gas Released Name:			
7. Estimated volume of gas released unintentionally: - thousand standard cubic feet (mcf)	186.22		
8. Estimated volume of intentional and controlled release/blowdown:thousand standard cubic feet (mcf)	0		
9. Were there fatalities?	No		
- If Yes, specify the number in each category:			
9a. Operator employees			
9b. Contractor employees working for the Operator			
9c. Non-Operator emergency responders			
9d. Workers working on the right-of-way, but NOT associated with this Operator			
9e. General public			
9f. Total fatalities (sum of above)	0		
10. Were there injuries requiring inpatient hospitalization?	Yes		
- If Yes, specify the number in each category:			
10a. Operator employees	1		

10b. Contractor employees working for the Operator	0
10c. Non-Operator emergency responders	0
10d. Workers working on the right-of-way, but NOT associated with this Operator	0
10e. General public	0
10f. Total injuries (sum of above)	1
11. What was the Operator's initial indication of the Failure? (<i>select only one</i>)	Notification from Third Party that caused the Incident
- If Other, Specify:	
11a. If "Controller", "Local Operating Personnel, including contractors", "Air Patrol", or "Ground Patrol by Operator or its contractor" is selected in Question 11, specify.	
12. Local time operator identified failure	04/22/2025 17:10
If 11 = Notification from Emergency Responder, skip questions 13 through 15.	
13. Did the operator communicate with Local, State, or Federal Emergency Responders about the incident?	Yes
- If No, skip A14 and A15	
14. Which party initiated communication about the incident?	Operator
15. Local time of initial Operator and Local/State/Federal Emergency Responder communication	04/22/2025 17:20
16. Local time operator resources arrived on site:	04/22/2025 17:36
17. Local time of confirmed discovery:	04/22/2025 19:17
18. Local time (24-hr clock) and date of initial operator report to the National Response Center:	04/22/2025 19:38
19. Initial Operator National Response Center Report Number:	1429178
19a. Additional NRC Report numbers submitted by the operator:	1429366
20. Method of Flow Control (<i>select all that apply</i>)	
"Key/Critical" Valve – inspected in accordance with Part 192.747	
Main Valve other than "Key/Critical"	Yes
Service (curb) Valve	
Meter/Regulator shut-off Valve	
Excess flow valve	
Squeeze-Off	
Stopple fitting	
Other	
- If Other, Specify:	
21. Did the gas ignite?	Yes
If A21 = Yes, answer A21a through A21d.	
21a. Local time of ignition	04/22/2025 18:08
21b. How was the fire extinguished?	Local/State/Federal Emergency Responder
- If Other, Specify:	
21c. Estimated volume of gas consumed by fire (MCF): (must be less than or equal to A7.)	159.62
21d. Did the gas explode?	No
22. Number of general public evacuated:	16
PART B - ADDITIONAL LOCATION INFORMATION	
1. Was the Incident on Federal land?	No
2. Location of Incident	Public property
3. Area of Incident:	Underground
Specify:	Exposed due to excavation
If Other, Describe:	
3a. Depth of Cover:	30
3b. Were other underground facilities found within 12 inches of the failure location?	No
4. Did Incident occur in a crossing?	No
- If Yes, specify type below:	
- If Bridge crossing –	
Cased/ Uncased:	
- If Railroad crossing –	

Cased	
Uncased	
Bored/drilled	
- If Road crossing –	
Cased	
Uncased	
Bored/drilled	
- If Water crossing –	
Cased	
Uncased	
Bored/drilled	
Name of body of water (If commonly known):	
Approx. water depth at time and location of Incident (ft):	
(select only one):	
PART C - ADDITIONAL FACILITY INFORMATION	
1. Indicate the type of pipeline system:	Investor Owned
- If Other, specify:	
2. Part of system involved in Incident:	Main
- If Other, specify:	
2a. Year item involved in the incident was installed:	1929
2b. Year item involved in the incident was manufactured:	Unknown
When 2.is any value other than "Main", "Main Valve", "District Regulator/Metering Station", or "Other":	
2c. Indicate the customer type: (select only one)	
2d. Was an EFV installed on the service line before the time of the incident?	
If 2d = Yes, then 2e. Did the EFV activate?	
2f. Was a curb valve installed on the service line before the time of the incident?	
3. When 2. is "Main" or "Service" answer 3a through c and 4:	
3a. Nominal Pipe Size:	10
3b. Pipe specification (e.g., API 5L, ASTM D2513):	Unknown
3c. Pipe manufacturer:	Unknown
4. Material involved in Incident:	Steel
- If Other, specify:	
4a. If Steel, Specify seam type:	Longitudinal ERW - Unknown Frequency
- If Other, specify:	
4b. If Steel, Specify wall thickness (inches):	Unknown
4c. If Plastic, Specify type:	
- If Other, describe:	
4d. If Plastic, Specify Standard Dimension Ratio (SDR):	
Or wall thickness:	
Unknown	
4e. If Polyethylene (PE) is selected as the type of plastic in Part C, Question 4.c:	
- Specify PE Pipe Material Designation Code (i.e. 2406, 3408, etc.)	
Unknown?	
5. Type of release involved :	Leak
- If Mechanical Puncture - Specify Approx. size:	
Approx. size: in. (axial):	
in. (circumferential):	
- If Leak - Select Type:	Other
- If Other, Describe:	.5" hole from 1-inch nipple
- If Rupture - Select Orientation:	
- If Other, Describe:	
Approx. size: (widest opening):	
(length circumferentially or axially):	
- If Other - Describe:	

PART D - ADDITIONAL CONSEQUENCE INFORMATION	
1. Class Location of Incident:	Class 3 Location
2. Estimated Property Damage:	
2a. Estimated cost of public and non-Operator private property damage paid/reimbursed by the Operator	\$0
2b. Estimated cost of Operator's property damage & repairs	\$175,915
2c. Estimated cost of emergency response	\$500
2d. Estimated other costs	\$0
- Describe:	
2e. Property damage subtotal (sum of above)	\$176,415
Cost of Gas Released	
Cost of Gas in \$ per thousand standard cubic feet (mcf):	\$6.3330
2f. Estimated cost of gas released unintentionally	\$1,179
2g. Estimated cost of gas released intentionally during controlled release/blowdown	\$0
2h. Total estimated cost of gas released (sum of 2f and g)	\$1,179
2i. Estimated Total Cost (sum of 2e and 2h)	\$177,594
3. Estimated number of customers out of service:	
3a. Commercial entities	0
3b. Industrial entities	0
3c. Residences	16
Injured Persons not included in A10 The number of persons injured, admitted to a hospital, and remaining in the hospital for at least one overnight are reported in A10. If a person is included in A10, do not include them in D4.	
4. Estimated number of persons with injuries requiring treatment in a medical facility but not requiring overnight in-patient hospitalization:	1
If a person is included in 4, do not include them in 5.	
5. Estimated number of persons with injuries requiring treatment by EMTs at the site of incident:	1
Buildings Affected	
6. Number of residential buildings affected (evacuated or required repair or had gas service interrupted):	16
7. Number of business buildings affected (evacuated or required repair or had gas service interrupted):	0
PART E - ADDITIONAL OPERATING INFORMATION	
1. Estimated pressure at the point and time of the Incident (psig):	130.24
2. Normal operating pressure at the point and time of the Incident (psig):	130.00
3. Maximum Allowable Operating Pressure (MAOP) at the point and time of the Incident (psig):	150.00
3a. MAOP established by 49 CFR section:	192.619(a)(3)
3b. Date MAOP established:	07/01/1970
4. Describe the pressure on the system relating to the Incident:	Pressure did not exceed MAOP
5. Type of odorization system for gas at the point of failure:	injection pump
- If Other, Specify:	
6. Odorant level near the point of failure measured after the failure:	0.4
Not Measured	
7. Was a Supervisory Control and Data Acquisition (SCADA) based system in place on the pipeline or facility involved in the Incident?	Yes
- If Yes:	
7a. Was it operating at the time of the Incident?	Yes
7b. Was it fully functional at the time of the Incident?	Yes
7c. Did SCADA-based information (such as alarm(s), alert(s), event (s), and/or volume or pack calculations) assist with the initial indication of the Incident?	No

7d. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the confirmed discovery of the Incident?	No
8. Was an investigation initiated into whether or not the controller(s) or control room issues were the cause of or a contributing factor to the Incident? (select all that apply):	No, the Operator did not find that an investigation of the controller(s) actions or control room issues was necessary due to: (provide an explanation for why the Operator did not investigate)
- If "No, the operator did not find that an investigation of the controller(s) actions or control room issues was necessary due to:" (provide an explanation for why the operator did not investigate)	The controller(s) actions did not result in any abnormal pipeline operation or pressures that caused or contributed to the incident.
- If Yes, Specify investigation result(s) (select all that apply):	
- Investigation reviewed work schedule rotations, continuous hours of service (while working for the Operator), and other factors associated with fatigue	
- Investigation did NOT review work schedule rotations, continuous hours of service (while working for the Operator), and other factors associated with fatigue	
- Provide an explanation for why not:	
- Investigation identified no control room issues	
- Investigation identified no controller issues	
- Investigation identified incorrect controller action or controller error	
- Investigation identified that fatigue may have affected the controller(s) involved or impacted the involved controller(s) response	
- Investigation identified incorrect procedures	
- Investigation identified incorrect control room equipment operation	
- Investigation identified maintenance activities that affected control room operations, procedures, and/or controller response	
- Investigation identified areas other than those above	
Describe:	
PART F - DRUG & ALCOHOL TESTING INFORMATION	
1. As a result of this Incident, were any Operator employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?	Yes
- If Yes:	
1a. How many were tested:	2
1b. How many failed:	0
2. As a result of this Incident, were any Operator contractor employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?	No
- If Yes:	
2a. How many were tested:	
2b. How many failed:	
PART G - CAUSE INFORMATION	
Select only one box from PART G in shaded column on left representing the Apparent Cause of the Incident, and answer the questions on the right. Enter secondary, contributing, or root causes of the Incident in Part J – Contributing Factors.	
Apparent Cause:	G3 - Excavation Damage
G1 - Corrosion Failure – only one sub-cause can be picked from shaded left-hand column	
Corrosion Failure Sub-Cause:	
- If External Corrosion:	
1. Results of visual examination:	
- If Other, Specify:	
2. Type of corrosion:	
- Galvanic	

- Atmospheric	
- Stray Current	
- Microbiological	
- Selective Seam	
- Other	
- If Other, Describe:	
2a. If 2. is Stray Current, specify	
2b. Describe the stray current source:	
3. The type(s) of corrosion selected in Question 2 is based on the following:	
- Field examination	
- Determined by metallurgical analysis	
- Other	
- If Other, Describe:	
4. Was the failed item buried or submerged?	
- If Yes:	
4a. Was failed item considered to be under cathodic protection at the time of the incident?	
- If Yes, Year protection started:	
4b. Was shielding, tenting, or disbonding of coating evident at the point of the incident?	
4c. Has one or more Cathodic Protection Survey been conducted at the point of the incident? (select all that apply)	
If "Yes, CP Annual Survey" – Most recent year conducted:	
If "Yes, Close Interval Survey" – Most recent year conducted:	
If "Yes, Other CP Survey" – Most recent year conducted:	
Describe Other CP Survey:	
- If No:	
4d. Was the failed item externally coated or painted?	
5. Was there observable damage to the coating or paint in the vicinity of the corrosion?	
6. Pipeline coating type, if steel pipe is involved:	
- If Other, Describe:	
6a. Field Applied?	
- If Internal Corrosion:	
7. Results of visual examination:	
- If Other, Describe:	
8. Cause of corrosion (select all that apply):	
- Corrosive Commodity	
- Water drop-out/Acid	
- Microbiological	
- Erosion	
- Other	
- If Other, Specify:	
9. The cause(s) of corrosion selected in Question 8 is based on the following: (select all that apply):	
- Field examination	
- Determined by metallurgical analysis	
- Other	
- If Other, Describe:	
10. Location of corrosion (select all that apply):	
- Low point in pipe	
- Elbow	
- Drop-out	
- Other	
- If Other, Describe:	
11. Was the gas/fluid treated with corrosion inhibitor or biocides?	
12. Were any liquids found in the distribution system where the Incident occurred?	

Complete the following if any Corrosion Failure sub-cause is selected AND the "Part of system involved in incident" (from PART C, Question 2) is Main, Service, or Service Riser.	
13. Date of the most recent Leak Survey conducted	
14. Has one or more pressure test been conducted since original construction at the point of the Incident?	
- If Yes:	
Most recent year tested:	
Test pressure:	
G2 – Natural Force Damage – only one sub-cause can be picked from shaded left-handed column	
Natural Force Damage – Sub-Cause:	
- If Earth Movement, NOT due to Heavy Rains/Floods:	
1. Specify:	
- If Other, Specify:	
- If Heavy Rains/Floods:	
2. Specify:	
- If Other, Specify:	
- If Lightning:	
3. Specify:	
- If Temperature:	
4. Specify:	
- If Other, Specify:	
- If Other Natural Force Damage:	
5. Describe:	
Complete the following if any Natural Force Damage sub-cause is selected.	
6. Were the natural forces causing the Incident generated in conjunction with an extreme weather event?	
6a. If Yes, specify (<i>select all that apply</i>):	
- Hurricane	
- Tropical Storm	
- Tornado	
- Other	
- If Other, Specify:	
G3 – Excavation Damage – only one sub-cause can be picked from shaded left-hand column	
Excavation Damage – Sub-Cause:	Excavation Damage by Third Party
- If Previous Damage due to Excavation Activity: Complete the following ONLY IF the "Part of system involved in Incident" (from Part C, Question 2) is Main, Service, or Service Riser.	
1. Date of the most recent Leak Survey conducted	
2. Has one or more pressure test been conducted since original construction at the point of the Incident?	
- If Yes:	
Most recent year tested:	
Test pressure:	
Complete the following if any Excavation Damage sub-cause is selected.	
3. Did the operator get prior notification of the excavation activity?	Yes
3a. If Yes, Notification received from: (<i>select all that apply</i>):	
- One-Call System	Yes
- Excavator	
- Contractor	
- Landowner	
3b. Per the primary Incident Investigator report, did State law exempt the excavator from notifying the one-call center?	No
If yes, answer 3c through 3e.	
3c. (select only one)	

- If Other, Specify:	
3d. Exempting Authority:	
3e. Exempting Criteria:	
4. Do you want PHMSA to upload the following information to CGA-DIRT (www.cga-dirt.com)?	No
5. Right-of-Way where event occurred (<i>select all that apply</i>):	
- Public	Yes
- If Public, Specify:	City Street
- Private	
- If Private, Specify:	
- Pipeline Property/Easement	
- Power/Transmission Line	
- Railroad	
- Dedicated Public Utility Easement	
- Federal Land	
- Unknown/Other	
6. Was the facility part of a Joint Trench:	No
7. Did this event involve a Cross Bore:	No
8. Measured Depth from Grade:	18" – 36"
Measured depth From Grade in inches	
9. Type of excavator:	Utility
10. Type of excavation equipment:	Backhoe/Trackhoe
11. Type of work performed:	Water
12. Was the One-Call Center notified?	Yes
If No, skip to question 13	
12a. If Yes, specify ticket number:	251045717
12b. If this is a State where more than a single One-Call Center exists, list the name of the One-Call Center notified:	
12c. Was work area white lined:	Yes
13. Type of Locator:	Contract Locator
14. Were facility locate marks visible in the area of excavation?	Yes
15. Did the damage cause an interruption in service?	Yes
15a. If Yes, specify duration of the interruption:	24
16. Description of the CGA-DIRT Root Cause (<i>select the predominant CGA-DIRT Root Cause</i>):	
- Root Cause Category:	Excavation Issue
- Root Cause Type:	Improper backfilling practices
(Comment required)	
G4 - Other Outside Force Damage - only one sub-cause can be selected from the shaded left-hand column	
Other Outside Force Damage – Sub-Cause:	
- If Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT Engaged in Excavation:	
1. Vehicle/Equipment operated by:	
If this sub-cause is picked, complete questions 7-13 below.	
- If Damage by Boats, Barges, Drilling Rigs, or Other Maritime Equipment or Vessels Set Afloat or Which Have Otherwise Lost Their Mooring:	
2. Select one or more of the following IF an extreme weather event was a factor:	
- Hurricane	
- Tropical Storm	
- Tornado	
- Heavy Rains/Flood	
- Other	
- If Other, Specify:	
- If Previous Mechanical Damage NOT Related to Excavation: Complete the following ONLY IF the "Part of system involved in Incident" (from Part C, Question 2) is Main, Service, or Service Riser.	
3. Date of the most recent Leak Survey conducted:	

4. Has one or more pressure test been conducted since original construction at the point of the Incident?	
- If Yes:	
Most recent year tested:	
Test pressure (psig):	
- If Intentional Damage:	
5. Specify:	
- If Other, Specify:	
- If Other Outside Force Damage:	
6. Describe:	
Complete the following if Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT Engaged in Excavation sub-cause is selected.	
7. Was the driver of the vehicle or equipment issued one or more citations related to the incident?	
If 7. is Yes, what was the nature of the citations (select all that apply)	
7a. Excessive Speed	
7b. Reckless Driving	
7c. Driving Under the Influence	
7d. Other:	
- If Other, Specify:	
8. Was the driver under control of the vehicle at the time of the collision?	
9. Estimated speed of the vehicle at the time of impact (miles per hour)?	0
Unknown	
10. Type of vehicle?	
11. Where did the vehicle travel from to hit the pipeline facility?	
12. Shortest distance from answer in 11. to the damaged pipeline facility (<i>in feet</i>):	
13. At the time of the incident, were protections installed to protect the damaged pipeline facility from vehicular damage?	
If 13. is Yes, specify type of protection (<i>select all that apply</i>):	
13a. Bollards/Guard Posts	
13b. Barricades, including "jersey" barriers and fences	
13c. Guard Rails	
13d. Meter Box	
13e. Ingress or Regress at a Residence	
13f. Other	
- If Other, Specify:	
G5 - Pipe, Weld, or Joint Failure - only one sub-cause can be selected from the shaded left-hand column	
Pipe, Weld or Joint Failure – Sub-Cause:	
- If Body of Pipe:	
1. Specify:	
- If Other, Describe:	
- If Butt Weld:	
2. Specify:	
- If Other, Describe:	
- If Fillet Weld:	
3. Specify:	
- If Other, Describe:	
- If Pipe Seam:	
4. Specify:	
- If Other, Describe:	
- If Mechanical Joint Failure	
5a. Specify the Mechanical Fitting Involved (<i>select only one</i>)	
Other Compression Type Fitting (specify):	
5b. Specify the Type of Mechanical Fitting (<i>select only one</i>)	
Other (specify):	

5c. Fitting Manufacturer:	
Unknown	
5d. Part or Model Number:	
Unknown	
5e. Fitting Material (select only one)	
Other (specify):	
5f. How did the joint failure occur? (select only one)	
Other (specify):	
- If Fusion Joint:	
6. Specify:	
- If Other, Specify:	
7. Year installed:	
8. Other attributes:	
9. Specify the two materials being joined:	
9a. First material being joined:	
- If Other, Specify:	
9b. Second material being joined:	
- If Other, Specify:	
- If Other Pipe, Weld, or Joint Failure:	
10. Describe:	
Complete the following if any Pipe, Weld, or Joint Failure sub-cause is selected.	
11. Additional Factors (select all that apply):	
- Dent	
- Gouge	
- Pipe Bend	
- Arc Burn	
- Crack	
- Lack of Fusion	
- Lamination	
- Buckle	
- Wrinkle	
- Misalignment	
- Burnt Steel	
- Other	
- If Other, Specify:	
12. Was the Incident a result of:	
- Construction defect	
Specify:	
- Material defect	
Specify:	
- If Other, Specify:	
- Design defect	
- Previous damage	
13. Has one or more pressure test been conducted since original construction at the point of the Incident?	
- If Yes:	
Most recent year tested:	
Test pressure:	
G6 - Equipment Failure - only one sub-cause can be selected from the shaded left-hand column	
Equipment Failure – Sub-Cause:	
- If Malfunction of Control/Relief Equipment:	
1. Specify:	
- Control Valve	
- Instrumentation	
- SCADA	

- Communications	
- Block Valve	
- Check Valve	
- Relief Valve	
- Power Failure	
- Stopple/Control Fitting	
- Pressure Regulator	
- Other	
- If Other, Specify:	
- If Threaded Connection Failure:	
2. Specify:	
- If Other, Specify:	
- If Non-threaded Connection Failure:	
3. Specify:	
- If Other, Specify:	
- If Valve:	
4. Specify:	
- If Other, Specify:	
4a. Valve type:	
4b. Manufactured by:	
4c. Year manufactured:	
4d. Valve Material:	
- If Other, Specify:	
- If Other Equipment Failure:	
5. Describe:	
G7 - Incorrect Operation - only one sub-cause can be selected from the shaded left-hand column	
Incorrect Operation Sub-Cause:	
- If Other Incorrect Operation:	
1. Describe:	
Complete the following if any Incorrect Operation sub-cause is selected.	
2. Was this Incident related to: <i>(select all that apply)</i>	
- Inadequate procedure	
- No procedure established	
- Failure to follow procedure	
- Other	
- If Other, Describe:	
3. What category type was the activity that caused the Incident:	
4. Was the task(s) that led to the Incident identified as a covered task in your Operator Qualification Program?	
4a. If Yes, were the individuals performing the task(s) qualified for the task(s)?	
G8 - Other Incident Cause - only one sub-cause can be selected from the shaded left-hand column	
Other Incident Cause – Sub-Cause:	
- If Miscellaneous:	
1. Describe:	
- If Unknown:	
2. Specify:	
Mandatory comment field:	
PART J - CONTRIBUTING FACTORS	
The Apparent Cause of the accident is contained in Part G. Do not report the Apparent Cause again in this Part J. If Contributing Factors were identified, select all that apply below and explain each in the Narrative:	
External Corrosion	

External Corrosion, Galvanic	
External Corrosion, Atmospheric	
External Corrosion, Stray Current Induced	
External Corrosion, Microbiologically Induced	
External Corrosion, Selective Seam	
Internal Corrosion	
Internal Corrosion, Corrosive Commodity	
Internal Corrosion, Water drop-out/Acid	
Internal Corrosion, Microbiological	
Internal Corrosion, Erosion	
Natural Forces	
Earth Movement, NOT due to Heavy Rains/Floods	
Heavy Rains/Floods	
Lightning	
Temperature	
High Winds	
Snow/Ice	
Tree/Vegetation Root	
Excavation Damage	
Excavation Damage by Operator (First Party)	
Excavation Damage by Operator's Contractor (Second Party)	
Excavation Damage by Third Party	
Previous Damage due to Excavation Activity	
Other Outside Force	
Nearby Industrial, Man-made, or Other Fire/Explosion	
Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT Engaged in Excavation	
Damage by Boats, Barges, Drilling Rigs, or Other Adrift Maritime Equipment	
Routine or Normal Fishing or Other Maritime Activity NOT Engaged in Excavation	
Electrical Arcing from Other Equipment or Facility	
Previous Mechanical Damage NOT Related to Excavation	
Intentional Damage	
Other underground facilities buried within 12 inches of the failure location	
Pipe/Weld Failure	
Design-related	
Construction-related	
Installation-related	
Fabrication-related	
Original Manufacturing-related	
Equipment Failure	
Malfunction of Control/Relief Equipment	
Threaded Connection/Coupling Failure	
Non-threaded Connection Failure	
Valve Failure	
Incorrect Operation	
Damage by Operator or Operator's Contractor NOT Excavation and NOT Vehicle/Equipment Damage	
Valve Left or Placed in Wrong Position, but NOT Resulting in Overpressure	
Pipeline or Equipment Overpressured	
Equipment Not Installed Properly	
Wrong Equipment Specified or Installed	
Inadequate Procedure	
No procedure established	
Failure to follow procedures	Yes

PART H - NARRATIVE DESCRIPTION OF THE INCIDENT

A third-party excavator was backfilling when they damaged a 1-inch nipple on a 10-inch steel natural gas pipeline. Although the company's procedures state that operation of mechanized equipment shall cease immediately and shall not be permitted to resume where there is a sudden, uncontrolled release of gas during excavation activities, a mini excavator was used during the company's response to the damage, and the natural gas ignited. The condition was made safe by closing two nearby valves and repair was completed by removing the damaged 1-inch nipple and welding on a pumpkin. Two Company employees were injured as a result of the incident and transported to the hospital. One employee was admitted for extended treatment and the second employee was treated and released. The mini-excavator and a nearby regulator station were also damaged by the fire during the incident.

A 48-hour update to the NRC was made on April 24, 2025, at 15:34 - Report Number 1429366

PART I - PREPARER AND AUTHORIZED PERSON

Preparer's Name	Erin Milkert
Preparer's Title	Manager Distribution Integrity
Preparer's Telephone Number	314-349-2932
Preparer's E-mail Address	erin.milkert@spireenergy.com
Preparer's Facsimile Number	
Local Contact Name:	Erin Milkert
Local Contact Email:	erin.milkert@spireenergy.com
Local Contact Phone:	314-349-2932
Authorized Signer's Name	Randy Wilson
Authorized Signer's Title	Director - Pipeline and System Integrity
Authorized Signer's Email Address	randy.wilson@spireenergy.com

Case No. GE-2025-0295

APPENDIX B
Exhibits 4 and 5

HAVE BEEN DEEMED

CONFIDENTIAL

IN ENTIRETY

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

In the Matter of an Investigation into	)	
Spire Missouri Inc. d/b/a Spire	)	<u>Case No. GS-2025-0295</u>
Concerning a Natural Gas Incident in	)	
Kansas City, Missouri	)	

STAFF’S GAS INCIDENT REPORT

COMES NOW the Staff of the Missouri Public Service Commission (“Staff”), by and through counsel, and in response to the Commission’s February 23, 2026, *Order Granting Request For A Report* states:

1. On April 23, 2025, Staff, by and through counsel, and for its Motion to Establish a Case, stated that pursuant to Section 386.020 of the Revised Statutes of Missouri (“RSMo”), the Commission has jurisdiction over Spire Missouri, Inc. d/b/a Spire (“Spire”). Staff stated that on Tuesday, April 22, 2025, a reportable gas incident occurred in the 9500 block of Grandview Road in Kansas City, Missouri, an area serviced by Spire, when a third-party excavator damaged a high pressure 10-inch steel gas main. Spire personnel responded to investigate and repair the damage and reported that a flash fire injured an employee.

2. On April 28, 2025, the Commission opened Case No. GS-2025-0295 to receive an incident report from Staff about the natural gas incident that occurred on April 22, 2025, at the 9500 block of Grandview Road in Kansas City, Missouri located in Grandview, Missouri. The Commission ordered that Staff shall file its final incident report no later than September 30, 2025.

3. On September 26, 2025, Staff filed a Motion to Request Extension; wherein, Staff requested additional time to investigate the matter and either file a final incident report January 30, 2026 or a status report of when Staff could file its report.

4. On January 30, 2026, Staff filed a Motion to Request Extension; wherein, Staff requested additional time to investigate the matter and either file a final incident report April 30, 2026 or a status report of when Staff could file its report.

5. On February 23, 2026, the Commission ordered Staff to file either a report regarding its investigation, or a report on the investigation's progress, no later than April 30, 2026.

6. Staff completed its discovery and provided a draft of the facts section to Spire for identification of confidential information and feedback of factual accuracy. Staff received Spire's feedback on April 27, 2026.

7. Based on Staff's investigation, Staff submits the attached Staff's Gas Incident Report and Appendices A-B, incorporated by reference herein, as Ordered by the Commission.

8. Staff has identified violations of the Commission's pipeline safety standards as promulgated in 20 CSR 4240-40.030 that are set out in Staff's Gas Incident Report, which warrant the filing of a Complaint against Spire. The Gas Incident Report also sets out recommendations related to the violations of the Commission's pipeline safety standards as set forth in 20 CSR 4240-40.030, as well as recommendations related to 20 CSR 4240-40.080. Staff will address these violations and recommendations in the Complaint addressed above.

WHEREFORE, Staff respectfully submits and requests the Commission accept the attached Staff's Gas Incident Report and Appendices A-B pursuant to the Commission's Order issued on February 23, 2026, and grant such other and further relief as the Commission deems just in the circumstances. Staff intends to follow-up this filing with the filing of a Complaint against Spire, which will contain Staff recommendations in addition to identifying and addressing violations of Commission pipeline safety rules.

Respectfully submitted,

/s/ J. Scott Stacey

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**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 30th day of April, 2026.

/s/ J. Scott Stacey

STATE OF MISSOURI

OFFICE OF THE PUBLIC SERVICE COMMISSION

Pursuant to 386.290, RSMo., 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 July, 2026.



Nancy Dippell

Nancy Dippell
Secretary

MISSOURI PUBLIC SERVICE COMMISSION

July 28, 2026

Case No: GC-2027-0024

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Enclosed find a certified copy of an Order or Notice issued in the above-referenced matter(s).¹

Sincerely,



Nancy Dippell
Secretary

¹

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