

# 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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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.<sup>1</sup>

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

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

\*\*



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:
  - Incident Reporting Requirements in 20 CSR 4240-40.020;
  - Missouri Pipeline Safety Standards in 20 CSR 4240-40.030, including but not limited to the operator's<sup>3</sup> damage prevention program and actions required by its damage prevention program, emergency response, prevention of accidental ignition, and failure investigation; and
  - 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.<sup>4</sup> Spire indicated that the

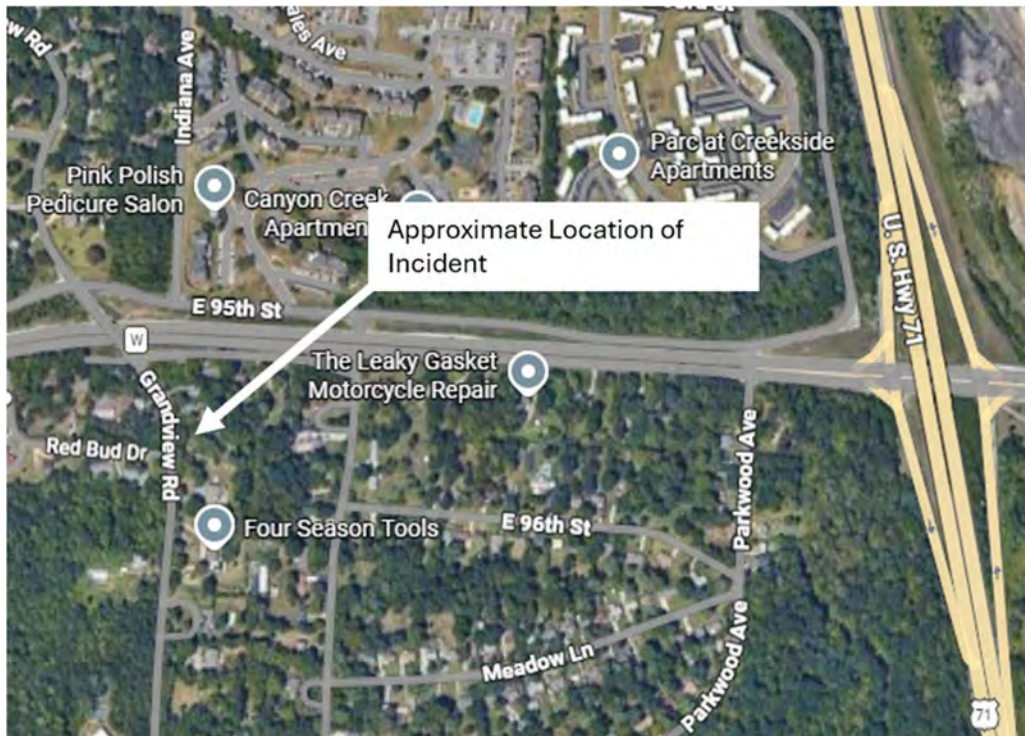
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<sup>3</sup> "Operator" is defined in 20 CSR 4240-40.030(1)(B)26 as "a person who engages in the transportation of gas." "Person" is defined in 20 CSR 4240-40.030(1)(B)27 as "any individual, firm, joint venture, partnership, corporation, association, 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."

<sup>4</sup> 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.<sup>5</sup> The Spire Emergency Plan requires in relevant parts **[Emphasis added.]**:

- \*\* [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.<sup>6</sup> \*\* [REDACTED]

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

- \*\* [REDACTED]  
[REDACTED]  
[REDACTED]  
○ [REDACTED]  
[REDACTED]

<sup>5</sup> 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.  
<sup>6</sup> 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] \*\*

In accordance with 20 CSR 4240-40.030(1)(J), Spire submitted to Staff a copy of SOP 220.L.3<sup>7</sup> titled Hazardous Atmospheres (Reissued on December 6, 2024), which was \*\* [REDACTED] \*\*. SOP 220.L requires the following **[Emphasis added.]**:

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

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



- [REDACTED]
- [REDACTED]
  - [REDACTED]
  - [REDACTED]
  - [REDACTED]
  - [REDACTED]
- [REDACTED]
  - [REDACTED]
  - [REDACTED]
  - [REDACTED]
  - [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).

- 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.
- 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 training<sup>9</sup>.

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<sup>9</sup> Staff notes that \*\* [REDACTED]

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





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.<sup>12</sup>

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,<sup>13</sup> 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 Report<sup>14</sup>. Spire provided the results of its Confidential Root Cause Analysis (RCA) of the incident;<sup>15</sup> a copy is provided in Appendix B of this Report<sup>16</sup>. 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).

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<sup>12</sup> Spire response to Staff Data Request 0009 and Spire Attachment 9.

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

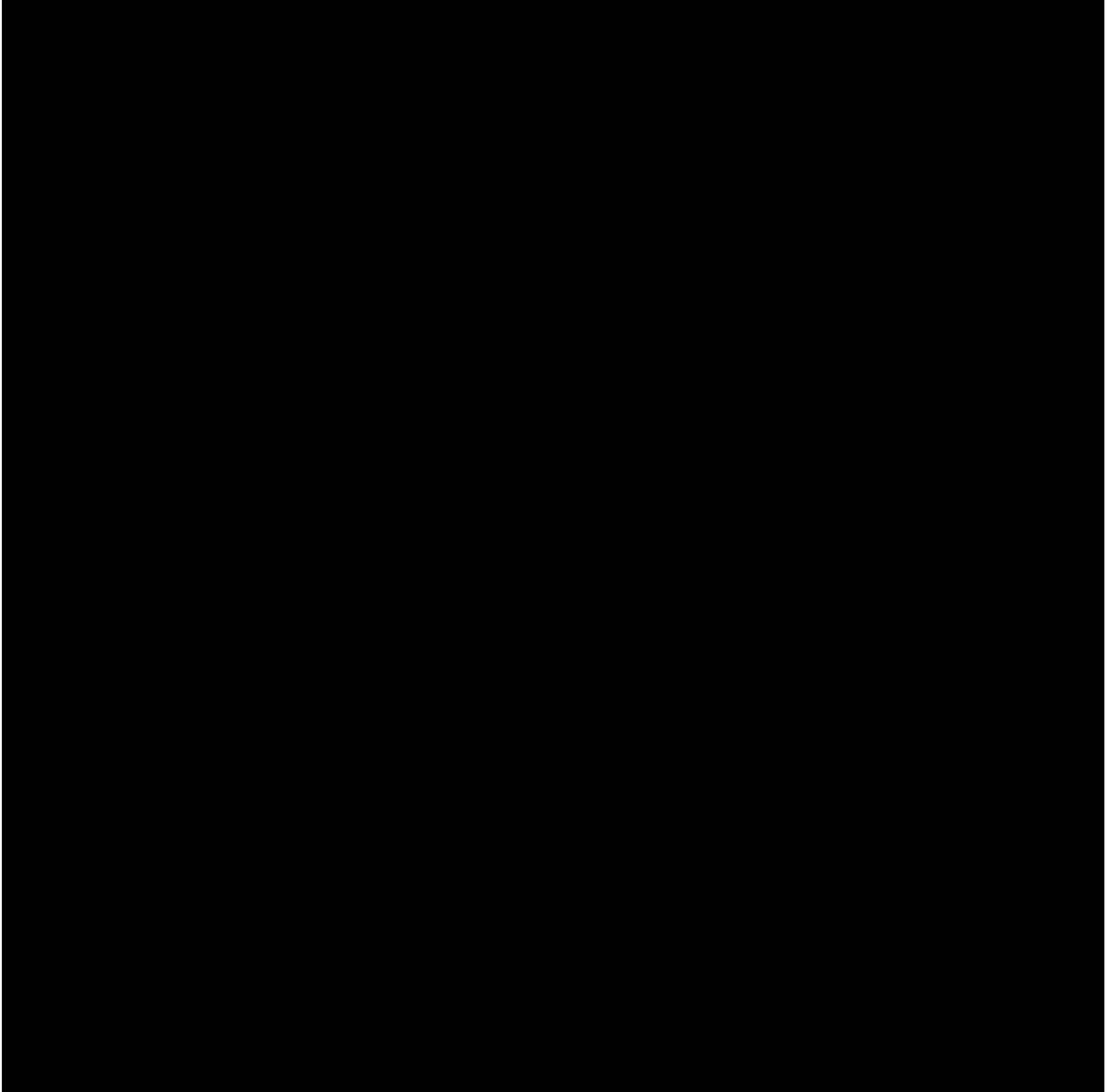
<sup>14</sup> Spire PIR is in FIR Exhibit 5 in Appendix B of this Report.

<sup>15</sup> Spire supplemental response to Staff Data Request 0019 and Spire Attachment Grandview RCA.

<sup>16</sup> 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**

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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.



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,<sup>18</sup> 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.<sup>19</sup>

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<sup>18</sup> 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.).

<sup>19</sup> 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,<sup>20</sup> 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 incident<sup>21</sup> 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).

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<sup>20</sup> 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.

<sup>21</sup> 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 approved<sup>22</sup> 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).<sup>23</sup>

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.<sup>24</sup>

The Spire Manager of Distribution, Integrity, and Engagement, \*\* [REDACTED], \*\* notified the National Response Center at 7:38 pm on April 22, 2025.<sup>25</sup>

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, 2025<sup>26</sup>.

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.

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

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

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

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

<sup>26</sup> 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).<sup>27</sup>

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.

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<sup>27</sup> 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.<sup>28</sup> 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”<sup>29</sup> 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 activities<sup>30</sup>. 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

<sup>28</sup> 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.

<sup>29</sup> 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.”

<sup>30</sup> \*\* [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 regulations<sup>31</sup> by reference.<sup>32</sup> 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.<sup>33</sup> 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.<sup>34</sup> 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.

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<sup>31</sup> 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.

<sup>32</sup> 20 CSR 4240-40.080(1).

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

<sup>34</sup> 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.<sup>35</sup>

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.<sup>36</sup>

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).<sup>37</sup>

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.”<sup>38</sup>

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<sup>35</sup> 49 CFR § 199.3.

<sup>36</sup> *Id.*

<sup>37</sup> *Id.*

<sup>38</sup> 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.”<sup>39</sup>
- Post-Accident: 49 CFR § 199.105(b) provides the post-accident<sup>40</sup> 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.”<sup>41</sup>

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

- Post-Accident: 49 CFR § 199.225(a) provides the post-accident<sup>42</sup> 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.”<sup>43</sup>

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<sup>39</sup> 49 CFR § 199.105(c)(1).

<sup>40</sup> 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.).

<sup>41</sup> 49 CFR § 199.105(b)(1).

<sup>42</sup> 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.).

<sup>43</sup> 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.<sup>44</sup>

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).<sup>45</sup>

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] \*\*. <sup>\*\*46</sup>

Random Drug Testing:

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

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] \*\*. <sup>\*\*</sup> Two of the three employees were tested in a timely manner resulting in negative test results.<sup>48</sup>

\*\* [REDACTED] \*\* was unable to be tested due to his medical condition.<sup>49</sup>

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] \*\*. <sup>\*\*</sup>

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<sup>44</sup> Spire's response to Staff Data Request 0004.

<sup>45</sup> Post Incident Review.

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

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

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

<sup>49</sup> 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.<sup>50</sup>

Drug testing is required to be performed as soon as possible, but not later than 32 hours after the incident.<sup>51</sup> Alcohol testing is required within two hours following the incident<sup>52</sup>. 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.

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

<sup>51</sup> Required by 49 CFR 199.105(b).

<sup>52</sup> 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,<sup>53</sup> including any other entity or individual performing covered tasks on behalf of the operator.<sup>54</sup> 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."<sup>55</sup>

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."<sup>56</sup>

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

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<sup>53</sup> 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.").

<sup>54</sup> 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.").

<sup>55</sup> 20 CSR 4240-40.030(12)(D)1.B.

<sup>56</sup> 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.<sup>57</sup>

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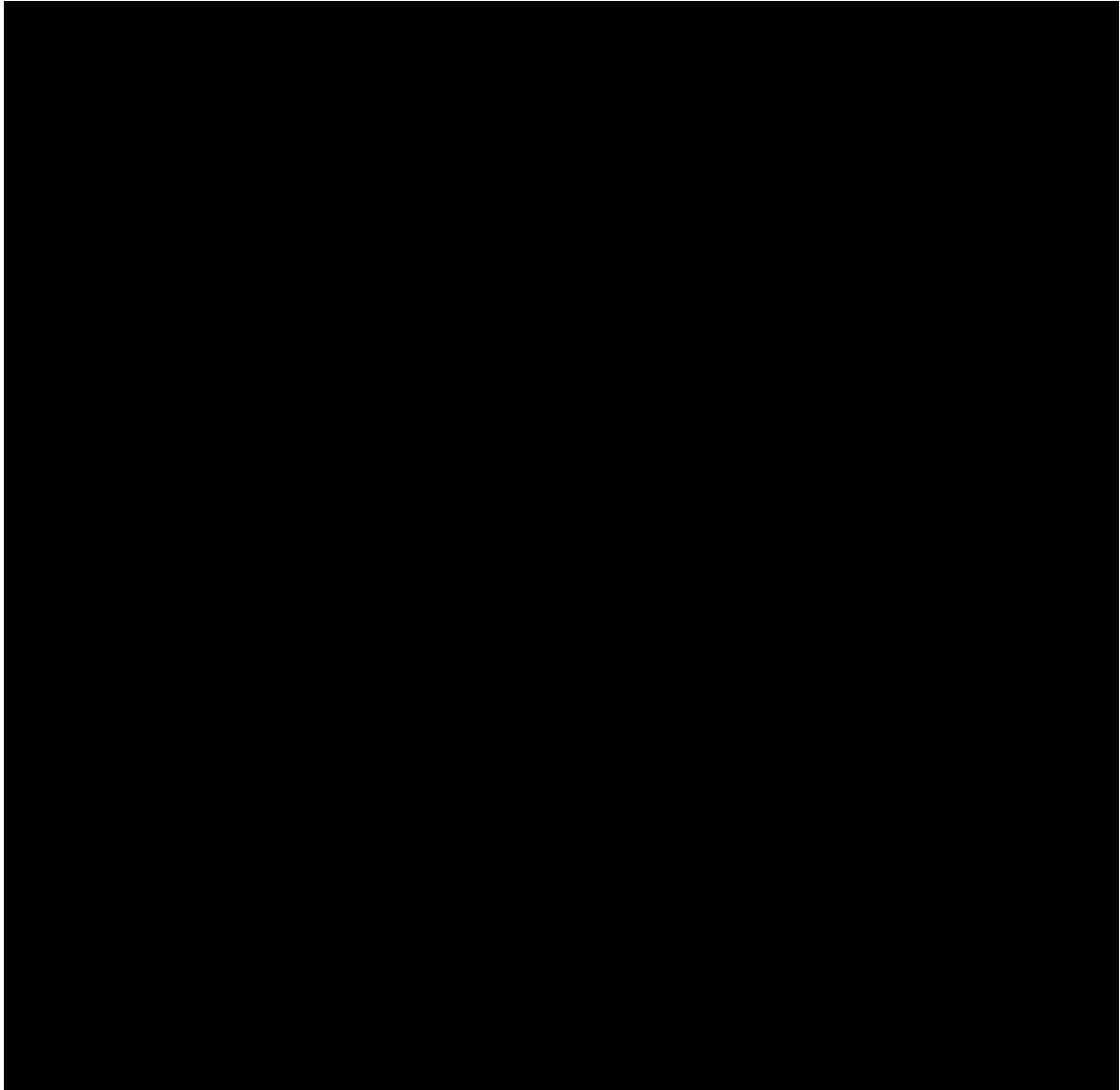
<sup>57</sup> 20 CSR 4240-40.030(12)(D)3.A-I.

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.<sup>58</sup>

**Confidential TABLE 3: Spire Personnel Covered Tasks**

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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

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<sup>58</sup> 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,<sup>59</sup> 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,<sup>60</sup> evaluate the relative importance of each threat, and estimate and rank the risks posed to its pipeline.<sup>61</sup> Operators must determine and implement measures to address the risks,<sup>62</sup> then measure performance and evaluate the effectiveness of the program in controlling each identified threat.<sup>63</sup>

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.<sup>64</sup> In its incident report provided to PHMSA<sup>65</sup>, 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.

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<sup>59</sup> 20 CSR 4240-40.030(17)(D)1.

<sup>60</sup> 20 CSR 4240-40.030(17)(D)2.

<sup>61</sup> 20 CSR 4240-40.030(17)(D)3.

<sup>62</sup> 20 CSR 4240-40.030(17)(D)4.

<sup>63</sup> 20 CSR 4240-40.030(17)(D)5.

<sup>64</sup> Spire response to Staff Data Request 0011.

<sup>65</sup> 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)





