

Missouri Public Service Commission

Staff's Gas Incident Report

2222 Menard Street  
St. Louis, Missouri  
February 5, 2014



**Laclede Gas Company**  
**File No. GS-2014-0226**

*Regulatory Review Division*  
*Tariff, Safety, Economic and Engineering Analysis Department*  
*Energy Infrastructure Reliability Unit*  
*December 18, 2014*  
*Jefferson City, Missouri*

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1 **I. EXECUTIVE SUMMARY**

2 At approximately 1:13 p.m. Central Standard Time (CST) on February 5, 2014, a  
3 natural gas explosion and fire occurred at 2222 Menard Street in St. Louis, Missouri, the  
4 location of Stars Design Group Headquarters. The building was destroyed as a result of the  
5 explosion and subsequent fire. Two vehicles parked next to the building sustained extensive  
6 damage. The Stars Design Group employees were evacuated by the St. Louis Fire  
7 Department just prior to the explosion. There were no injuries requiring medical attention.

8 Laclede Gas Company (Laclede) provides natural gas service in St. Louis, Missouri.  
9 The building at 2222 Menard Street was supplied natural gas through a 2-inch diameter  
10 polyethylene (PE) service line. The natural gas service line was operating at approximately  
11 12 pounds per square inch gauge (psig) at the time of the explosion. Laclede conducted leak  
12 surveys after the explosion to determine the extent and migration of the leaking natural gas,  
13 and took steps to stop the flow of natural gas in the service line.

14 The Missouri Public Service Commission's Energy Infrastructure Reliability Unit,  
15 Safety/Engineering Section Staff (Staff) has determined that the probable cause of the  
16 incident was the ignition of natural gas that had escaped from the 2-inch diameter PE service  
17 line to 2222 Menard Street. A hole, approximately 2-inches by 1-inch, was found in the  
18 bottom of the service line. Natural gas escaping from this hole migrated underground along  
19 paths of least resistance to 2222 Menard Street and through the stone foundation. The  
20 migrating natural gas accumulated within the structure to an explosive gas-in-air mixture and  
21 was ignited by an undetermined ignition source.

22 The cause of the damage to the service line was a directional boring excavation by  
23 Four Winds Construction (Four Winds) on February 5, 2014. Four Winds was a construction  
24 subcontractor for MasTec, who was a contractor for AT&T. Four Winds personnel were

1 using directional boring equipment to bore horizontally from north to south along the curb of  
2 Menard Street in preparation for installing an underground telecommunications cable. As the  
3 boring progressed between the curb and sidewalk, the directional boring drill head came in  
4 contact with the 2-inch diameter PE service line, causing the hole in the service line.

5 On January 30, 2014, MasTec had submitted a request to Missouri One Call System,  
6 Inc. (MO One Call) for the underground facilities to be located in the area of the planned  
7 excavation at 2222 Menard Street. On February 3<sup>rd</sup>, United States Infrastructure Corporation  
8 (USIC)<sup>1</sup> marked the ground and pavement with yellow paint lines to indicate natural gas  
9 facilities and orange paint lines to indicate telecommunications facilities in the planned  
10 excavation area. Later on February 3<sup>rd</sup>, a representative of MasTec met the Four Winds  
11 supervisor at the site and turned the job over to Four Winds.

12 In the area where the third-party damage occurred, USIC had placed a line of yellow  
13 locate marks on the ground and on the valve box lid for the service line valve indicating a  
14 natural gas facility (See Appendix C, Photograph 12). The paint markings were covered by  
15 snow on the morning of February 5<sup>th</sup> and were not visible to the Four Winds crew. Further,  
16 the crew had been told by their supervisor that the directional boring path was clear and they  
17 could proceed, even though the surface was covered with snow.

18 Based on its investigation, Staff determined the following: 1) Four Winds should have  
19 notified MO One Call to have underground facilities located in the area, since Four Winds  
20 was the excavator, instead of working under the notification made by MasTec; 2) The Four  
21 Winds supervisor failed to observe the yellow paint marks over the service line on February  
22 3<sup>rd</sup>, and then the crew excavated on February 5<sup>th</sup> when snow was obscuring the marks,  
23 resulting in a failure to pothole the marked service line when directionally boring across it;

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<sup>1</sup> USIC is a contract locator for Laclede and other underground facility owners.

1 and, 3) Since snow was obscuring the marks on February 5<sup>th</sup>, Four Winds should have  
2 contacted MO One Call to request remarking.

3 During the course of its investigation into this incident, Staff did not discover any  
4 violations of the Missouri Public Service Commission's pipeline safety statutes and  
5 regulations.<sup>2</sup> Staff is not making any recommendations to the Commission regarding Laclede  
6 as a result of Staff's investigation.

## 7 **II. STAFF ANALYSIS OF INCIDENT AND CONCLUSIONS**

### 8 **A. Excavator Notification of Intent to Excavate**

#### 9 **Analysis:**

10 On January 30, 2014, in anticipation of installing new fiber optic cable for AT&T,  
11 MasTec notified MO One Call of its intent to excavate by directional boring in the vicinity of  
12 2222 Menard Street. As described further in the following section, USIC marked  
13 underground facilities in response to this notification on February 3, 2014. Later on February  
14 3<sup>rd</sup>, MasTec showed this job site to a subcontractor, Four Winds. Instead of making its own  
15 notification to MO One Call, Four Winds used the markings provided in response to  
16 MasTec's notification. To comply with Chapter 319 RSMo, the excavator actually making  
17 the excavation must notify MO One Call of its intent to excavate and provide required items  
18 of information about the excavator and excavation.<sup>3</sup>

#### 19 **Conclusion:**

20 MasTec complied with Chapter 319 RSMo by notifying Mo One Call of its intent to  
21 excavate. On February 3, 2014, Four Winds, as the excavator that was actually going to make

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<sup>2</sup> 4 CSR 240-40.030: Safety Standards – Transportation of Gas by Pipeline

<sup>3</sup> Section 319.026 RSMo, subsections 1 and 2, requires that the excavator actually making the excavation shall notify MO One Call of its intent to excavate and provide MO One Call with information and contacts for the excavator conducting the excavation.

1 the excavation, should have notified MO One Call of its planned excavation and provided the  
2 required information that applied to Four Winds. If Four Winds had notified MO One Call on  
3 February 3<sup>rd</sup>, Four Winds could have started the excavation on or after February 6, 2014.

#### 4 **B. Locating and Marking Natural Gas Main and Service Line**

##### 5 **Analysis:**

6 On February 3, 2014, USIC, on behalf of Laclede, located and marked the  
7 approximate location of the gas main with a line of yellow paint marks on the pavement  
8 surface of Menard Street. USIC also located and marked the approximate location of the gas  
9 service line to 2222 Menard Street with a line of yellow paint marks on the street, ground, and  
10 sidewalk surfaces between the gas main and the building. A parked car limited marking for  
11 the street portion of the service line to one mark at the gas main connection in the street and  
12 one mark on the curb.

13 To document the locating, USIC took photographs of the locate marks on February 3,  
14 2014. A photograph of the yellow paint mark on and across the valve box lid for the gas  
15 service line valve verified that the line of yellow paint marks at the location of the gas service  
16 line damage accurately marked the approximate location<sup>4</sup> of the gas service line (See  
17 Appendix C, Photograph 12).

18 Staff's on-site investigation, and later comparison of USIC's photographs of the  
19 completed gas facility markings with Laclede's records of mains and service lines in the  
20 vicinity, confirmed that all gas mains and service lines that could have been impacted by  
21 directional boring were marked.

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<sup>4</sup> "Approximate location" is defined in Section 319.015 RSMo as "a strip of land not wider than the width of the underground facility plus two feet on either side thereof."

1 **Conclusion:**

2 The gas service line to 2222 Menard Street was accurately marked prior to the third-  
3 party damage of the service line.

4 **C. Excavation Damage to Natural Gas Service Line**

5 **Analysis:**

6 On February 5, 2014, in compliance with Chapter 319 RSMo, Four Winds personnel  
7 notified MO One Call that it had damaged a natural gas line at 2222 Menard Street.<sup>5</sup> MO One  
8 Call notified Laclede of the damage, but the explosion occurred before the Laclede first  
9 responder arrived. Four Winds personnel also called 911 to report the gas odor.

10 When directional boring is used to install fiber optic cable, a boring pit is excavated to  
11 allow the directional boring drill head to enter the ground. A second boring pit is excavated  
12 to receive the drill head. A directional bore is made between the two boring pits, and then a  
13 conduit pipe is pulled back through the bore path. If the boring path will cross a marked  
14 underground facility, Chapter 319 RSMo requires the excavator to confirm the horizontal and  
15 vertical location of the underground facility. This is normally done with a pothole.<sup>6</sup> The Four  
16 Winds crew excavated a boring pit on the east side of Menard Street and used this boring pit  
17 for a directional bore to the south toward Shenandoah Avenue. The Four Winds supervisor  
18 told the crew that there was no underground facility in the boring path. The yellow paint

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<sup>5</sup> In the event of any damage to an underground facility, the responsible party must immediately report the damage to MO One Call (Section 319.045 RSMo), and then MO One Call notifies the underground facility operator.

<sup>6</sup> A pothole is a hole dug by non-mechanical means (e.g., hand-dig, soft-dig with water and air tools) to expose an underground facility to verify its location and depth. A pothole is a method that can be used to comply with the Section 319.037 RSMo requirement that an excavator make careful and prudent efforts to confirm the horizontal and vertical location of a marked underground facility when directional boring within the marked approximate location.

1 marks for the gas service line to 2222 Menard Street were covered with snow, so the crew  
2 was unaware of the gas service line and the need to determine its location with a pothole.

3 The Four Winds supervisor said he walked the job site on February 3<sup>rd</sup>. The job site  
4 included areas on both sides of the cars parked along the east curb of Menard Street.  
5 Observations should have been made on the building side of parked cars since the ground  
6 surface next to the curb was within the marked area of proposed excavation and, more  
7 importantly, the actual boring path was on the building side of the parked cars. If the  
8 supervisor had walked and observed the ground and sidewalk surfaces on the building side of  
9 the parked cars, he should have been aware of the yellow paint marks over the gas service line  
10 between the curb and the building because these marks would have been highly visible to  
11 anyone making observations on the building side of the parked cars along Menard Street.

12 The yellow paint marks over the gas service line, which should have been observed on  
13 February 3<sup>rd</sup>, were covered with snow on the morning of February 5<sup>th</sup> when the Four Winds  
14 crew was directionally boring to install a fiber optic cable. Section 319.026.6 RSMo states, in  
15 part:

16 When markings have been provided in response to a notice of intent to  
17 excavate, *excavators may commence or continue to work within the area*  
18 *described in the notice for so long as the markings are visible.* If an excavator  
19 is unable to begin the excavation within ten working days as described in the  
20 request, the excavator shall make a relocate request before beginning the  
21 excavation. *If markings become unusable due to weather, construction or*  
22 *other cause, the excavator shall contact the notification center to request*  
23 *remarking.* (Emphasis added.)

24 **Conclusion:**

25 It is unclear to Staff how the Four Winds supervisor failed to observe the readily  
26 visible yellow paint marks over the gas service line on February 3<sup>rd</sup> at the eventual bore  
27 crossing. This same supervisor instructed the Four Winds crew to proceed with the



1 directional boring on February 5<sup>th</sup>, when much of the boring path and the yellow paint marks  
2 for the gas service line were covered with snow. As noted above, Section 319.026 RSMo  
3 states that excavations may only commence or continue when markings are visible. When  
4 markings become unusable due to weather, an excavator must call MO One Call to request  
5 remarking. Four Winds should have taken actions to observe the markings for the gas service  
6 line to 2222 Menard Street on February 3<sup>rd</sup>. Four Winds should have waited to commence  
7 this portion of the directional bore until the markings were visible, or until the appropriate  
8 time after remarkings were requested and provided. Once markings were visible, action (such  
9 as making a pothole) would have been required to confirm the underground location of the  
10 gas service line, so that the directional boring could be made with adequate separation from  
11 the service line.

#### 12 **D. Natural Gas Escape and Migration**

##### 13 **Analysis:**

14 The natural gas escaping from the damaged 2-inch diameter PE gas service line exited  
15 at a pressure of approximately 12 psig. The approximate 2-inch by 1-inch hole (See  
16 Appendix C, Photographs 8 and 9) in the bottom of the gas service line would have allowed  
17 natural gas to escape downward at a rapid rate. Since natural gas is lighter than air,<sup>7</sup> it will  
18 migrate along paths of least resistance through the soil and upward into the atmosphere;  
19 however, the top surface layer of soil, frozen by the subfreezing temperatures, would have  
20 restricted the upward migration of the natural gas into the atmosphere. The nearby service  
21 line valve box would have been a possible path of least resistance, but the valve box lid would  
22 have restricted escape to the atmosphere. The sidewalk and street pavement also restricted the  
23 upward migration of the natural gas into the atmosphere.

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<sup>7</sup> Natural gas has specific gravity of approximately 0.6 while air has a specific gravity of 1.0.

1 With the upward migration of the natural gas restricted, the natural gas would have  
2 migrated laterally through the soil. The backfill in excavations made to install utilities and to  
3 place foundation walls is normally less compacted than undisturbed soil. The natural gas  
4 would have migrated to the foundation of 2222 Menard Street through the soil along the  
5 service line, and possibly through other soil paths. Voids in the aggregate beneath the  
6 sidewalk would be another likely path to the foundation wall.

7 **Conclusion:**

8 Natural gas leaking from the underground service line migrated along paths of least  
9 resistance to the foundation of 2222 Menard Street.

10 **E. Natural Gas Entrance, Accumulation, and Ignition**

11 **Analysis:**

12 The west foundation wall for 2222 Menard Street was constructed with stones.  
13 Natural gas migrating to and along the stone foundation would have entered the basement  
14 through cracks and voids between the stones. Natural gas entering the structure at 2222  
15 Menard Street accumulated to an explosive mixture, between 4.5 percent and 14.5 percent  
16 gas-in-air, and was ignited. The building was actively being used as a commercial business  
17 and contained several possible ignition sources.

18 **Conclusion:**

19 Natural gas entered the structure at 2222 Menard Street through a stone foundation  
20 wall, accumulated, and was ignited by an undetermined source.

### **III. STAFF RECOMMENDATIONS**

Based on Staff's investigation, analysis, and conclusions related to the Missouri Public Service Commission's pipeline safety statutes and regulations, the incident was a result of actions by a subcontractor working on behalf of AT&T. Therefore, Staff makes no recommendations regarding Laclede.

1 **APPENDIX A**  
2 **DETAILED DISCUSSION OF FACTS AND STAFF'S INVESTIGATION**

3 NOTE: The information presented in Appendix A was obtained through Staff's on-site investigation;  
4 interviews, records and reports of Laclede Gas Company; and interviews, records and reports of other  
5 entities.

6  
7 **A. The Incident**

8 At approximately 1:13 p.m. CST on February 5, 2014, a natural gas explosion and fire  
9 occurred in the Stars Design Group Headquarters at 2222 Menard Street in St. Louis,  
10 Missouri.

11 **B. Personal Injuries**

12 The owner of Stars Design Group reported there were eleven employees of Stars  
13 Design Group inside 2222 Menard Street prior to the explosion. The St. Louis Fire  
14 Department evacuated the building immediately before the explosion occurred. As a result,  
15 no injuries requiring medical attention were officially reported.

16 **C. Property Damage**

17 The building at 2222 Menard Street was destroyed as a result of the natural gas  
18 explosion and subsequent fire. Falling debris damaged two automobiles parked next to the  
19 building on the east side of Menard Street. The glass in the south door of 2218 Menard Street  
20 (the building immediately north of 2222 Menard Street) was broken.

21 **D. Site Description**

22 2222 Menard Street is located in the northeast corner of the intersection of Menard  
23 Street and Shenandoah Avenue in the Soulard neighborhood of St. Louis. Menard Street runs  
24 from north-northeast to south-southwest and Shenandoah Avenue runs east-southeast to west-

1 northwest (See Appendix B, Figure 1). The structure was of masonry construction and was  
2 the headquarters of the Stars Design Group (See Appendix C, Photograph 1). A gated  
3 entrance to the business was located along Menard Street and between the buildings at 2222  
4 and 2218 Menard Street (which is also owned by Stars Design Group). The area surrounding  
5 2222 Menard Street is zoned primarily for multiple family residences and neighborhood  
6 commercial properties.

#### 7 **E. Meteorological Data and Conditions**

8 On Monday, February 3<sup>rd</sup>, the sky was clear or partly cloudy in the morning and  
9 mostly cloudy throughout the rest of the day. No precipitation was recorded by any of the  
10 nearby weather stations. Additionally, none of the weather stations reported any snow or ice  
11 on the ground.

12 On Tuesday, February 4<sup>th</sup>, the day was overcast with periods of light snow in the  
13 morning. At 9:00 a.m., the weather station at the St. Louis Science Center reported zero  
14 inches of accumulation. Small accumulations of snow were recorded in the afternoon and  
15 light snowfall continued throughout the rest of the day and all through the night.

16 On Wednesday, February 5<sup>th</sup>, snow was reported to be falling throughout the morning  
17 with intermittent snow in the afternoon and evening. By 9:00 a.m., multiple weather stations  
18 in the St. Louis metro area were reporting three inches or more of snow accumulation and by  
19 the end of the day, three to four inches of accumulation were reported. Based on a review of  
20 the weather radar and the reported conditions from the weather station at Lambert-St. Louis  
21 International Airport, no significant amounts of snowfall occurred after the morning of  
22 February 5<sup>th</sup>. Local high temperatures for February 5<sup>th</sup> were all below freezing and ranged  
23 from the low 20s to high 20s degrees Fahrenheit.

1 **F. Natural Gas System**

2 Natural gas service in St. Louis, Missouri is provided by Laclede Gas Company. A 3-  
3 inch diameter PE natural gas main is located along the east side of Menard Street between  
4 Ann Avenue and Shenandoah Avenue, and at the incident location is approximately seven  
5 feet west of the east curb line of Menard Street (See Appendix B, Figure 1). The main was  
6 installed during the summer of 2005 and was initially operated as part of a low-pressure  
7 distribution system.<sup>8</sup> In October 2010, Laclede uprated<sup>9</sup> the low-pressure distribution system  
8 in the area of Menard Street and Shenandoah Avenue to a high-pressure distribution system  
9 with a maximum allowable operating pressure (MAOP) of 25 psig. At the time of the  
10 incident, the main was operating at a pressure of approximately 12 psig.

11 Natural gas was delivered to 2222 Menard Street through a 2-inch diameter PE service  
12 line that was installed in May 1980. The service line was located approximately nine feet  
13 south of the north building line and extended from the main beneath Menard Street to an  
14 inside meter set at the west basement wall of 2222 Menard Street.

15 **G. Leakage Surveys**

16 Laclede completed a mobile leak survey of the gas distribution mains in the  
17 neighborhood including 2222 Menard Street on January 3, 2014, and conducted service line  
18 leak surveys in this neighborhood on September 21 - 26, 2012. Neither leak survey  
19 discovered any leaks within a one-block radius of 2222 Menard Street.

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<sup>8</sup> MoPSC regulation 4 CSR 240-40.030(12)(O)1. requires a low-pressure distribution system not be operated at a pressure greater than: a pressure high enough to make unsafe the operation of any connected and properly adjusted low-pressure gas burning utilization equipment; or an equivalent of fourteen inches water column.

<sup>9</sup> The MoPSC regulations in 4 CSR 240-40.030(11) prescribe the minimum requirements for increasing maximum allowable operating pressures (uprating) for pipelines.

1     **H.     Odorization**

2             The records of odor intensity tests performed by Laclede in the distribution system  
3     serving the incident location demonstrated that the natural gas was readily detectable at gas-  
4     in-air concentrations of approximately 0.35 percent<sup>10</sup> during the month prior to the incident.  
5     Following the incident on February 5, 2014, Laclede performed odorant intensity tests at  
6     locations surrounding 2222 Menard Street and found the gas to be readily detectable at  
7     concentrations of 0.33-0.45 percent gas-in-air.

8     **I.     Laclede’s Damage Prevention Program**

9             Laclede is required by 4 CSR 240-40.030(12)(I)1. to follow a written program to  
10    prevent damage to pipelines by excavation activities. This program must address the  
11    requirements in 4 CSR 240-40.030(12)(I)3. and 4. as listed below. Laclede is a member of  
12    MO One Call and has a separate Damage Prevention Department that focuses on damage  
13    prevention safety efforts and investigates third-party damages.

14            1. 4 CSR 240-40.030(12)(I)3.A.<sup>11</sup> – MO One Call maintains and annually updates a  
15    statewide list of known excavators on behalf of its member utilities like Laclede. This list  
16    identifies entities that normally engage in excavation activities in areas near underground  
17    facilities owned by member utilities. Laclede provides annual updates to MO One Call, based  
18    on a review of excavators who engaged in excavation near Laclede pipelines in the past  
19    twelve months.

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<sup>10</sup> MoPSC regulation 4 CSR 240-40.030(12)(P)1. requires the odorant in natural gas to be readily detectable at a concentration of less than 0.90 percent gas-in-air, based upon a lower explosive limit at 4.5 percent gas-in-air.

<sup>11</sup> MoPSC regulation 4 CSR 240-40.030 (12)(I)3.A. requires among other things that a damage prevention program:  
“Include the identity, on a current basis, of persons who normally engage in excavation activities in the area in which the pipeline is located. A listing of persons involved in excavation activities shall be maintained and updated at least once each calendar year with intervals not exceeding fifteen (15) months.”

1           Laclede provided annual excavator updates on February 11, 2013, and on January 21,  
2   2014. Multiple contacts for AT&T and MasTec were on the MO One Call list at the time of  
3   these annual updates. Four Winds made locate requests in the Laclede service territory  
4   starting in November 2013 and was added to the list of excavators maintained by MO One  
5   Call in 2014.

6           2. 4 CSR 240-40.030(12)(I)3.B., C., and F. – Laclede participates in the MO One  
7   Call excavator education program, under which MO One Call sends out an educational  
8   newsletter semi-annually in the spring and fall to excavators listed on the MO One Call  
9   excavator list. These semi-annual notifications include reference to the MO One Call website  
10   where excavators can access additional information about MO One Call and damage  
11   prevention documents, such as MO One Call's *Excavator Manual* and the *Underground*  
12   *Facility Safety and Damage Prevention Act* (Sections 319.010 through 319.050 of Chapter  
13   319, RSMo). Four Winds was not added to the MO One Call excavator list until 2014;  
14   therefore, the first semi-annual notification to Four Winds would have been sent in the spring  
15   of 2014 (early May).

16           Laclede also sends out an annual company-specific notification to excavators. The  
17   most recent annual notification by Laclede was in December 2013 and consisted of an  
18   Excavation Safety brochure covering damage prevention topics, including requirements when  
19   using boring equipment.

20           3. 4 CSR 240-40.030(12)(I)3.D. – MO One Call receives and records notifications of  
21   planned excavation activities for Laclede, as required by this Commission rule.



1           4. 4 CSR 240-40.030(12)(I)3.E. – Laclede and MO One Call maintain records of the  
2 excavator mailings and the excavation notifications/responses as required by this Commission  
3 rule.

4           5. 4 CSR 240-40.030(12)(I)3.G. – Laclede provides for temporary marking of buried  
5 pipelines in response to excavation notifications (locate requests) received through MO One  
6 Call as required by this Commission rule. The location marking of Laclede natural gas  
7 facilities is normally performed by Laclede’s contract locating company, USIC.

8           6. 4 CSR 240-40.030(12)(I)3.H. and (12)(I)4. – Laclede identified when construction  
9 site visits were needed based on a variety of factors, such as situations where the excavation is  
10 scheduled to take place near transmission lines, gathering lines, cast iron mains, oxyacetylene-  
11 welded steel mains, or threaded-coupled steel pipelines, or when notice is provided of long-  
12 duration boring projects planned by boring contractors with prior facility damage history.  
13 Facilities and notifications in the above-noted categories are defined by Laclede as “High  
14 Profile” and require evaluation to determine the need for and extent of on-site inspections by  
15 Laclede personnel when an excavation notification and involved facilities meet these criteria.

16 **J. Laclede Response to Facility Locate Request**

17           On January 30, 2014, in anticipation of installing fiber optic cable for AT&T, MasTec  
18 notified MO One Call of its intentions to excavate and to use directional boring equipment.  
19 When the representative of MasTec contacted MO One Call, Ticket #140301962 was  
20 generated by MO One Call and was transmitted to Laclede and to other operators of  
21 underground facilities in the area. This ticket included information that excavation with a  
22 directional boring machine was planned in the vicinity of 2222 Menard Street to install fiber  
23 optic cable for AT&T, and that MasTec had marked the area of the intended excavation.

1 Laclede received MasTec's facility locate request from MO One Call and transmitted  
2 it to USIC. A USIC employee reported that the locate request was completed at 1:24 p.m. on  
3 February 3, 2014. According to a Laclede data request response, Laclede did not receive any  
4 other notifications of intent to excavate or any requests for remarking at this location prior to  
5 the incident.

6 The plan to directionally bore a fiber optic service line to one business was too small  
7 in scope to be considered by Laclede as a long-duration boring project, and the boring was  
8 planned to take place near PE mains and service lines. Therefore, Laclede determined that the  
9 excavation notification and natural gas facilities at 2222 Menard Street did not meet the "High  
10 Profile" criteria in Laclede's Damage Prevention Program and no on-site inspections were  
11 conducted by Laclede personnel.

#### 12 **K. Laclede Notification and Actions**

13 At 1:10 p.m. on February 5, 2014, the St. Louis Fire Department notified a Laclede  
14 Dispatcher that a gas service line had been damaged at 2222 Menard Street. This information  
15 was dispatched at 1:13 p.m. to a Laclede Construction and Maintenance (C&M) Leak  
16 Supervisor. MO One Call also transmitted a notification to Laclede at 1:15 p.m. that a gas  
17 line had been hit at the northeast corner of Menard Street and Shenandoah Avenue.<sup>12</sup>

18 The St. Louis Fire Department contacted Laclede Dispatch again at 1:17 p.m. to report  
19 that an explosion and fire occurred at 2222 Menard Street. Laclede dispatched a Service and  
20 Installation Department (SAID) Technician to 2222 Menard Street at 1:20 p.m., and the SAID  
21 Technician arrived at 1:28 p.m. Within minutes, an additional SAID Technician and SAID  
22 Supervisor reached the scene. By 1:41 p.m. both SAID Technicians had started building

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<sup>12</sup> In the event of any damage to an underground facility, the responsible party must immediately report the damage to MO One Call (Section 319.045 RSMo), and then MO One Call notifies the underground facility operator.

1 surveys, leak investigations, and gas service shut-offs along Menard Street between  
2 Shenandoah Avenue and Ann Avenue. They shut off a service line valve to 2222 Menard  
3 Street, but this did not stop the flow of natural gas escaping from the damaged service line.  
4 The SAID workers conducted subsurface leak investigations along the outside walls of nearby  
5 buildings and at the service tee connections to the gas main. Laclede personnel shut off gas to  
6 a total of 45 customers.

7 The initial evacuation of 2222 Menard Street began soon after the St. Louis Fire  
8 Department arrived at 1:06 p.m. and was completed prior to the arrival of Laclede personnel.  
9 From the time of their arrival until 2:00 p.m., Laclede personnel assisted the St. Louis Fire  
10 Department with secondary evacuations, including all of the buildings on Menard Street  
11 between Shenandoah Avenue and Ann Avenue, 2300 Menard Street, and 1015, 1017, and  
12 1019 Shenandoah Avenue. The St. Louis Metropolitan Police Department assisted in the  
13 emergency response by closing nearby streets and intersections.

14 Laclede's procedures require that when combustible gas indicator (CGI) readings  
15 greater than or equal to 1 percent gas-in-air are found inside a building, a "safe zone" must be  
16 established where all customers, members of the public, and Laclede employees are kept out  
17 of an affected area. Laclede's initial leak investigations performed prior to 2:00 p.m.  
18 indicated that the underground migration of natural gas had not created dangerous  
19 atmospheres in neighboring buildings and that the ongoing fire at 2222 Menard Street was  
20 consuming the natural gas that was continuing to leak from the damaged service line.  
21 Therefore, Laclede determined that the procedural trigger for establishing a "safe zone" was  
22 not met; however, Laclede still decided to keep unnecessary personnel away from the area  
23 immediately surrounding the scene of the explosion. After Laclede discovered elevated

1 subsurface natural gas readings of 56 percent and 76 percent gas-in-air along the street curb in  
2 front of 2219-2227 Menard Street, Laclede expanded the restricted area at approximately 2:10  
3 p.m. and unnecessary personnel were pulled out until additional information was gathered.  
4 Shortly after that decision was made, St. Louis Fire Department personnel forced doors open  
5 on surrounding buildings so that Laclede personnel were able to conduct leak surveys and  
6 confirm that potentially affected structures and sewers were free of natural gas. At the request  
7 of Laclede, Ameren Missouri personnel cut electrical power to the buildings surrounding  
8 2222 Menard Street at 2:40 p.m. Following the confirmation that safe working conditions  
9 existed, Laclede again allowed personnel closer to the incident site.

10 Laclede personnel contacted MO One Call at 2:49 p.m. to request emergency locates  
11 of underground facilities for excavations that were necessary to respond to the incident.  
12 Laclede personnel used four isolation points on area mains to stop the flow of gas from the  
13 damaged service line (See Appendix B, Figure 1). They closed a valve located in the  
14 intersection of Menard Street and Shenandoah Avenue at approximately 4:50 p.m. The PE  
15 mains in the area were squeezed-off<sup>13</sup> at three locations, one on the east side of the road in  
16 front of 2204 Menard Street and two on the south side of Shenandoah Avenue at 1036  
17 Shenandoah Avenue and 2301 S. 10<sup>th</sup> Street. The flow of gas from the damaged PE service  
18 line was stopped at 4:54 p.m. Laclede began “air-jacking”<sup>14</sup> at 5:30 p.m. to remove any  
19 residual subsurface gas.

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<sup>13</sup> A squeeze-off tool is used to clamp the pipe shut, eliminating the flow of natural gas downstream.

<sup>14</sup> “Air-jacking” is a Laclede term used to describe the procedure of forced ventilation of the subsurface atmosphere. The purpose of the “air-jack” is to eject a volume of air out of an area which is to be ventilated. To draw natural gas from a subsurface area, a pipe connected to an air compressor is inserted into a bar-hole, excavation, man-hole, etc., and the air is forced across a venturi in the pipe creating a vacuum in the space to be ventilated. This accelerates the removal of natural gas from the space to be ventilated.

1 After the service line damage was excavated and the service line was capped off  
2 between the damage and the main, the C&M crews worked to remove water from the mains  
3 that were shut-off and then re-pressurized the main at 8:57 p.m. Laclede then worked to  
4 restore gas service to the customers that were served by these mains. Gas service was  
5 restored to 38 customers before 11:59 p.m., and the remaining seven customers had service  
6 restored on February 6, 2014. Laclede identified and monitored residual gas in the basement  
7 of 2219 Menard Street from February 6<sup>th</sup> through February 9<sup>th</sup>. During this time Laclede  
8 performed air-jacking operations at this address.

9 **L. MoPSC Reporting Requirements**

10 The incident reporting requirements in 4 CSR 240-40.020(3), (4) and (5) were  
11 completed as follows:

- 12 1. Laclede made the initial telephone notification of a possible natural gas incident to a  
13 Staff member at approximately 1:28 p.m. on February 5, 2014.<sup>15</sup>
- 14 2. Laclede notified the United States Department of Transportation-Pipeline and  
15 Hazardous Materials Safety Administration (DOT-PHMSA) of a natural gas incident  
16 at approximately 2:26 p.m. on February 5, 2014 (NRC Report Number 1073090).
- 17 3. DOT-PHMSA form PHMSA F 7100.1 titled "Incident Report – Gas Distribution  
18 System" was completed by Laclede and initially submitted to Staff on March 7, 2014.  
19 Laclede also submitted the form to DOT-PHMSA electronically.

20 **M. Missouri Public Service Commission Staff Investigation**

21 At the direction of the Pipeline Safety Program Manager, four Staff members departed  
22 from Jefferson City and the first Staff member arrived at the incident site at approximately

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<sup>15</sup> MoPSC regulation 4 CSR 240-40.020(4)(A) requires the operator to notify designated commission personnel by telephone within two hours following discovery, unless efforts to protect life and property would be hindered, for each event which meets the natural gas incident reporting requirements.

1 6:20 p.m. on February 5<sup>th</sup>. Upon arrival, Staff observed that the structure located at 2222  
2 Menard Street had been destroyed and debris had fallen along the sidewalk between the  
3 building and Menard Street. Fire damage was also evident, but darkness and safety concerns  
4 prevented a more thorough examination.

5 Laclede had informed Staff that the service line to 2222 Menard Street had been  
6 damaged by a directional boring excavation that caused a gas leak. The directional boring  
7 equipment was still in place (See Appendix C, Photograph 2) and the involved personnel from  
8 Four Winds were still present on the evening of February 5<sup>th</sup>. Staff observed that a boring pit  
9 had been excavated near the east edge of Menard Street, at a location that was north of the  
10 north building line of 2222 Menard Street. This boring pit had first been used to directionally  
11 bore a PE conduit pipe from the boring pit to the north wall of 2222 Menard Street, at a  
12 location to the east of the west building line. The end of this PE conduit pipe was visible in  
13 the boring pit. The directional boring equipment was positioned to the north of the boring pit  
14 with the drill stem pointed south through the boring pit.

15 Staff observed the surface location where the directional boring path crossed the PE  
16 service line. A yellow valve box lid was observed in the vicinity of that location, and a  
17 yellow locate mark was observed on the curb (See Appendix C, Photograph 3). Laclede shut  
18 off this service line valve during their emergency response, but the gas leak did not stop.  
19 Staff observed actions by Laclede to excavate the service line valve box and expose the PE  
20 service line. The PE service line and directional boring drill head at the excavation damage  
21 location were observed (See Appendix C, Photograph 4). The PE service line damage was  
22 located on the inlet side of the service line valve. Laclede removed the damaged section of  
23 PE service line for further observation and transporting to Laclede's laboratory. The valve

1 box lid for the service line valve box for 2222 Menard Street was also transported to the  
2 laboratory.

3 Staff observed actions by Laclede to restore gas service to the PE mains that had been  
4 isolated and shutdown to stop the gas leak. These actions were slowed by water in the gas  
5 main that had to be removed. Restoration work was still continuing when Staff left the scene  
6 at 9:05 p.m. on February 5<sup>th</sup>.

7 Staff returned to the scene the next morning for daylight observations and  
8 photographs. The roof on the western half of the building at 2222 Menard Street (along  
9 Menard Street) had mostly collapsed, and some of the bricks of the masonry walls had fallen  
10 along the outside of the building (See Appendix C, Photograph 5). The interior of the western  
11 half of the building was extensively damaged due to the fire and roof collapse. Two vehicles  
12 parked along the curb of Menard Street next to the building at the time of the incident had  
13 been moved and were now located along Menard Street to the south of Shenandoah Avenue.  
14 Brick and debris had fallen on the vehicles causing significant damage. The roof, walls, and  
15 floors of the eastern half of the building were still standing, but had sustained heat, smoke and  
16 water damage. The building was a total loss and was later demolished. Staff returned on May  
17 8<sup>th</sup> to observe the razed site and noted the debris had been removed from the basement under  
18 the western half of the building. The foundation along Menard Street was very old and  
19 constructed with stones (See Appendix C, Photograph 6).

20 After finishing at the scene on the morning of February 6<sup>th</sup>, Staff proceeded to the  
21 Laclede laboratory to further observe and photograph the damaged service line (See Appendix  
22 C, Photographs 7-9). The directional boring drill bit had bored through the bottom of the  
23 service line creating a hole that was approximately 2 inches by 1 inch. Further examinations

1 of the yellow valve box lid determined there was a base coat of darker yellow paint that is  
2 typical for Laclede to use on its valve box lids and a top layer of light yellow paint that  
3 matches the paint color that USIC used to mark the gas line locations.

4 Staff found that there was no record of a notification being made to MO One Call by  
5 Four Winds of its intent to excavate by directional boring at 2222 Menard Street.<sup>16</sup> The  
6 accumulation of snow on the ground on February 5<sup>th</sup> covered the marks indicating the location  
7 of the gas service line. There was no record of a notification being made to MO One Call by  
8 Four Winds on February 5<sup>th</sup> to request remarking of facilities in the area, as required by  
9 Chapter 319 RSMO<sup>17</sup> when the markings were not visible due to the snow accumulation.

#### 10 **N. USIC Information**

11 In response to the excavation notification made to MO One Call by MasTec on  
12 January 30, 2014, USIC marked the underground gas lines and telecommunications lines  
13 along the project route on February 3<sup>rd</sup> between 12:48 p.m. and 1:25 p.m. The project route  
14 included the east side of Menard Street, starting from the intersection with Shenandoah  
15 Avenue and extending north to approximately 50 feet north of the building at 2222 Menard  
16 Street. USIC marked telecommunication lines in orange paint on the pavement surface within  
17 the intersection of Menard Street and Shenandoah Avenue. Gas mains and service lines were  
18 marked in yellow paint within the intersection of Menard Street and Shenandoah Avenue and  
19 extending north along Menard Street.

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<sup>16</sup> Section 319.026 RSMo requires in subsections 1 and 2 that the excavator actually making the excavation shall notify MO One Call of its intent to excavate and provide MO One Call with information and contacts for the excavator conducting the excavation.

<sup>17</sup> Subsection 6 of section 319.026 RSMo states: “When markings have been provided in response to a notice of intent to excavate, excavators may commence or continue to work within the area described in the notice for so long as the markings are visible. ... If markings become unusable due to weather, construction or other causes, the excavator shall contact the notification center to request remarking. ...”



1           The USIC employee who marked the underground lines also took photographs after  
2 the markings were completed. Three of the photographs show that the gas service line to  
3 2222 Menard Street was marked with yellow paint lines on the street pavement and parkway  
4 (ground surface between the curb and sidewalk), and then with yellow paint dots on the  
5 sidewalk (See Appendix C, Photographs 10-12).<sup>18</sup> The paint line on the parkway went across  
6 the valve box lid for the service line valve.

7       **O.     AT&T Information**

8           AT&T uses independent contractors to install new fiber optic cable by directional  
9 boring or other underground installation methods. AT&T has a national contract with  
10 MasTec for outside plant and construction services. MasTec subcontracted with Four Winds  
11 to install a new fiber optic cable to the Stars Design Group building located at 2222 Menard  
12 Street. According to an AT&T data request response, AT&T was not specifically aware that  
13 MasTec subcontracted with Four Winds on this particular project. However, MasTec did  
14 provide AT&T a general notice, through a “Request for use of a Subcontractor” form, that it  
15 would be using Four Winds to perform some of the underground construction work AT&T  
16 hired MasTec to perform during the time period in which the work at 2222 Menard Street was  
17 being undertaken. The AT&T contract with MasTec, which Staff reviewed, required MasTec  
18 to comply with all applicable laws and regulations.<sup>19</sup>

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<sup>18</sup> As noted in the *Missouri Public Service Commission Staff Investigation* section of this Appendix, Staff observed a yellow locate mark on the curb on the night of the incident (See Appendix C, Photograph 3). The yellow mark on the curb is not visible in Photographs 10-12 due to a parked car that blocks the curb from view. There was only one yellow mark on the street pavement for the service line to 2222 Menard Street - see Photographs 10-11.

<sup>19</sup> For Missouri, the applicable laws and regulations include the damage prevention statutes in Chapter 319 RSMo and the safety standards as set forth in 4 CSR 240-18.010 concerning installation of electric and communication lines.

1     **P.     MasTec Information**

2             MasTec is a utility infrastructure construction company that AT&T uses as a  
3     contractor to install telecommunications lines. On Thursday, January 30, 2014, a  
4     representative of MasTec contacted MO One Call and Ticket #140301962 was generated with  
5     a “Work to Begin Date” of Tuesday, February 4, 2014. The ticket gives the type of work as  
6     “install fiber optic” for AT&T using a “directional bore machine” and mini-excavator. The  
7     location of the work was the east side of Menard Street from Shenandoah Avenue to the rear  
8     of 2222 Menard Street. USIC photographs and on-site Staff investigation revealed that  
9     MasTec marked the area of the intended excavation with white paint lines.

10            During a conversation with the MasTec contact, Staff was informed that on Monday,  
11     February 3<sup>rd</sup>, a representative of MasTec showed the job site to a supervisor of Four Winds as  
12     part of the process of subcontracting the fiber optic cable installation at 2222 Menard Street to  
13     Four Winds. The contact indicated MasTec personnel expected Four Winds to call MO One  
14     Call as the new excavator for this job. The contact also indicated MasTec’s local office was  
15     closed on February 5<sup>th</sup> due to the snow and MasTec personnel did not know Four Winds was  
16     working at the job site until after the incident occurred.

17     **Q.     Four Winds Information**

18            Four Winds was subcontracted by MasTec to install a fiber optic cable for AT&T to  
19     2222 Menard Street. The Four Winds crew supervisor told Staff that he had walked the job  
20     site with a MasTec employee on Monday, February 3, 2014. The supervisor said he observed  
21     the yellow paint marks on the street pavement for the service lines going to the addresses on  
22     the west side of Menard Street, but he did not observe any yellow paint marks going to 2222  
23     Menard Street on the east side of Menard Street.

1           On February 5, 2014, the Four Winds crew supervisor and two-person crew began  
2 work to install the fiber optic cable. A boring pit was excavated near the east edge of Menard  
3 Street, at a location that was north of 2222 Menard Street. This boring pit was first used to  
4 directionally bore a conduit pipe from the boring pit to the north wall of 2222 Menard Street.  
5 The directional boring equipment was then re-positioned for directionally boring from the  
6 boring pit south towards Shenandoah Avenue. Based upon his observations on Monday  
7 (February 3<sup>rd</sup>), the supervisor told his crew that the directional boring path to the south of the  
8 boring pit was clear of locate marks and they could proceed with the work. After this  
9 directional bore started, the supervisor left the job site to retrieve the fiber optic cable that was  
10 to be inserted in the conduit piping.

11           The operator of the directional boring machine was guiding the drill stem while the  
12 other crew member was using an electronic locating device to track the location of the  
13 directional boring drill head.<sup>20</sup> The ground surface above the directional boring path was  
14 covered with snow, so the crew member said he could not see any paint marks. The operator  
15 and crew member agreed that they needed to pothole underground facilities that crossed the  
16 directional boring path, but their understanding was that no underground facilities were  
17 present in this portion of the bore path. The machine operator indicated that he thought he  
18 had hit a tree root, but soon afterward a strong odor of natural gas was detected and the  
19 directional boring was stopped. Four Winds personnel called 911 at 1:01 p.m. to report an  
20 outside odor of gas, and then called MO One Call to report the excavation damage. The Four  
21 Winds crew alerted the occupants of 2222 Menard Street that there was a gas leak. The St.  
22 Louis Fire Department arrived at 1:06 p.m. and evacuated the business at 2222 Menard Street.

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<sup>20</sup> The directional boring drill head consists of an angled drilling bit followed by a transmitter housing, which contains a beacon that transmits a signal that can be tracked aboveground with an electronic locating device. The direction and depth of the bore can be adjusted by turning the drilling bit to left, right, up or down.

1       After the incident, the Four Winds crew supervisor returned to the site. The parked  
2 vehicles were moved and a yellow mark for the gas service line was visible on the street  
3 pavement and another yellow mark was visible on the curb. The gas service line mark on the  
4 street pavement had been under one of the vehicle tires. The supervisor then became aware  
5 that there was a gas service line to 2222 Menard Street at the location where the gas leak  
6 occurred. The supervisor told Staff that the paint mark on the street pavement must have been  
7 under a vehicle tire when he walked the job site on Monday, and he contended that the yellow  
8 paint mark on the curb was not there on Monday. Staff asked the supervisor if he was  
9 familiar with valve box lids for gas curb valves (service line valves) and if he had observed a  
10 curb box lid on Monday. The supervisor said he knew what curb box lids looked like and had  
11 not seen one when walking the job site on Monday (February 3<sup>rd</sup>).

## **APPENDIX B**

### **FIGURE**

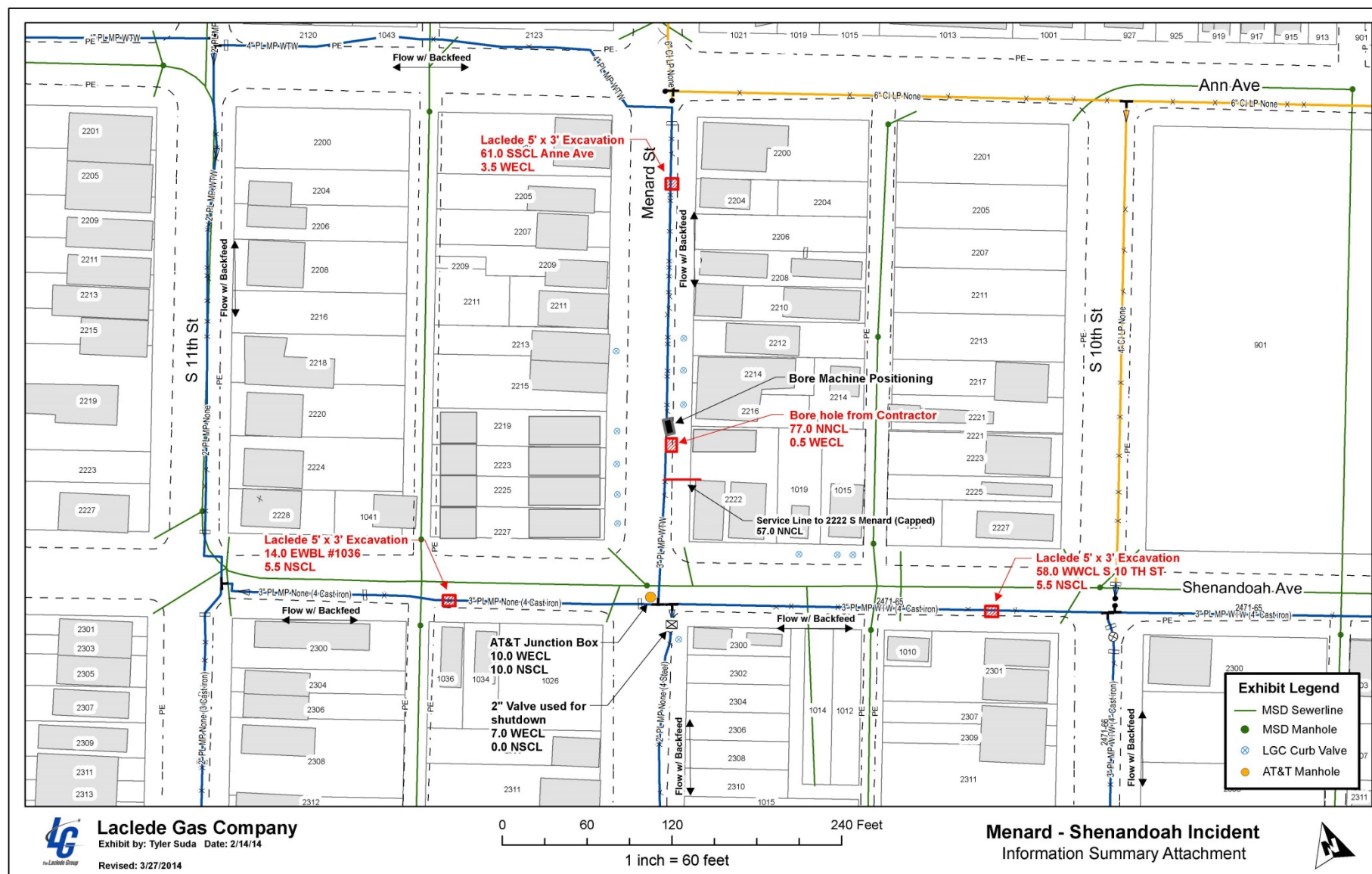


Figure 1 – Schematic of incident site at 2222 Menard Street and the surrounding area. (Courtesy of Laclede Gas Company)

**APPENDIX C**

**PHOTOGRAPHS**



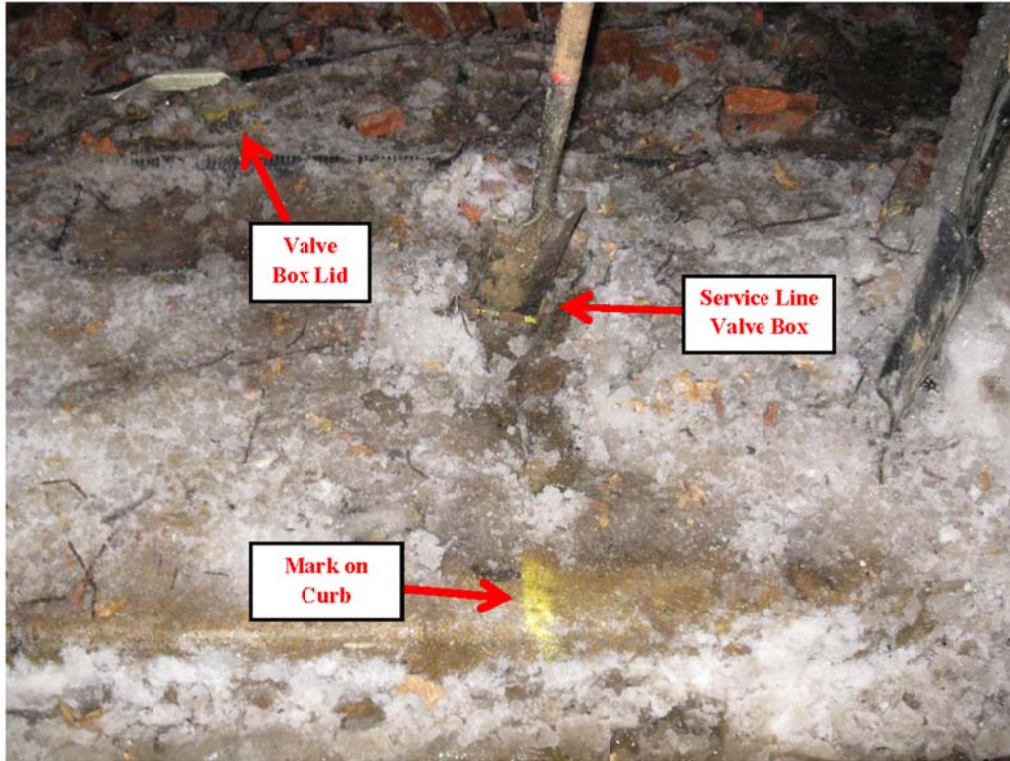


**Photograph #1 - 2222 Menard Street prior to incident, looking northeast from intersection of Menard Street and Shenandoah Avenue. (Photo taken from Google Street View)**



**Photograph #2 – This photograph was taken looking north up Menard Street, showing the horizontal drilling machine and boring pit. (Staff Photo)**





**Photograph #3 – In Menard Street looking east, the curb had been marked with yellow paint to indicate the location of a buried gas service line. The valve box lid had been removed and is at the top left of the photograph. A shovel had been placed in the service line valve box. (Staff Photo)**



**Photograph #4 –The position of damaged service line and directional boring drill head. The service line valve is covered in mud on the left side of the photograph. This photograph was taken facing south. (Staff Photo)**





**Photograph #5 – 2222 Menard Street following incident, looking northeast from the intersection of Menard Street and Shenandoah Avenue. (Staff Photo)**



**Photograph #6 – Foundation at 2222 Menard Street on May 8, 2014 following demolition. (Staff Photo)**





**Photograph #7 – Service line valve and damaged 2-inch diameter PE service line oriented east (left side) to west (right side). (Staff Photo)**



**Photograph #8 – The circumferential dimension of the hole is approximately 2 inches. (Staff Photo)**





**Photograph #9 – The longitudinal dimension of the hole is approximately 1 inch. (Staff Photo)**



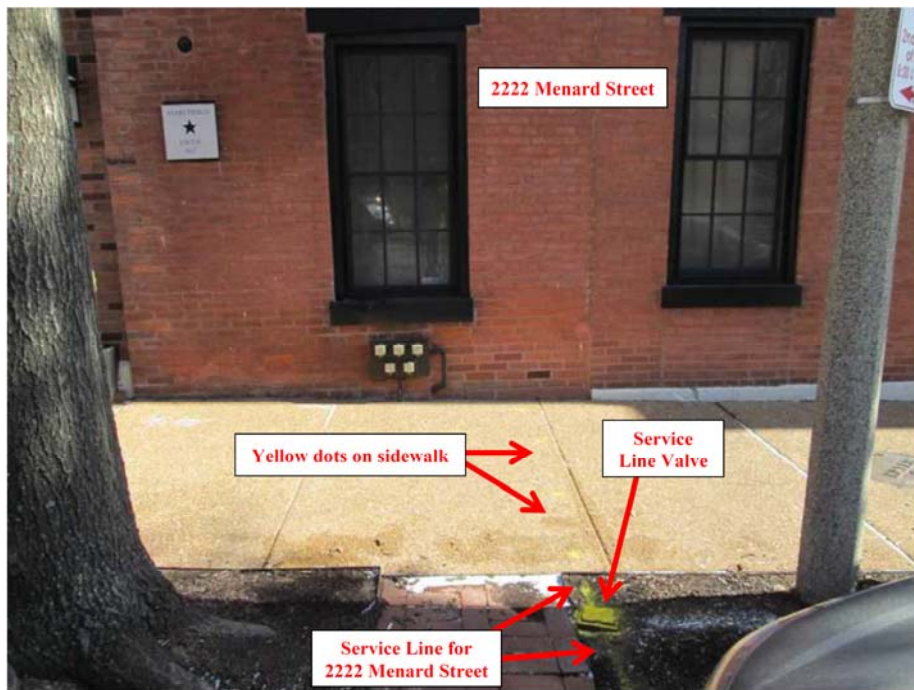
Property of United States Infrastructure Corporation  
Photo taken on 2/3/2014 1:17:27 PM

**Photograph #10 – Locate markings looking north up Menard Street. White paint indicates the extent of the excavation area, and yellow lines indicate the location of buried gas mains and service lines. (Photo courtesy of Laclede and USIC, and white caption boxes were added to photo by Staff)**



Property of United States Infrastructure Corporation  
Photo taken on 2/3/2014 1:17:33 PM

**Photograph #11 – Locate markings looking east across Menard Street. White paint indicates the extent of the excavation area, and yellow lines indicate the location of buried gas mains and services. (Photo courtesy of Laclede and USIC, and white caption boxes were added to photo by Staff)**



Property of United States Infrastructure Corporation  
Photo taken on 2/3/2014 1:17:39 PM

**Photograph #12 – Locate markings looking east from Menard Street. The yellow lines and dots indicate a buried gas service line. (Photo courtesy of Laclede and USIC, and white caption boxes were added to photo by Staff)**



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

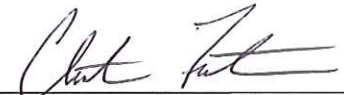
In the Matter of Laclede Gas Company     )  
Concerning a Natural Gas Incident at     )  
2222 Menard Street in St. Louis,     )  
Missouri

File No. GS-2014-0226

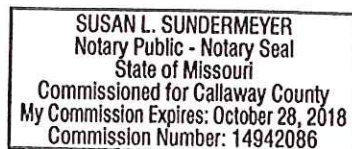
**AFFIDAVIT OF CLINTON L. FOSTER**

STATE OF MISSOURI     )  
                                      ) ss  
COUNTY OF COLE     )

Clinton L. Foster, of lawful age, on oath states: that he participated in the preparation of the foregoing Staff Report, to be presented in the above case; that the information in the Staff Report was provided to him; that he has knowledge of the matters set forth in such Staff Report; and that such matters are true to the best of his knowledge and belief.

  
\_\_\_\_\_  
Clinton L. Foster

Subscribed and sworn to before me this 17 day of December, 2014.



  
\_\_\_\_\_  
Notary Public

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

In the Matter of Laclede Gas Company     )  
Concerning a Natural Gas Incident at     )  
2222 Menard Street in St. Louis,     )  
Missouri

File No. GS-2014-0226

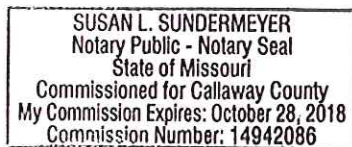
**AFFIDAVIT OF JOHN D. KOTTWITZ**

STATE OF MISSOURI     )  
                                      ) ss  
COUNTY OF COLE     )

John D. Kottwitz, of lawful age, on oath states: that he participated in the preparation of the foregoing Staff Report, to be presented in the above case; that the information in the Staff Report was provided to him; that he has knowledge of the matters set forth in such Staff Report; and that such matters are true to the best of his knowledge and belief.

  
\_\_\_\_\_  
John D. Kottwitz

Subscribed and sworn to before me this 17<sup>th</sup> day of December, 2014.



  
\_\_\_\_\_  
Notary Public

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

In the Matter of Laclede Gas Company     )  
Concerning a Natural Gas Incident at     )  
2222 Menard Street in St. Louis,     )  
Missouri

File No. GS-2014-0226

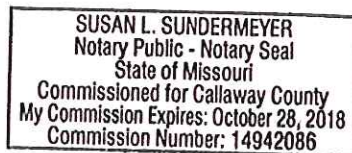
**AFFIDAVIT OF ROBERT R. LEONBERGER**

STATE OF MISSOURI     )  
                                      ) ss  
COUNTY OF COLE     )

Robert R. Leonberger, of lawful age, on oath states: that he participated in the preparation of the foregoing Staff Report, to be presented in the above case; that the information in the Staff Report was provided to him; that he has knowledge of the matters set forth in such Staff Report; and that such matters are true to the best of his knowledge and belief.

  
Robert R. Leonberger

Subscribed and sworn to before me this 17<sup>th</sup> day of December, 2014.



  
Notary Public



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

In the Matter of Laclede Gas Company     )  
Concerning a Natural Gas Incident at     )  
2222 Menard Street in St. Louis,     )  
Missouri

File No. GS-2014-0226

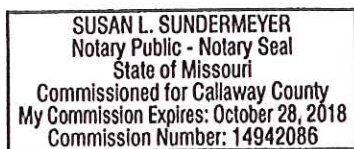
**AFFIDAVIT OF EVAN P. NEUNER**


STATE OF MISSOURI     )  
                                      ) ss  
COUNTY OF COLE     )

Evan P. Neuner, of lawful age, on oath states: that he participated in the preparation of the foregoing Staff Report, to be presented in the above case; that the information in the Staff Report was provided to him; that he has knowledge of the matters set forth in such Staff Report; and that such matters are true to the best of his knowledge and belief.

  
\_\_\_\_\_  
Evan P. Neuner

Subscribed and sworn to before me this 18<sup>th</sup> day of December, 2014.



  
\_\_\_\_\_  
Notary Public

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

In the Matter of Laclede Gas Company     )  
Concerning a Natural Gas Incident at     )  
2222 Menard Street in St. Louis,     )  
Missouri

File No. GS-2014-0226

**AFFIDAVIT OF CHARLES T. POSTON**

STATE OF MISSOURI     )  
                                      ) ss  
COUNTY OF COLE     )

Charles T. Poston, of lawful age, on oath states: that he participated in the preparation of the foregoing Staff Report, to be presented in the above case; that the information in the Staff Report was provided to him; that he has knowledge of the matters set forth in such Staff Report; and that such matters are true to the best of his knowledge and belief.



\_\_\_\_\_  
Charles T. Poston

Subscribed and sworn to before me this 18<sup>th</sup> day of December, 2014.



\_\_\_\_\_  
Notary Public