

National Transportation Safety Board

Office of Railroad, Pipeline and Hazardous Materials Investigations

Washington, DC 20594



Jackson, Mississippi
January 24 & 27, 2024

PLD24FR003

EMERGENCY RESPONSE

Group Chair's Factual report
November 19, 2024

TABLE OF CONTENTS

A.	ACCIDENTS	5
	185 BRISTOL BOULEVARD.....	5
	1146 SHALIMAR DRIVE	5
B.	EMERGENCY RESPONSE GROUP.....	5
C.	DETAILS OF THE INVESTIGATION	6
D.	SUMMARY	6
E.	OPERATOR.....	6
F.	SEQUENCE OF EVENTS.....	7
1	SITE DESCRIPTION.....	7
2	ATMOS RESPONSE TIMELINE.....	9
3)	185 Bristol Boulevard	9
4)	1146 Shalimar Drive	10
3	AMERICAN MEDICAL RESPONSE ACTIONS.....	11
1)	185 Bristol Boulevard	11
2)	1146 Shalimar Drive	11
4	JACKSON POLICE DEPARTMENT	12
1)	185 Bristol Boulevard	12
2)	1146 Shalimar Drive	12
3)	Responses to gas leak calls by Jackson Police Department	12
5	ENTERGY MISSISSIPPI LLC	12
1)	185 Bristol Boulevard	12
2)	1146 Shalimar Drive	13
G.	EMERGENCY RESPONSE PROCEDURES.....	14
1	ATMOS ENERGY.....	14
1.1.1	Emergency Response Procedures- Leak Investigation.....	15
1.1.2	Establishment of Safety Perimeters.....	15
1.1.3	Responding to Fire Related Incidents.....	16
2	NATURAL GAS CHARACTERISTICS	18
3	JACKSON FIRE DEPARTMENT	18
3.1.1	185 Bristol Boulevard Fire Response	19

4	JACKSON FIRE DEPARTMENT- EMERGENCY RESPONSE GUIDELINES	20
4.1.1	Natural Gas Incidents	20
4.1.2	Explosion	20
4.1.3	Reported Gas Leak (No Fire or Explosion)	21
4.1.4	Personnel Safety	22
5	ENTERGY	22
6	JACKSON POLICE DEPARTMENT	22
H.	GAS RELATED TRAINING	23
7	JACKSON FIRE DEPARTMENT TRAINING	23
7.1.1	Hazardous Materials Training	23
7.1.2	Additional Fire Department Training	23
8	ENTERGY GAS RESPONSE TRAINING.....	23
9	JACKSON POLICE DEPARTMENT	23
I.	AGREEMENTS WITH ATMOS FOR COORDINATED GAS LEAK RESPONSE	24
1	JACKSON FIRE DEPARTMENT	24
2	JACKSON POLICE DEPARTMENT	24
3	ENTERGY	24
J.	SUMMARY OF INTERVIEWS CONDUCTED	24
1	RESIDENTS OF BRISTOL BOULEVARD	24
1)	Phone interview from resident of 175 Bristol Blvd	24
2)	Interview of resident of 185 Bristol Boulevard [accident homeowner] and resident of 190 Bristol Boulevard [son and neighbor of accident homeowner] ..	25
2	JACKSON FIRE DEPARTMENT	26
1)	JFD Captain for Rescue 14	26
	185 Bristol Blvd.....	27
	1146 Shalimar Drive	27
2)	JFD District Chief	27
	185 Bristol Blvd.....	27
3)	JFD Fire Investigator	28
	185 Bristol Blvd.....	28
	1146 Shalimar Drive	29
4)	JFD District Chief	29

1146 Shalimar Drive.....	29
3 AMR	30
1) Paramedic and Assistant Supervisor	30
185 Bristol Blvd.....	30
2) Emergency Medical Technician	30
185 Bristol Blvd.....	30
3) AMR Paramedic.....	31
185 Bristol Blvd.....	31
K. 911 DISPATCH.....	31
L. APPLICABLE REGULATIONS, INDUSTRY GUIDANCE, AND CONSENSUS STANDARDS	32

A. ACCIDENTS

185 Bristol Boulevard

Location: 185 Bristol Boulevard, Jackson, MS
Date: Wednesday, January 24, 2024
Time: 8:14 AM CST
2:14 PM UTC
Operator: Atmos Energy
System Type: Distribution System
Commodity: Natural Gas

1146 Shalimar Drive

Location: 1146 Shalimar Drive, Jackson, MS
Date: Saturday, January 27, 2024
Time: 4:34 AM CST
10:34 AM UTC
Operator: Atmos Energy
System Type: Distribution System
Commodity: Natural Gas

B. EMERGENCY RESPONSE GROUP

Group Chair Troy Lloyd
National Transportation Safety Board
Washington, DC

Group Member Kaleb Gibson
Mississippi Public Service Commission
Jackson, MS

Group Member Greg Smith
Atmos Energy Corporation
Dallas, TX

C. DETAILS OF THE INVESTIGATION

The Emergency Response Factual Report documents the circumstances of the response and written procedures/guidelines of the Jackson Fire Department, Jackson Police Department, Atmos Energy, American Medical Response, Entergy and state and local authorities to the natural gas explosions and subsequent fires that occurred on January 24, 2024 at 185 Bristol Boulevard and January 27, 2024 at 1146 Shalimar Drive in Jackson, Mississippi.¹

D. SUMMARY

For a summary of the accident, refer to the "Accident Summary" document within the investigation docket.

E. OPERATOR

Atmos Energy Corporation (Atmos Energy), headquartered in Dallas, TX, is an independent, publicly held natural gas distribution company. As of January 2024, Atmos Energy served more than 3 million distribution customers in over 1,400 communities across eight states. Atmos Energy also managed company-owned natural gas pipeline and storage assets. According to Atmos records, the company employees approximately 5,000 people.²

According to Atmos records, the company's distribution operations are divided into six divisions serving eight states, encompassing approximately 75,000 miles of distribution pipeline: Colorado-Kansas, Kentucky/Mid-States, Louisiana, West Texas, Mississippi, and Mid-Tex. Those events occurred within Atmos Energy's Mississippi Division, which was formed when Atmos Energy acquired the assets of Mississippi Valley Gas in 2002. As of January 2024, Atmos Energy's Mississippi Division delivered natural gas to about 274,000 customers in Mississippi.³

¹According to Jackson, Mississippi 911 computer-aided dispatch (CAD) notes and on-scene descriptions of both accident structures from Jackson Fire Department responders, the NTSB will use natural gas explosion with subsequent fire to describe both accident locations.

² Refer to Atmos Energy's 2023 10-K reporting form in the NTSB accident docket titled PLD24FR003

³ Refer to Atmos Energy's 2023 10-K reporting form in the NTSB accident docket titled PLD24FR003

F. SEQUENCE OF EVENTS

1 SITE DESCRIPTION

1) 185 Bristol Boulevard



Figure 1: Pre-accident property photograph (Google photo from March 2022)

The house at 185 Bristol Boulevard was a single-family home located in a southwest neighborhood in Jackson, MS. The house was a one-story ranch style dwelling with an attached garage. The construction of the house and attached garage consisted of National Fire Protection Association “Type 5” light weight wood frame construction. The square footage of the residence was between 1500 square feet to about 2000 square feet which includes the attached garage.⁴

Gas service to the property was via a gas service line from the main, and connected to the residential gas meter that was located along the left (side bravo) of the house. Atmos did not have the installation record for the gas service line that was supplying the property, so the exact installation year and details of the gas service line could not be obtained. The house was located at the end of a cul-del-sac with a fire hydrant directly across from it. The residents had lived in the house for almost 30 years⁵ before the explosion and consequent fire.

⁴ National Fire Protection Association Standard 220, Standards on Types of Building Construction, defines types of building construction based on the combustibility and the fire resistance rating of a building's structural elements. NFPA Type 5 construction is a wood-frame construction type that is highly flammable. It is the most combustible construction type and is characterized by the use of traditional wood framing techniques and other combustible materials like plywood or drywall.

⁵ Homeowner testimony states that he has lived at the residence since 1992.

2) 1146 Shalimar Drive



Figure 2: Pre-accident property photograph (Google photo from March 2022)

The house at 1146 Shalimar Drive was a single-family home in southwest neighborhood in Jackson, MS.⁶ The house was a one-story ranch style dwelling with an attached garage and was not occupied at the time of the explosion. The construction of the house and attached garage consisted of NFPA "Type 5" light weight wood frame construction. The square footage of the residence was between 1500 square feet to about 2000 square feet which includes the attached garage.

The gas service line to the property was connected to the main close to the street, and ran west under the lawn area in front or side alpha (Side A) of the house.⁷ The service gas meter for the house was located outside on the right side or side delta (Side D) of the structure. Atmos did not have the installation record for the gas service line for the property, so exact installation year and configuration details of a service line could not be obtained.

⁷ Fire departments designate the front/address side of a structure as Side Alpha or A, and work clockwise to identify other side of a structure, therefore, the left side would be Side Bravo or B, the rear of the structure as Side Charlie or C, and the right side as Side Delta or D.

2 Atmos Response Timeline

3) 185 Bristol Boulevard

Time	Activity
8:36 AM	Atmos Energy Emergency receives a call from Jackson Fire Department regarding house fire at "175 Bristol" (later determined to be "185 Bristol").
8:52 AM	Atmos Senior Service Technician receives the emergency order.
9:06 AM	Atmos Senior Service Technician arrives on site and establishes contact with Jackson Fire Department. Fire Department has control of the scene.
10:30AM	Jackson Fire Department allows Atmos Energy to begin investigation and response: bar holing, monitoring for evidence of gas migration, locating isolation valve, and surveying.
10:30AM	Atmos Energy technicians begin bar holing the yard of 175 and 185 Bristol Blvd. ⁸ The readings were taken at various locations with the highest values being closest to Bristol Blvd, and the readings decreased towards the front of the house.
11:15AM	Atmos Energy technicians expand Safety Perimeter; evacuated 175 and 190 Bristol Blvd. Atmos Energy's technicians determined that gas was present in the soil near Bristol Blvd based on their bar hole readings and then began to take Continuing Actions, such as the HELP steps outlined in Atmos Energy's leak investigation procedures (Continue with Determination of H azard, Determine E xtent of Hazard, Protect L ife, and Protect P roperty), and establishing a Safety Perimeter to restrict entry based on their assessment of the hazard. Because further bar hole testing detected gas near 175 Bristol, and the technicians knew gas had the potential to migrate, the technicians expanded the Safety Perimeter to encompass 175 and 190.
11:18AM	Atmos VP of Operations gives instruction to an Atmos Field Construction Coordinator to isolate the main.
11:43 AM	Notification to NRC.
11:55 AM	Notification to MPSC.
11:20 AM - 12:45 PM	Crew determines the isolation valve cannot be readily accessed because of depth and proximity to the road, so they identify a location to the north on Bristol to isolate the main and then begin working to squeeze off the main.
12:42 PM	Gas is shut off at the main (on Bristol, north of Raymond).
1:00 PM - 7:15 AM (01/25)	On Site Response Continues, includes arrival of additional resources to assist, continuation of surveying and monitoring throughout the night, and extensive bar hole testing witnessed in part by the PSC.

⁸ Reference JXN-NTSB-000002-1 in the NTSB accident docket titled PLD24FR003

3:45 PM	Odorant test performed at 1285 Raymond Rd (odor was readily detectable).
7:41 PM	Vapor Extraction Unit (VEU) arrives on site to accelerate the removal of residual gas from the subsurface at 175 Bristol Blvd.

4) 1146 Shalimar Drive

Time	Activity
4:53 AM	Jackson Fire Department contacts Atmos Energy Emergency Line to report an event at 1138 Shalimar Dr
4:56 AM	Call center notifies Operations On-Call Supervisor.
5:00 AM	Atmos first responder dispatched to respond.
5:35 AM	Atmos first responder arrives at address. Jackson Fire Department is on site with an active fire and has control of the scene.
5:35 AM	Unable to approach incident address, Atmos first responder begins safety checks and bar holing at adjacent structures, sewer, manhole, houses across the street etc.
5:57 AM	Atmos first responder calls in emergency locate to 811.
6:56AM	Operations Supervisor in charge, arrives on site. Spoke with Fire Department and was notified that both houses were unoccupied, and no initial cause was noted by FD.
7:45 AM	Notification to NRC.
7:59 AM	Notification made to MSPC Office of Public Safety.
8:10AM	Atmos Energy technicians determined that gas was present in the soil and along the foundation of 1130 Shalimar Drive and evacuated the customer based on bar hole readings. Began to take Continuing Actions, such as the HELP steps outlined in Atmos Energy's leak investigation procedures (Continue with Determination of Hazard, Determine Extent of Hazard, Protect Life, and Protect Property), and establishing a Safety Perimeter to restrict entry due to their assessment of the hazard. The technicians expanded the Safety Perimeter to encompass 1130 and 1131 Shalimar Drive addresses, evacuating 1131 Shalimar Drive for safety until power was shut off.
	Every 30 minutes performed bar holing 360 degrees around house at 1130 Shalimar and on service line.
8:28AM	Crew excavates two bell holes and uses hydraulic tool to squeeze off gas off at main (section is isolated on both sides, the main is a two-way feed)
9:14 AM	Remote Methane Leak Detector surveying begins.
9:25AM-10:45AM	Bar holing at 1131 Anna Lisa Lane, 1139 Anna Lisa Lane, and 1147 Anna Lisa Lane, the three houses on street behind the incident houses. No gas

	was detected. Atmos technicians investigated this area to ensure gas had not migrated toward these houses. ⁹
9:40-10:15 AM	Crew removes debris by hand to safely connect locator and locate both service lines to 1138 and 1146 Shalimar Drive addresses.
10:16 AM	Gas main was cut and capped at both ends where previously squeezed off.
10:16 AM	Temporary staging area set up.
10:30 AM	Odorant test performed at 1110 Shalimar to confirm readily detectable odorant.
11:07 AM	Odorant test performed at 2020 Castle Hill and odorant was readily detectable.
5:10 PM	Vapor Extraction Unit (VEU) arrives and begins work at 1130 Shalimar to accelerate the removal of residual gas from the subsurface.
11:30AM-11:00PM	Continued monitoring and checking gas readings at 1130 Shalimar Drive and surrounding houses.

3 American Medical Response Actions

American Medical Response Central Mississippi (AMR) is a provider of emergency and non-emergency medical transport services for Hinds and Smith Counties, Mississippi. AMR had 2-units that responded to the 185 Bristol Boulevard accident, which resulted in the transport of the homeowner to a medical facility.

1) 185 Bristol Boulevard

AMR deployed two response units to the 185 Bristol Boulevard accident. The first AMR vehicle (unit 204) arrived at the scene around 8:46 am and provided first aid to the homeowner. The second AMR vehicle (unit 408) was requested at 8:50 am and arrived on-scene at 8:57 am. The homeowner was evaluated by the paramedic, vital signs were taken, and he was provided with supplemental oxygen as a precaution. The homeowner was taken to Baptist Medical Center, arriving there at 9:39 am. he first response unit remained at the scene until 1:52 pm.

2) 1146 Shalimar Drive

AMR ambulance did not provide treatment to anyone for this event, but the unit remained on stand-by from 4:36 am to 7:00 am. Per Fire Department interview, the unit was requested to remain on stand-by longer than usual as a precaution, in case of any fire department employees needing assistance.

4 Jackson Police Department

Although Jackson Police Department (JPD) reported to both sites, they performed a traffic control function during the emergency response activities and did not complete an investigation of the events.

1) 185 Bristol Boulevard

The Computer Aided Dispatch (CAD) sheet is the same CAD incident Report provided by the Jackson Fire Department (JFD).¹⁰ The CAD report # 24-01-07737 has both JFD and JPD agencies listed, with response type "Fire Structure/Residence".

2) 1146 Shalimar Drive

Wrong CAD sheet¹¹ was provided and updated sheet was requested 7/1/2024.¹²

3) Responses to gas leak calls by Jackson Police Department

According to city records, the JPD responded to 53 (18.6%) of 284 "gas leak" type calls that were received by Jackson, Mississippi's dispatch center between February 22, 2023 to April 17, 2024.¹³ The two explosion calls were not among the 284 listed, because those calls both came in as "Fire Structure/Residence"-type. None of the 284 "gas leak" type calls were located on Bristol Boulevard or Shalimar Drive. A review of city records could not be determined if all of the 284 "gas leak" type calls were related to natural gas or Atmos facilities.

5 Entergy Mississippi LLC

During the emergency response, Entergy Mississippi LLC (Entergy) personnel were responding to requests from on-scene responders to disconnect electric service and did not directly participate in emergency response.

1) 185 Bristol Boulevard

In the table below, the time referenced is typically when information was entered into database and may not necessarily reflect the exact time that an action was taken.

Date / Time	Entergy Mississippi's Actions
-------------	-------------------------------

¹⁰ CAD Report Bristol.pdf

¹¹ CAD sheet for 11/30/2023 gas call was submitted by police department

¹² The NTSB notes that the CAD report for the Shalimar Drive accident is not necessary to obtain.

¹³ NTSB asked for "Police calls in the past year related to gas smell (all of 2023 and up to 1/24/2024)", the spreadsheet received had agency listed as JPD, JFD and HCSO (Hinds County Sheriff's Office).

January 24, 2024 8:34 am	Entergy responded to a house fire ticket at 185 Bristol Boulevard. Service to the house was disconnected.
January 24, 2024 11:14 am	Entergy removed the electric meter at 185 Bristol Boulevard.
January 24, 2024 11:46 am	Entergy removed the electric meter at 175 Bristol Boulevard.
January 24, 2024 5:18 pm	Entergy responded to a call from Atmos requesting Entergy de-energize the transformer feeding the entire street for Bristol Blvd. Entergy initially de-energized the power line for the entire street, but upon discussion with Atmos, it was agreed that power could be restored to all homes except for 165, 170, 175, 180, 185 and 190 Bristol Boulevard addresses. Customers at those homes were relocated to hotels by Atmos. ----- Service was restored to 165 and 170 Bristol Boulevard addresses on 1/24/24 but power remained out for 175, 180, and 190 Bristol Boulevard addresses.
February 2, 2024 7:02 pm	Atmos reached out to Entergy requesting customers on Bristol Drive be reconnected. 180 and 190 Bristol Blvd. were re-energized, 175 and 185 Bristol Boulevard remain without power at that time.
February 2, 2024 9:24 pm	Power was restored to 180 and 190 Bristol Boulevard addresses.
April 10, 2024	On April 10, 2024, power was asked to be restored by Entergy at 175 Bristol Boulevard and was confirmed via Entergy to be restored a few days later.

2) 1146 Shalimar Drive

Time referenced is typically when information was entered into database and may not necessarily reflect the exact time that an action was taken.

Date / Time	Entergy Mississippi's Actions
January 27, 2024 6:35 am	Entergy responded to a service request received from the Jackson Fire Department for a house fire at 1138 Shalimar Drive, resulting from a gas explosion at 1146 Shalimar Drive. Power was disconnected to both houses.
January 27, 2024 1:47 pm	Power disconnected at 1130 Shalimar Drive per request by Atmos representative.

January 31, 2024	Entergy removed the meter at 1138 Shalimar Drive. It appears that the meter at 1146 Shalimar Drive was likely destroyed in the explosion/fire.
February 22, 2024 5:14 pm	Entergy was contacted by Atmos at 5:14 pm, requesting power be restored to 1130 Shalimar Drive.
February 22, 2024 9:06 pm	Power was restored to 1130 Shalimar Drive. ¹⁴
April 10, 2024	Entergy confirms that the electrical meters at 1138 and 1146 Shalimar Drive addresses have been removed preventing power restoration.

G. EMERGENCY RESPONSE PROCEDURES

1 Atmos Energy¹⁵

A review of Atmos Energy's incident response procedures states that the intended purpose of a gas emergency plan is to protect the general public and company employees from potential hazards. Each emergency creates its own set of circumstances and issues. Because of this, these procedures are written to be flexible enough to address anticipated emergencies utilizing various departments of Atmos Energy. When applicable, the Incident Command System (ICS) will be recognized and implemented to liaison with local first responders as needed. Atmos Energy emergency responders are given guidance and instruction into the ICS process.

Atmos Energy's Emergency Responder(s) or other Atmos Energy personnel on-site will notify the appropriate public safety answering point (i.e., 9-1-1 emergency call center) where direct access to a 9-1-1 emergency 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 the emergency.

¹⁵ Atmos Energy's Emergency Response Procedures- the following report headings (1 through 1.1.3) are only "limited" excerpts from Atmos Energy's response procedures and doesn't include all of the company's procedure. This report does include the follow excerpts: (1) leak investigation, (2) establishment of safety perimeters, and (3) responding to fire related incidents. Atmos Energy procedures can be referenced in the NTSB accident docket titled PLD24FR03.

1.1.1 Emergency Response Procedures- Leak Investigation

Atmos Energy's leak investigation procedures state that emergency call orders take precedence over all other types of service orders and will be responded to without delay. Every leak investigation should be considered potentially hazardous until it is determined to be non-hazardous. When an emergency responder receives an order to investigate any leak complaint, where appropriate the emergency responder should perform the following actions.

When Atmos Energy emergency responders arrive on-scene:

- (A) Use calibrated and approved leak detection equipment, including a calibrated combustible gas indicator (CGI), to investigate for the presence of gas according to the specific manufacturer's instructions.
- (B) Turn on and zero CGI detector in fresh air according to specific manufacturer's instructions found in Section 9.6 (Gas Detection Equipment Instruction Manuals) of the Operations and Maintenance Manual.
- (C) Verify the correct service address/location and if applicable verify the meter number.
- (D) Immediately upon arrival, make a preliminary investigation of the customer's premises and/or area. This investigation can include a visual observation for excess consumption on the meter, abnormal appearance of vegetation around the location, sewer venting locations or odor of natural gas or other signs that may indicate the presence of natural gas. Do not rely on your sense of smell alone to detect the presence of natural gas: use all your senses-smell, listen and look-and use calibrated leak detection equipment to check indications of gas.

1.1.2 Establishment of Safety Perimeters

The purpose of a Safety Perimeter is to establish an area to restrict entry when a probable or existing hazardous condition has been identified. The boundaries of the Safety Perimeter will be based on the Emergency Responder's assessment of the existing or probable hazards and conditions that exist at the time.

When establishing a safety perimeter, considerations should include, but are not limited to, the following:

- (A) Structures where gas is detected or suspected in the structure, at the outside building wall, or where gas would likely migrate to an outside wall.
- (B) The possible effects of gas ignition from accumulation of gas in a structure.

- (C) Areas where leaks can be seen, heard, or felt and in a location that may endanger employees, the public, or property.
- (D) The presence of gas in sewers.
- (E) Weather or soil conditions that can affect migration patterns.

It may be necessary to establish and maintain a safety perimeter beyond the address or location where a hazardous condition is found or suspected and could include structures on adjacent properties / addresses, across streets, across alleys and in other areas where gas could potentially migrate or be present. If, while establishing the Safety Perimeter, the hazardous condition is determined to affect additional structures or additional hazardous conditions are discovered or suspected, take continuing actions relative to additional affected structure(s). If first responders (Fire and/or Police) are onsite or arrive onsite, the establishment of the safety perimeter should be coordinated with first responders. An Atmos on-scene emergency responder should attempt to establish communications with first responders onsite and inform them of the situation and findings, and request that they assist in establishing a safety perimeter, and request assistance with evacuations and maintaining evacuations, where appropriate.

An employee qualified in emergency response will remain on-site and continue to monitor gas migration patterns and accessible openings (sewer cleanouts, sewer vents, sewer manholes, storm sewer inlets, utility manholes, crawlspaces, and other accessible openings) until the hazardous condition(s) has been eliminated or a relief employee(s) qualified in emergency response arrives to continue monitoring gas migration patterns. While monitoring conditions on-site, it may be necessary to expand the boundaries of the Safety Perimeter as conditions change or if additional hazardous conditions are discovered or suspected. If the boundaries of the safety perimeter are expanded, take the necessary actions relative to any additional affected structure(s). Once the hazardous condition has been eliminated, the boundaries of the safety perimeter can be reduced, working inward toward the leak location. In reducing the limits of the boundaries, continue to bar hole test and check accessible sewer cleanouts, sewer vents, sewer manholes, storm sewer inlets, utility manholes, crawlspaces, and other accessible openings for the presences of gas. Do not reduce the boundaries inside of any monitored location(s) if hazardous conditions are present.

1.1.3 Responding to Fire Related Incidents

This procedure will be used when an Emergency Responder is dispatched to the scene of a fire-related event.

When Atmos Energy emergency responders arrive on-scene:

- 1) Assess the situation and, if a probable or existing hazardous condition is discovered, refer to the "Leak Investigation" procedures.
- 2) As applicable, turn off the gas to the affected structure(s) and secure the meter per the Turn-Off Procedure.
- 3) If the fire department (or the responding agency) is not on site, notify a Supervisor who will contact the appropriate department and as practical, ask if any cause(s) of the fire-related event have been determined.
- 4) If the fire department is on site, make contact to:
 - i) Determine whether utilities have been shut off;
 - ii) Ask whether any preliminary cause(s) of the fire-related event have been determined and/or excluded; and
 - iii) Confirm with the fire department that the area is safe to conduct a leak investigation.
- 5) Notify the Supervisor of possible gas involvement or if there were injuries or fatalities. The Supervisor will escalate the matter to a Manager.
- 6) Perform an Outside Leak Investigation
 - i) Complete as much of the investigation as possible when safe to do so and when access to the property is allowed. If you cannot complete the leak investigation, contact a Supervisor to determine a time to return to the site, if appropriate, to complete the leak investigation.
 - ii) Use remote leak detection equipment to search for potential gas:
 - (i) Around, in proximity to, and the inside of the relevant structure(s), including crawlspaces if applicable and accessible, without entering the subject structure(s); and
 - (ii) Around the perimeter of the foundation of adjacent structures on the property (for example, a detached garage).
 - iii) If natural gas is detected or the involvement of natural gas is suspected:
 - (1) Contact a Supervisor immediately to take Escalated Actions found in Section 2.6 of this procedure. The Supervisor will escalate the matter to a Manager.
 - (2) Expand the investigation to conduct a special leak survey of the area.
 - (3) Using AIR, perform a Pressure Drop Test on Customer Piping unless a safety-related condition or other circumstance prevents completion of the test. Access to the inside of the structure is not required, and appliance valves do not need to be closed in order to perform the Customer Piping Test using a Pressure Drop Test with air as part of a fire leak investigation.

- iv) If a probable or existing hazardous condition is discovered at any time during the investigation, take appropriate CONTINUING ACTIONS found in Section 2.3 of these procedures.
- v) Personnel do not need approval to take any and all necessary actions to safeguard life and property, including evacuating occupants and/or shutting-in a portion of the gas operating system.
- vi) At the appropriate time, document the leak investigation findings and other relevant information.
- vii) Once the investigation is complete, the Emergency Responder should complete/close the electronic order to provide proper date and time stamping on the emergency log. Ensure the work order has the accurate address and meter serial number. If the Emergency Responder does not have a Mobile Data Terminal, a paper order will be completed with all information and given to the Supervisor or designee for proper data entry into Customer Service System.
- viii) Any onsite materials removed from the property, including the meter and regulator, are to be properly documented, tagged, and stored.
- ix) If on-site, inform the fire department and/or customers of your intended departure.

2 Natural Gas Characteristics

Natural gas (Methane) is extremely flammable, lighter than air, is colorless and odorless. Due to these characteristics, Mercaptan is added to natural gas to help indicate its presence and will result in an odor like rotten eggs. The flammable range of natural gas is 4% Lower Explosive Limit (LEL) to 15% Upper Explosive Limit (UEL) by volume. Although natural gas is non-toxic, it can displace oxygen, which can cause asphyxiation in certain settings. Emergency responders can monitor the concentration levels of natural gas in its flammable range through the use of a properly calibrated and bump tested combustible gas indicator.¹⁶

3 Jackson Fire Department

The Jackson Fire Department provides fire and life safety services to the citizens and visitors of Jackson by implementing aggressive fire suppression, community-based fire safety programs, comprehensive prevention inspections, and pre-emergency planning. The JFD is an all paid career fire department and operates from 20 fire stations located throughout the City of Jackson, Mississippi. The departments consists

¹⁶ Combustible gas indicators/meters are required to be bump tested in fresh air prior to each use. This verifies that the sensors are functioning properly and will trigger an alarm if they detect a hazardous gas level.

of an emergency services division, fire investigations division, a fire marshal division (fire code enforcement), recruitment and training division, and a community relations division. The 911/Public Safety Communications is the emergency dispatch center for the Jackson Fire Department and Jackson Police Department. Communications Officers answer all 9-1-1 emergency and administrative calls, direct connect emergency medical calls to the ambulance service; dispatch Fire and Police calls; and operate the National Criminal Information Center (NCIC).

3.1.1 185 Bristol Boulevard Fire Response

On Wednesday, January 24, 2024 at 08:14:29 (see CAD report #24-01-07737) units from the Jackson Fire Department were dispatched for a reported structure fire with reports of persons trapped at 185 Bristol Boulevard, Jackson, Mississippi. At 08:15:56 fire department units responded with 4-fire engines, 1-ladder truck, 3-rescue squads, 1-paramedic ambulance, and 2-district chiefs. At 08:23:27, units arrived on-scene to find roughly a 1500 square foot ranch style home with heavy fire conditions. From testimony taken from arriving fire department personnel, the home had appeared to have exploded due to the scattered debris field and severe damage to the home. JFD provided forward-facing video of units arriving on-scene for investigative review.

Assuming that the fire was gas fed due to the blue colored flames, fire department units immediately started to place water on the fire with fire hoses from a safe distance until units could secure a continuous water supply from a fire hydrant that was located across the street from the fire. A district fire chief arrived on scene as the commanding officer and established incident command. With the large amount of fire that was involved, including a heavily damaged structure along with a large a scattered debris, the district fire chief ordered units to take a defensive fire attack operation.¹⁷

At 08:36 am, Atmos Energy received a call from the JFD regarding a house on fire at Bristol Boulevard, and a senior service technician receives an emergency order from Atmos to respond to the house fire location. At 9:06 am, the senior service technician arrives on scene and makes contact with fire department units. At around 10:30, and in coordination with command, the service technician begins gas leak detection by bar holing an adjacent at 175 Bristol Boulevard and also bar holes the house fire property at 185 Bristol Boulevard. Gas detection readings indicated that the highest concentrations were discovered nearest at the street in front of 185 Bristol, and concentrations decreased working towards the front of the residence. Per the service technician, the evacuation safety perimeter was extended to the homes located at 175 Bristol Boulevard and 190 Bristol Boulevard and the occupants were ordered to be evacuated. Between 11:18 am and 12:42 pm, gas crews worked to locate and

¹⁷ Defensive fire attack is a fire department term meaning to extinguish the fire from a safe distance outside and away from a structure due to safety concerns or structural integrity.

shutoff the gas main, and at approximately 12:42 pm, the gas main along Bristol Boulevard was confirmed to be shut off.

4 Jackson Fire Department- Emergency Response Guidelines¹⁸

The Jackson Fire Department is the overall emergency response agency that responds to large scale incidents and hazardous materials response involving gas emergencies. The departments *Emergency Operations Guideline 13 (EOG-13), Hazardous Materials and Large Scale Incidents* provides departmental guidance for the safe response and on-scene tactics when responding to gas type emergencies and includes the following guidance; (1) fire and explosions involving gas, (2) gas odors and leaks with no reported fire or explosion, and (3) on-scene personnel safety. The department trains on the hazards associated with responding to gas emergencies including, utilizing gas meters and indicators, controlling gas leaks at residential and commercial properties, and knowing when to evacuate those that are threatened by gas emergencies.

4.1.1 Natural Gas Incidents

J.F.D. units may encounter natural gas in a variety of situations and incident types, each presenting a different set of hazards and problems. The following guidelines present an approach which will be applicable in the majority of situations but do not replace good judgment and experience in dealing with any particular incident. The guidelines should be used whenever these types of situations are encountered.

Natural gas is much lighter than air and will dissipate rapidly outside. Inside buildings, however, it tends to pocket, particularly in attics and dead air spaces. The flammable limits are approximately 3 percent to 15 percent in air.

Burning natural gas should not normally be extinguished, since this changes the hazard from visible to invisible and creates an explosion hazard. Fires should be controlled by stopping the flow.

4.1.2 Explosion

Units arriving at the scene of a structure explosion must consider natural gas as a significant possible cause. Explosions have occurred in structures which were not served by natural gas. Underground leaks may permit gas to travel considerable distances before entering a structure through the foundation, around pipes or through void spaces. In these circumstances the cause of the explosion may be difficult to determine. Until it can be determined that the area is safe from the danger of further explosions, evacuate all civilians and keep the number of J.F.D. personnel in the area to a minimum.

¹⁸ Jackson Fire Department- Emergency Response Guidelines (EOG)- Sections 3 through 3.1.4 in this report are excerpts taken directly from JFD's EOG-13; response to hazardous materials and large scale incidents.

- 1) Look for signs of a gas leak, i.e., smell of gas, flames coming through cracks in ground or around foundations, bubbling through puddles. Do not extinguish flames coming up through the ground.
- 2) Do not rely on gas odor. Odorant may be filtered out by passage through ground. Use combustible gas indicators to check suspected areas.
- 3) Check systematically using combustible gas meters. Start close to area of explosion and take several readings. If gas is detected, increase the area until readings go to zero. Map the affected area.
- 4) Probe the ground for underground leaks. Use ground probe and check in any holes or caverns for pockets of gas. Inside structures, check around pipes, near cracks in foundations and in high portions of the building.
- 5) Always beware of the possibility of additional explosions. Shut off pilot lights and possible sources of ignition in the affected area. Cut electricity from outside to avoid arcing. Ventilate buildings where gas is found.
- 6) Work with the gas company personnel in pinpoint location of any leak. They can provide additional instruments to detect leaks.

4.1.3 Reported Gas Leak (No Fire or Explosion)

Calls for "odor of gas", "broken gas line" and similar situations may range from minor to potentially major incidents. All of these should be approached as potentially dangerous situations.

A minimum number of personnel should be allowed to enter the area to size-up the situation, while any additional unit's stage in a location out of the potentially dangerous zone.

- 1) Evacuate any civilians in the area of escaping gas.
- 2) Attempt to locate the source of the gas and any shut off devices available.
- 3) In any gas-leak situation within a building, the gas supply shall be shut off and red-tagged until repairs are completed. This is accomplished with the cooperation of the gas supplier at the scene.
- 4) If there is any concentration of gas accumulating within a building, evacuate civilians from the structure and control ignition sources. Shut off electrical power from an outside breaker. Check for explosive concentrations with a combustible gas indicator if there is any suspicion of accumulation within a structure. Ventilate, using blowers to pressurize if necessary.
- 5) If gas company personnel must excavate a broken pipeline to shut off a leak, provide stand-by protection with a charged master stream device and firefighters in full protective equipment.

4.1.4 Personnel Safety

All personnel working in the vicinity of a known or suspected gas leak shall wear full protective clothing. Personnel working in a suspected ignitable atmosphere (i.e., attempting to plug a leak in a gas line) will use S.C.B.A. and will be covered by a charged protective hose line, if feasible. The number of exposed personnel will be kept to an absolute minimum at all time.

A safety perimeter shall be established and maintained around any suspected gas leak.

Diesel apparatus shall not be operated in areas of natural gas leaks to prevent the possibility of engine damage due to the intake of natural gas vapor into the engine.

Standard gasoline engine vehicles must also remain out of the area due to becoming a source for ignition.

J.F.D. personnel should not enter unsafe trenches. A safe distance from the edge of any trench must be observed.

5 Entergy

NTSB requested procedures or policies that Entergy is following in response to notifications of a gas leak. Entergy does not have any such documents or special procedures specific to responding to another utility company's gas leak.

6 Jackson Police Department

It appears that no gas leak response procedures are in place. As a response to a data request, Jackson Police Department provided an excerpt extracted from a Jackson Fire Department manual, that directs the fire department to request police department assistance through the fire departments communications (911) center, who in-return will contact the police departments communications (911) center for police units to respond to assist with additional traffic and crowd control. Atmos records show that training on gas emergencies was provided to the Jackson Police Department between February 27-29, 2024.¹⁹

¹⁹ See JNX-NTSB-002619 in the accident docket in the NTSB accident docket titled PLD24FR003

H. GAS RELATED TRAINING

7 Jackson Fire department Training

7.1.1 Hazardous Materials Training

Per Jackson Fire Department training requirements, all firefighters are trained to a minimum of NFPA 1072 Hazardous Materials Awareness and Operations, and receive 4-hours of hazardous materials refresher training annually. Members of the hazardous materials response team are trained to the 40-hour hazardous materials technician level. All department members receive basic response training in natural gas response.

7.1.2 Additional Fire Department Training

Atmos provides training to the Jackson Fire Department periodically and when requested. Following the incident, between February 27-29, 2024, Atmos Energy conducted natural gas response training to the fire departments operations division that included the understanding of valves and pipelines.

A review of Atmos records shows that Atmos Energy provided training to 112 emergency responders which includes members of the Jackson Fire and Police Departments and the cities 911 emergency dispatchers.²⁰

Paradigm public safety training and public education consulting firm provides training to public safety agencies. As part of the Public Awareness Program (PAP), Atmos Energy's training outreach has included partnering with Paradigm to provide training to community stakeholders, including first responders in Jackson, since 2016.

8 Entergy Gas Response Training

NTSB requested training or agreements on gas leak response received by Entergy from Atmos or other entities. Entergy does not have any such documents or special procedures specific to responding to another utility company's gas leak. Entergy personnel were responding to requests from others (Fire Department and Atmos) when performing shut offs during the emergency response.

9 Jackson Police Department

JPD provided no records of training on response to gas odor calls when specifically requested. A review of Atmos records show that training on gas emergencies was provided to the Jackson Police Department between February 27-29, 2024.²¹

²⁰ See JNX-NTSB-002619 in the accident docket in the NTSB accident docket titled PLD24FR003

²¹ See JNX-NTSB-002619 in the accident docket in the NTSB accident docket titled PLD24FR003

I. AGREEMENTS WITH ATMOS FOR COORDINATED GAS LEAK RESPONSE

1 Jackson Fire Department

- No agreement on coordinated gas leak response.
 - Atmos provides training to the Jackson Fire Department periodically and when requested. Atmos records indicate that following the January 2024 Bristol Boulevard and Shalimar Drive incident, Atmos Energy conducted natural gas response training to the fire departments operations division that included the understanding of valves and pipelines between the dates of February 27-29, 2024.
- Atmos donated seven Sensit Gold G2 Multi Gas Detectors in December of 2020. The Jackson Fire Dept. received the gas detectors and orientation training for the equipment as well as a calibration station for these units. The equipment was a donation from Atmos to assist the Jackson Fire Department with a new equipment grant.

2 Jackson Police Department

No agreement on coordinated gas leak response with Atmos. Atmos records show that following the January 2024 Bristol Boulevard and Shalimar Drive incident, Atmos Energy conducted natural gas response training to the fire departments operations division and the Jackson Police Department that included the understanding of valves and pipelines between the dates of February 27-29, 2024.²²

3 Entergy

- No agreement on coordinated gas leak response with Atmos.²³

J. SUMMARY OF INTERVIEWS CONDUCTED

1 Residents of Bristol Boulevard

1) Phone interview from resident of 175 Bristol Blvd

The resident of 175 Bristol Boulevard was awakened by the “real loud strange boom”, that she thought was an electrical transformer being hit by a lightning. A few minutes later, someone was banging on their front door. Her neighbor [the resident of 185

²² See JNX-NTSB-002619 in the NTSB accident docket titled PLD24FR003

²³ Email from Entergy, received on 3/30/2024.

Bristol Boulevard] came to the door, saying his house is on fire and his wife is still inside the home. The neighbor called 911 to report the fire and provided their home address to report the fire as a reference.

According to testimony, the firefighters were having hard time putting the fire out, and while talking to them, the resident of 175 Bristol Boulevard mentioned smelling gas there in the past, so fire department had changed their firefighting approach. The fire kept flaring up, and firefighters were saying they can see the blue flames. The fire fighters tried to get to the meter to shut the gas off but were not able to get to it at that time.

The resident at 175 Bristol Boulevard had visitors around Thanksgiving 2023 that were concerned about the gas smell near her house. The resident dismissed the concern saying that her house had no gas service and the smell, coming from her neighbor's house, was already checked out by the gas company. When asked, the resident at 175 Bristol Boulevard noted that the homeowner of 185 Bristol Boulevard has not provided details about the Atmos visit and she could not elaborate on it further. The resident at 175 Bristol Boulevard also noted that she could smell the gas odor in her home and avoided spending time at the front portion of her home. She would often move to a different room at the back of the house and would turn on fans to bring fresh air into the residence.

The resident at 175 Bristol Boulevard reported that the neighbor at 165 Bristol Boulevard also had mentioned to have smelled very strong gas odor several weeks ago. She recalls that Atmos was called to investigate, but they said that the odor was "electric", leaving shortly after.²⁴ The resident of 175 Bristol Boulevard remembers that some company was doing excavation work in front of her house for a while, sometimes blocking her driveway, about a year ago.

The resident of 175 Bristol Boulevard had a tree service company trim some branches at her property before Christmas 2023. When they came out to do the work, they were alarmed by the strong gas odor and decided to call Atmos, being concerned that their power equipment might ignite the gas. Atmos came to check verifying the equipment is safe to use.

2) Interview of resident of 185 Bristol Boulevard [accident homeowner] and resident of 190 Bristol Boulevard [son and neighbor of accident homeowner]

The homeowner of 185 Bristol Boulevard where the explosion and fire occurred, stated that he has lived at the resident for over 20 years, or since about 1992. The

²⁴ After review of their records, Atmos states that they could not identify any calls in this time frame to this location.

homeowner stated that he had a smell of gas in his residence as early as November 2023, and called Atmos to report the odor, when “the gas company came out and said there was no problem”. Gas smell persisted and was detectable by his house all the way into January 2024, up until the day his home exploded.²⁵

On the morning of the incident, the homeowner was awakened by a piece of ceiling falling on him. He got out and woke up the residence of 175 Bristol Boulevard [adjacent home] next door neighbors, that called the fire department, but by that time “the house was just about gone”. His granddaughter was staying with him and his wife overnight, but she left early that morning before the incident occurred.

The accident homeowner’s son and neighbor that lives at 190 Bristol Boulevard, stated that prior to the explosion and fire, several people came to visit his parents, and told them that they smelled gas near their house. The homeowner of 185 Bristol Boulevard discussed how his neighbors at 175 Bristol Boulevard were affected with the smell of gas, even though they did not have gas service. He mentioned even though their house is totally electric, they had a hole out in their driveway “big enough to put a car in” [determined to be postaccident excavation], and they [Atmos] had to build them a whole new driveway.²⁶

The homeowner’s son [neighbor and resident of 190 Bristol Boulevard] reported that a power outage had occurred a little while back at his house at 190 Bristol Boulevard, which was caused by shifting soil, that effected his residential electrical meter. So, he stated that he borrowed a power generator from his father-in-law to help power his home, since it was power outage occurred in the wintertime, and chained the generator to his residential gas meter to prevent it from being stolen. A couple of days later, the homeowner noticed that the generator had been moved away from his residential gas meter, and went to check what happened, and noticed that Atmos had installed a brand-new gas meter at his home located at 190 Bristol Boulevard.²⁷

2 Jackson Fire Department

1) JFD Captain for Rescue 14

The Captain of Rescue 14 was a part of the first firefighter crew to arrive to 185 Bristol Boulevard. He was also one of the firefighters that responded to 1146 Shalimar Drive fire.

²⁵ Atmos states that no additional calls were dispatched after the initial call in November 2023

²⁶ Per Atmos Energy, the excavation work at 175 Bristol Boulevard was part of the postaccident response.

²⁷ Per Atmos, the company has a systematic gas meter replacement program that does not need customer approval for replace. See JXN-NTSB-000653-000654 in the NTSB accident docket titled PLD23FR003.

185 Bristol Blvd

Interviewed JFD Assistant Fire Chief, and Captain of Rescue 14. Firefighters arrived at scene at about 8:15 am at 185 Bristol Boulevard. Large fire was observed at location, the whole house was engulfed in flames, but no noticeable hot spots were visible at the time. Captain noted that there were things scattered in the front lawn of the house, including windows and hats, also saying that he could see through the house because all the windows were out. The firefighters immediately set out to extinguish the fire, however the fire persisted. Another fire department unit arrived and sprayed water from another side. The homeowner of the residence was located with another man at the site, saying homeowner's wife was still inside. Captain determined this was "a gas fed fire" due to smell of gas present, blue flames visible and 4-5 ft flares on the left side and in the middle of the house (near the meter and near the fireplace chimney). Atmos was then called to the scene since the fire was determined to be possibly a gas fed fire. After about 2 hours the fire was under control. Assistant Fire Chief said homeowner was taken to the hospital. His wife perished in the fire and was found in the middle bedroom toward the back of the house under burned debris. Fire department units cleared the scene around 3:15 pm.

1146 Shalimar Drive

On January 27, 2024, between the hours of 3:00 am and 4:00 am, firefighters were dispatched to a house fire at 1146 Shalimar Drive. Firefighters observed the house at the location completely destroyed with debris everywhere. Fire was observed flaring from the meter location to the adjacent house located at 1138 Shalimar Drive which burned the roof and side of the house. Atmos Energy was called by the fire department and arrived at the location and brought a backhoe to open the ground and isolate the gas. At 7:30 am, meter was still blowing gas and flaring, when the Captain left the scene because of the shift change.

2) JFD District Chief

The District Fire Chief was an Incident Commander at the scene during the firefighting efforts at 185 Bristol Boulevard.

185 Bristol Blvd

The Emergency Response Team interviewed the District Fire Chief concerning the Jackson Fire Department's (JFD) response to the fire at 185 Bristol Boulevard, located in Jackson, MS which occurred the morning of January 24, 2024. She said that they received a notification at 8:15 am of the house fire. When the district chief arrived on scene, she stated the house was fully engulfed in flames. She saw the homeowner of 185 Bristol Boulevard in the yard. The chief then called AMR ambulance service to take him to Baptist Hospital. Other actions taken at the time were to request assistance from Entergy and Atmos along with securing a safety officer from JFD.

The chief reported that the gas meter was burning when she initially surveyed the premise. JFD turned it off when the fire had receded enough on that side of the structure to do so. The chief stated that she observed two hot spots that had blue flames during the fire. The first was located in the front of the house to the left of the door and by the window. The other was situated in the middle of the house toward the top. The roof had collapsed there. Per the chief, the fire was under control by 8:49 am and completely out by 9:15 am.

The chief stated that the homeowners became alerted to the fire when the homeowner was struck by the ceiling fan above his bed when it fell from its mount from the ceiling. The chief stated that the homeowner's wife was found deceased in the home office after the fire had been extinguished.

Other statements by the chief were that she did not see any personnel from the Jackson Police Department. She also stated that Atmos extended its safety perimeter due to gas being found at 175 Bristol Boulevard, the adjacent residence to the south. JFD resources for this fire ultimately numbered 4 engine trucks, 1 ladder truck, and 1 rescue truck along with a total of 3 safety officers.

3) JFD Fire Investigator

JFD fire investigator that responded to at both fire locations.

185 Bristol Blvd

The fire investigator stated that he was on scene as the fire was being contained. He stated that he was able to interview the resident at the neighboring address [175 Bristol Boulevard]. Per the fire investigator, the resident stated that the resident from 185 Bristol Boulevard came to the house around 8:00 a.m. stating that his house was on fire. According to the neighbors interview the was conducted by the fire investigator, the house fire resident stated to the neighbors that his wife was still inside the residence. The neighbors stated that that they called 911, and the fire department was dispatched to the location. Per the fire investigator, responding firefighters noticed a "fully engulfed house fire" upon arrival. As firefighters assessed the scene, an ambulance was called for injuries that the house fire resident had sustained from the fire.

Per the fire investigators testimony, the responding firefighters stated that there was difficulty containing the fire. Also, first responders noticed water bubbling in the driveway of the adjacent residence. Atmos Energy was contacted due to the suspicion of gas in the area. The fire investigator stated that once the fire was contained, firefighters were able to locate what was believed to be the wife [resident of 185 Bristol Boulevard] within the house. Per the fire investigator, the coroner's office is believed to have been contacted by a Sheriff's deputy that was on location.

The fire investigator was able to interview the homeowner of 185 Bristol Boulevard at the Baptist Hospital with the assistance of the homeowner's son. The homeowner stated that he and his wife were lying in bed when he was suddenly hit in the head by the ceiling fan falling from the ceiling. After being awoken, he opened the door to discover that the house was on fire. He escaped the residence to his neighbor's house located at 175 Bristol Boulevard.

The fire investigator stated that he is the law enforcement agent for the Jackson Fire Department. He is responsible for investigating the scene to determine potential causation/source and pattern of the fire. He stated that his method is to move clockwise along the house to look for evidence. He stated that once he has gathered as much information as possible from the scene, he develops a theory/hypothesis and tests the hypothesis. The fire investigator stated that there are four classifications of fire source: natural, accidental, incendiary, and undetermined. He stated that the investigation at 185 Bristol Boulevard remains in an undetermined status as of the time of the interview.

1146 Shalimar Drive

The fire investigator stated that the fire department responded to a call from dispatch stating that there was a fire and explosion at 1146 Shalimar Drive. The fire investigator responded to the scene after the firefighters had extinguished the fire at 1138 Shalimar Drive [adjacent home]. The fire investigator stated upon arrival he noticed debris, including a door, scattered across the street from 1146 Shalimar Drive. He stated that there was an apparent explosion at this location. He stated that he was able to walk through the scene at 1146 and 1138 Shalimar Drive addresses. He conducted his investigation and was able to determine that the fire at 1138 Shalimar Drive was a result of the incident at 1146 Shalimar Drive. He also determined that the residence was clear of occupants upon investigation. The fire investigator stated that the investigation at 1146 Shalimar Drive remains in an undetermined status as of the time of the interview.

4) JFD District Chief

The District Chief was the Incident Commander at the scene during the firefighting efforts at 1146 Shalimar Drive.

1146 Shalimar Drive

The district chief recalled feeling the explosion at the fire station which is located at 2435 McFadden Rd (about a mile away from the location), but at the time not realizing what it was. About 5 minutes later, the fire station received a call about a house fire and explosion at 1146 Shalimar Drive. Upon arrival the chief notified the dispatch center that the explosion was confirmed, and that the fire had spread to the adjacent house as well. He requested the power to be shut off since some of the

overhead power lines were down. One of the houses was fully destroyed and another one was on fire. When assessing the situation, the chief noted the smell of gas and that the fire was fed by gas at two locations between the homes. The hissing sounds were coming from “faucets” where meters would have been between the houses, with the exploded house hissing being much louder. Once the fire was under control, the crews were pulled back to monitor the fire, being aware of the risk on the scene. When Atmos confirmed that the area is safe and there is no imminent risk, the firefighters regrouped and continued putting the fire out, with rescue searching the homes. The chief stated that it took about an hour to put the fire out.

3 AMR

1) Paramedic and Assistant Supervisor

Arriving AMR paramedic at 185 Bristol Boulevard.

185 Bristol Blvd.

The paramedic has worked for AMR for 15 years. He was the first AMR unit (unit #204) to respond on scene to 185 Bristol Boulevard in Jackson, MS. Upon arrival at 08:46:50, the paramedic found the homeowner of 185 Bristol Boulevard sitting in his vehicle and escorted him to his emergency response vehicle to check vitals. The resident showed no signs of smoke inhalation or other serious injury. The paramedic waited for the second AMR unit (unit #408) to arrive and transport the resident to Baptist Medical Center as he waited for the second individual which had not yet been found. The paramedic said he viewed a ‘fully involved house fire’ at the scene but remembered no smell of natural gas during his response. He stated that his only interaction with Atmos Energy personnel was when Atmos technicians were establishing a larger safety perimeter and requested fire and ambulance responders’ equipment to move further down the street. The paramedic was on scene until the house fire was extinguished and approached 185 Bristol Boulevard and stood on the front steps. Again, there was no smell of gas as he recalls.

2) Emergency Medical Technician

Emergency Medical Technician at 185 Bristol Boulevard [2nd AMR vehicle].

185 Bristol Blvd.

The emergency medical technician (EMT) has worked for AMR for two years. The EMT was the driver of the unit 408 [second arriving unit], dispatched to the scene, at the request of the on-scene paramedic, who reported having a patient that needed to be transported. The rain was heavy, the unit was parked away and not particularly close to the scene. The patient had minor abrasions and cuts on his face. The interviewee stated that she did not interact with the patient directly. Patient care was provided by

another medical provider. On-scene personnel stated that that the patient [resident of 185 Bristol Boulevard] was awoken, escaped the fire and did not sustain significant injuries. The patient was concerned about his spouse that was still inside the home. He couldn't hear very well so communication was via writing. The interviewee mentioned that it was later determined that the hearing loss was a previous condition. The EMT then drove the truck to the hospital, left the patient with emergency department, while providing general instructions to the medical team.

3) AMR Paramedic

Paramedic arrived at 185 Bristol Boulevard in the second AMR vehicle [unit 408].

185 Bristol Blvd.

The paramedic has worked at American Medical Response for two years. The paramedic stated that the call was received to dispatch to Bristol Blvd. as they were currently in the area. It was noted that the resident of the house fire [the patient], was extremely hard of hearing. Upon arrival, a medical assessment was made of the resident. He did not appear to have any severe injuries, and his vitals were stable. The resident did have a few lacerations to his nose. He was treated for the lacerations at the scene. It was reported that he continuously asked about the condition of his wife.

The resident [patient] made a statement about the events of the fire. He stated he was awoken by an explosion and the ceiling falling down on him. He realized the house was on fire and left the house. He stated that he believed his wife was behind him as he left the house, but she must still be inside of the residence. It was noted that the homeowner continued to be concerned about the wellbeing of his wife. The interviewee recalls that the ambulance was on scene for a longer period. She stated that the ambulance service typically is off scene within ten minutes. The paramedic stated that she does not recall smelling any natural gas while on scene. Also, she does not recall anyone reporting the smell of natural gas.

K. 911 DISPATCH

Meeting held at 911 dispatch center at 355 Tombigbee St, Jackson, MS on 1 February 2024. Kologik System was queried for all gas related calls on Bristol Blvd and Shalimar Dr since February 2023. Only one report was called in on 30 November 2023 at intersection of Shalimar Drive and Shady Lane Drive.

The dispatch center received initial call for 175 Bristol Blvd on 8:14 am on 24 January 2024.²⁸ The initial call for Shalimar Drive was received at 4:34 am on 27 January 2024.²⁹

²⁸ Dispatch case # 24-01-07737

²⁹ Dispatch case # 24-01-08832

L. APPLICABLE REGULATIONS, INDUSTRY GUIDANCE, AND CONSENSUS STANDARDS

- 49 CFR 192.615, "Emergency Plans"
- 49 CFR 192.616, "Public Awareness"
- International Fuel Gas Code
- GPTC Leak Grading Guidelines
- NFPA 921 fire and investigation NFPA 101 life safety code
- Mississippi Fire Prevention Code, Section 45-11-101 through Section 45-11-111, Mississippi Code of 1972