

# National Transportation Safety Board

Office of Railroad, Pipeline and Hazardous Materials

Washington, DC 20594



PLD23LR002

## **EMERGENCY RESPONSE**

Specialist's Factual Report - Supplemental

September 26, 2024

## Table of Contents

A. INCIDENT .....	3
B. EMERGENCY RESPONSE GROUP .....	3
C. DETAILS OF THE INVESTIGATION .....	4
D. ACCIDENT SUMMARY .....	4
E. FACTUAL INFORMATION .....	4
1.1 OSHA Settlement Agreement with R.M. Palmer .....	4
1.1.1 Enforcement Actions .....	4
2.0 UGI DISTRIBUTION VALVES .....	5
2.1.1 UGI Post-Incident Actions with South Second Avenue and Penn Avenue .....	7
2.1.1.1 UGI Valve Maintenance Procedure Updates .....	9
3.0 PENNSYLVANIA PUBLIC UTILITY COMMISSION .....	10

**A. INCIDENT**

Location: West Reading, PA  
Date: March 24, 2023  
Time: 4:55 p.m. (Local)

Operator: UGI Utilities Inc.  
System Type: Distribution  
Commodity: Natural Gas

**B. EMERGENCY RESPONSE GROUP**

- |              |                                                                          |
|--------------|--------------------------------------------------------------------------|
| Group Chair  | Rachael Gunaratnam<br>NTSB<br>Washington, D.C.                           |
| Group Member | Troy Hatt<br>Spring Township Fire Department<br>Reading, PA              |
| Group Member | Corey Heimbach<br>Pennsylvania State Police<br>Reading, PA               |
| Group Member | Richard Tornielli<br>West Reading Police Department<br>West Reading, PA  |
| Group Member | Chad Moyer<br>West Reading Volunteer Fire Department<br>West Reading, PA |
| Group Member | Tim Angstadt<br>UGI Utilities, Inc.<br>Denver, PA                        |
| Group Member | Gery Bauman<br>PHMSA<br>Oklahoma City, OK                                |
| Group Member | Logan Smith, Jr.<br>R.M. Palmer Company<br>West Reading, PA              |

## **C. DETAILS OF THE INVESTIGATION**

The Emergency Response Supplemental Factual Report documents new factual information that was provided after the initial Emergency Response Factual Report that was publicly released on the NTSB docket in February 2024.

## **D. ACCIDENT SUMMARY**

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

## **E. FACTUAL INFORMATION**

### **1.1 OSHA Settlement Agreement with R.M. Palmer**

#### **1.1.1 Enforcement Actions**

After the natural gas explosion at the R.M. Palmer factory, OSHA opened an investigation into the incident. They issued 3 serious violations and 5 other-than-serious in September 2023.<sup>1</sup> One of those violations were: <sup>2</sup>

- OSH ACT of 1970 Section (5)(a)(1): The employer did not furnish employment and a place of employment which were free from recognized hazards that were causing or likely to cause death or serious harm to employees from explosion hazards. R.M. Palmer was cited under the General Duty Clause for failing to evacuate workers on March 24, 2023, during a natural gas leak inside the building resulting in an explosion causing multiple fatalities. For abatement obligations, R.M. Palmer must develop and implement an evacuation plan to be used in the event of a natural gas leak that complies with Pennsylvania IFC (2018) section 404.2; NFPA 54 (2021) Annex D, and NFPA 715.

---

<sup>1</sup> A serious violation exists when the workplace hazard could cause an accident or illness that would most likely result in death or serious physical harm, unless the employer did not know or could not have known of the violation. Other-than-serious is a violation that has direct relationship to job safety and health, but is not serious in nature. ([www.osha.gov](http://www.osha.gov)).

<sup>2</sup> See OSHA News Release, - Region 3, October 5, 2023: <https://www.osha.gov/news/newsreleases/region3/10052023>.

A settlement agreement between OSHA and R.M. Palmer dated May 9, 2024, amended this citation for “failing to evacuate”, replacing the General Duty Clause with 29 CFR 1910.38(f)(2), under the *Emergency Action Plans* standard, for, “The Employer did not review its emergency action plan with each employee covered by the plan when its employee’s responsibility under the plan changed.”<sup>3</sup> The alleged violation description stated, “Prior to and through March 24, 2023, the Employer failed to review its emergency action plan elements, such as fire, hazardous chemicals, and electrical emergencies, with its employees who were covered by the plan when the employees’ responsibilities under the plan changed.” OSHA did not provide additional information as to the reason for the citation change and what it meant by “employee’s responsibility under the plan changed.”

The settlement agreement included a description of R.M Palmer’s enhanced abatement measures, which the agreements states “were not required to be performed prior to the inspection that gave rise to this proceeding and which are not being done to show an admission as to any wrongdoing.” Those abatement actions included developing a natural gas leak procedure and revised evacuation protocol, installing natural gas detectors throughout their buildings, relocating gas meters outside one of their buildings, and replacing their gas-fueled heaters with electric heaters.<sup>4</sup>

## **2.0 UGI Distribution Valves**

The following information is to clarify the flow of gas in the segment of UGI’s system that UGI responders were trying to isolate during the March 24 response to R.M. Palmer West Reading facilities. The valves closed during the incident are illustrated in Figure 1. The figure has also been updated from the *Emergency*

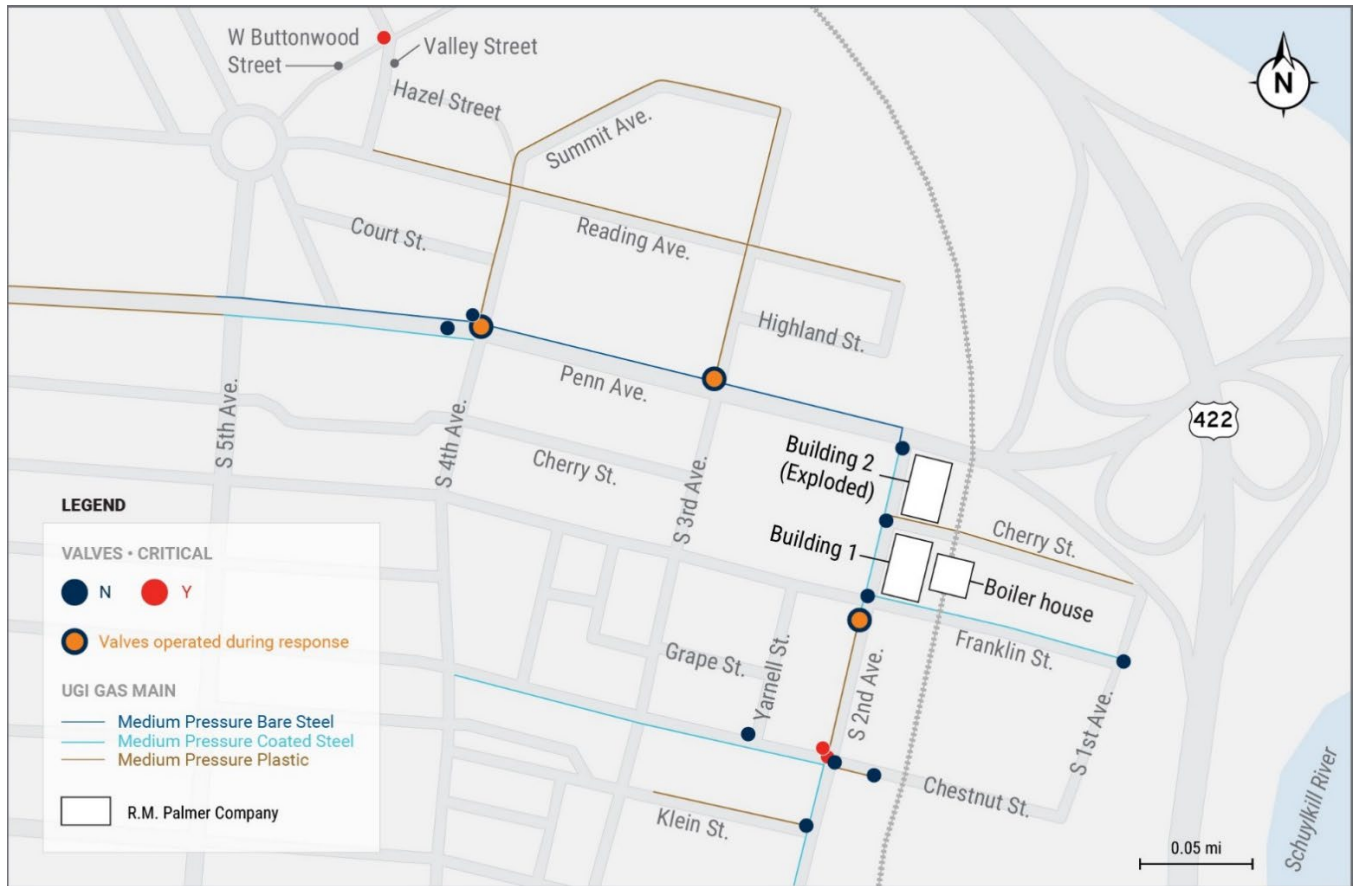
---

<sup>3</sup> The General Duty Clause under the OSHA Act of 1970 gives OSHA the authority to cite an employer for not furnishing a place of employment free from recognized hazards that could cause death or serious physical harm to employees when no OSHA regulation exists.

<sup>4</sup> See NTSB Investigation Docket: 3 - Emergency Response - OSHA Settlement Agreement with R.M. Palmer.

*Response Factual Report* to include the closest critical valves to R.M. Palmer buildings.

- South Second Avenue and Franklin Street valve would shut off gas flowing south from the South Second Avenue main. This valve was closed during the incident.
- South Second Avenue and Penn Avenue would shut off gas flowing west to east through the Penn Avenue main. This valve was not closed during the incident.
- South Third Avenue and Penn Avenue would shut off gas flowing north to south from the Summit Avenue main. This valve was closed during the incident.
- South Fourth Avenue and Penn Avenue would shut off gas flowing west to east through the Penn Avenue main. This valve was closed during the incident.



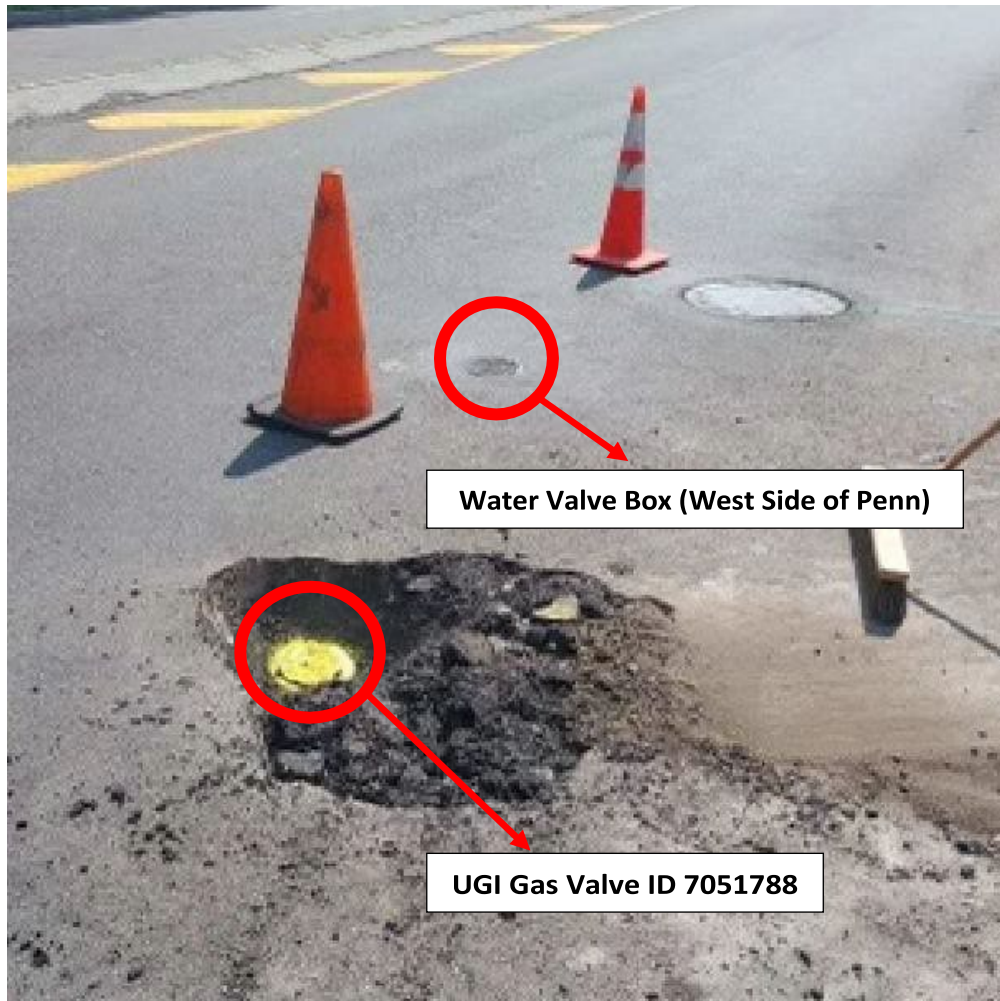
**Figure 1: UGI distribution valves closed in response to the March 24 incident**

### **2.1.1 UGI Post-Incident Actions with South Second Avenue and Penn Avenue Valve**

In July 2024, UGI excavated the Penn Avenue main near South Second Avenue. UGI reported to the NTSB that the distribution valve at South Second Avenue and Penn Avenue could not be located during emergency response efforts on March 24, 2023, because it had been paved over (see Figure 2). The company confirmed that this valve was the appropriate valve to isolate the distribution system at the accident site on March 24.

UGI also reported that UGI first responders, who reported a mismatched valve identification number during the response, had mistaken one of two water valves as a gas valve. UGI reviewed a 2018 google photo that identified a lid of one of the water valves had the letters "G" and "A" (See Figure 3). Because of mislabeled lid, the

company reported to the NTSB their responders mistook the water valve as a gas valve that had a wrong valve identification number. They decided to leave it due to the uncertainty of the valve and go to the next two valves needed to isolate the distribution system.<sup>5</sup>



**Figure 2: UGI excavation of gas valve ID 7051788 and its proximity to a water valve on Penn Avenue in July 2024 (Photo courtesy of UGI)**

---

<sup>5</sup> UGI contacted West Reading Borough officials on September 12, 2024, to inform them of the incorrectly marked lid found on their water valve box located at Penn Avenue and South Second Avenue. On September 12, 2024, the Borough replaced their water valve box lid with the appropriate designated lid.





**Figure 3: Close up of a water valve lid from a 2018 google photo (Photo courtesy of UGI)**

### **2.1.1.1 UGI Valve Maintenance Procedure Updates**

At the time of the March incident, UGI had a “Valve Maintenance” procedure, Gas Operation Manual 70.80.10, which was last revised on January 13, 2022. The procedure addressed maintenance of critical valves, secondary and curb valves, which is discussed in detail in the *Emergency Response Factual Report*.

UGI reported that they are reviewing their valve maintenance procedure to include instructions for employees when they encounter a third party valve covers that are mistakenly marked as gas. The revision will be issued by December 31, 2024, and will take effect for UGI’s 2025 valve inspection program. <sup>6</sup>

---

<sup>6</sup> See NTSB Investigation Docket: 3 - Emergency Response - UGI Valve Maintenance Procedure - January 2022.

### **3.0 Pennsylvania Public Utility Commission**

UGI submitted state inspections between 2018-2023, which did not note any non-compliance issues with following their valve maintenance procedure. The PA PUC has no record of violations to UGI under 49 CFR 192.747 (valve maintenance) or 49 CFR 192.616 (public awareness) from 2018-2023. The state agency also clarified under their regulations 52 PA Code 59 does not include language addressing maintenance of valves not identified or classified as emergency valves. The agency does have enforcement authority under 49 CFR Part 192.605 on whether UGI followed its valve maintenance procedure in their procedural manual for operations, maintenance, and emergencies.<sup>7</sup>

Submitted by:

Rachael Gunaratnam  
Sr. Hazardous Materials Accident Investigator

---

<sup>7</sup> See NTSB Investigation Docket: 3 - Emergency Response - NTSB communications with PA PUC - September 2024.