



A Case Study- 2018 Pipeline Explosion in Dallas, TX

On the morning of February 23, 2018 an explosion occurred at 3534 Espanola Drive in Dallas, Texas. All five occupants of the home were injured. One of them, a 12-year-old girl, was tragically killed.

The week of the incident, the Dallas area had experienced heavy rain and the ground was saturated with standing water present. Over the two-day period prior to the explosion, two separate house fires occurred in the area resulting in second



Photo courtesy of DFR

degree burns for one individual. The pipeline operator in the area indicated that they were monitoring a situation in a residential area near Love Field airport. A measurable gas leak was suspected as a factor in both fires, but poor communication between the local fire department and the pipeline operator failed to identify the cause of the leaks.

Four hours prior to the explosion, operations personnel were called to investigate the smell of gas coming from a residence one street over from Espanola Drive. Using the bar hole drilling technique to investigate potential leaks, operations personnel concluded the area was safe and did not shut off gas supply. Around 6:30 a.m. that morning, the explosion occurred on Espanola Drive injuring four people and killing one.

The day after the explosion the National Transportation Safety Board (NTSB) announced they would be sending a team to investigate. The full NTSB report can be found on their investigation site as few of their findings are noted here for discussion. The

(continued on page 2)

Best Practices

“We like to do as many exercises as possible with our oil and gas partners yearly. We also attend training meetings yearly to make sure we are caught up. We encourage our oil & gas partners to attend our LEPC meetings every quarter.”

“We conduct annual training with all of our 911 Dispatchers using the materials provided by Kinder Morgan in order to keep up to date on current information and emerging trends.”

“We attend local pipeline operator-sponsored training meetings.”- **Jimmy Gresham, Benton County MS, EMA**

(continued from page 1)

pipeline in question was 71-year-old steel pipe that had been damaged in 1995 by mechanical excavation equipment. The result of the investigation identified a circumferential crack in the pipeline that allowed gas to seep out and migrate through the soil.

In the initial emergency response after gas was detected at several residences, the pipeline technician relied on drilling bar holes in the area to check for gas, which is not typically reliable during extremely wet conditions. A pressure test would have been more effective, and would have likely shown that the line did not hold pressure, and gas supply to that segment would have been stopped. Ultimately, the operator was found negligent and has committed to replacing thousands of miles of “old pipe” in a five year span.

The official report by the NTSB states that contributing to the incident was fire rescue squad’s initial misclassification of the first incident as an appliance fire. By not identifying the incident initially as a gas leak with the source unknown, they delayed the sharing of information that could have helped the pipeline operator identify the origin of the leak, which would have allowed this to escalate to state and governmental organizations, providing additional oversight. During the course of investigation, it became clear that had the department’s arson investigators received more training on natural gas systems and pipelines, the investigation findings may have provided more timely and accurate assistance to the operator. If the department’s hazardous materials response team had been dispatched to the scene, particularly after the second incident, they could have enhanced the operator’s investigation. If methane detectors had been installed in the area, an alarm would have alerted residents to the gas release, reducing the consequences of the resulting natural gas fires and explosions.

NTSB Recommendations to the local department:

- 1) Revise the continuing education requirement for arson investigators to include training on building gas fuel systems.
- 2) Revise procedures to require gas monitoring after the occurrence of a gas related structure fire or explosion.
- 3) Develop and implement a formal process to alert appropriate local, state, and federal agencies of potential systemic safety issues that should be further investigated.

According to third party submittal to NTSB, the local responding department and the pipeline operator have increased communications dramatically since the incident. The first

(continued on page 3)

First Responder Training Video Series

Learn how to safely and effectively respond to a pipeline emergency, how pipelines work, how different products impact response, response leading practices, how to better prepare to respond to pipeline incidents and roles in pipeline response. Videos feature interviews with pipeline and emergency response experts, covering a wide variety of emergency response disciplines.

* Videos available at

https://www.youtube.com/channel/UCLQv4arPbGluPt7j_JuETWw



(continued from page 2)

responders have conducted emergency response and pipeline safety trainings with the operator and have altered dispatch response procedures for gas-related incidents, making it easier for dispatchers to code them correctly, and better prepare emergency responders arriving on-scene. With the assistance of the pipeline operator, the fire department has since added Sensit Gold G2-4 gas monitors to its equipment cache for Battalion Chiefs, and they have issued Toxirae 3 single-gas detectors to all Engine and Truck companies.

While pipeline incidents are rare, it is important for operations and emergency response personnel to be well trained on how to handle these situations should they be called to a suspected gas leak or explosion. If you would like to request training in your area from Kinder Morgan, please email publicawarenesscoord@kindermorgan.com.

What are Pipeline Valves and how do They Work?

There are many types of valves situated at various intervals along the route of a pipeline. The overriding purpose of mainline valves is to control the flow rate of product through the pipeline, and to shut off flow for a segment of the pipeline in the event of an emergency.

For natural gas transmission pipelines, the mainline valves are found at intervals from a few miles up to twenty miles apart. During pipeline design and construction, operators consider many factors when deciding where to place valves: elevation changes, rural versus urban areas, environmentally sensitive areas, and terrain amongst others. Two types of mainline valves include manual and remote control valves (RCVs). Just like the name implies, manual valves are operated by hand and above-ground, by pipeline operator personnel. RCVs allow control room operators to send a signal to specific valves to shut down a section of the pipeline, stopping gas flow.



Automatic shutoff valves (ASVs) work by automatically closing in a section of a pipeline when pressure sensors hit or drop beyond specific established pressure thresholds. ASVs are very effective in reducing the amount of time product flows compared to waiting for

(continued on page 4)

Did you know ...

811 is the nationally recognized three digit number to provide notification of pending excavation activity so that utilities can properly locate underground assets. Help us spread the word for safety ...**Call 811 before you dig!**



**Know what's below.
Call before you dig.**

WISER

Effective February 28, 2023 WISER will be discontinued as part of NLM's initiative to align and consolidate information. Other sources of hazmat, chemical, biological, radiological, and nuclear weapons can be found at **CHEMM, ERG2020, DHS' Hazardous Materials Release website, NIOSH Pocket Guide.**



(continued from page 3)

operations personnel to arrive on scene. Closing one or more mainline valves on a pipeline segment may require that other valves be opened to maintain pressure and customer deliveries.

A final rule from the Pipeline and Hazardous Materials Safety Administration (PHMSA) issues in March 2022, stipulates that operators replacing or installing new segments of pipeline greater than six inches in diameter, should install valves to comply with new shutdown standards which require complete stop of product flow within thirty minutes or less of rupture identification. These faster shut down times will facilitate faster access times for emergency responders at the scene of an incident to reach injured individuals and conduct scene size-up.

Lessons Learned from The Responder Annual Readership Survey

In January of each year emergency responders and public officials who received *The Responder* newsletter are emailed a link to participate in our annual readership survey. This survey provides Kinder Morgan with critical feedback from our target audience - you.

This year's *The Responder* readership survey was distributed to over 6,400 recipients across the United States. Sixty three percent of our respondents list their job titles as emergency management coordinators, fire chiefs, assistant fire chiefs, sheriffs, or hazmat officers. In addition to obtaining general demographics of our readership base, respondents provide key insight into which articles they found valuable in the last year, and what topics they would like to see discussed in future issues. The two most read topics this year were "Safe Approach to a Pipeline Incident" and "LEPCs and Their Role in Emergency Response Planning." The most suggested article for six years in a row has been "Joint Training Opportunities between Emergency Responders and Pipeline Operators."

Nearly sixty five percent of respondents state that they have modified or incorporated emergency response protocols as a result of content they have read in *The Responder*. This metric allows us to feel confident that we are providing our readership base with the information they need specific to pipeline emergency response.

At Kinder Morgan we strive to be partners in pipeline safety, providing information in a timely, succinct manner with emergency responders and public officials in our local communities. *The Responder* newsletter has proven to be an effective method for us to reach across our vast footprint and engage in critical two-way communication with emergency responders.

(continued on page 5)

NPMS and PIMMA Updates

The National Pipeline Mapping System (**NPMS**) now includes Coastal Ecological Unusually Sensitive Areas (Coastal Eco USA) GIS data is now available for download. New HCA updates have been added by PHMSA.

NOTE

If you would like to request additional information, or to schedule a presentation or tabletop drill with Kinder Morgan, please fill out the form found at <http://PAinforequest.kindermorgan.com>



Suggest an Article for The Responder!

Is there a topic you'd like to see featured in the next issue?! Please click [here](#) to suggest your topic for *The Responder* newsletter!

(continued from page 5)

If you would like to provide feedback on *The Responder* newsletter, suggest a topic, or would like to be added to our distribution list, please email publicawarenesscoord@kindermorgan.com.

Overview of BUXUS Program

BUXUS is a new platform created for emergency responders to better facilitate emergency response to high impact, low



frequency pipeline incidents. While transportation by pipeline is incredibly safe, with over 3.3 million miles of pipelines in the United States incidents do occasionally occur, and it's important for first responders and pipeline personnel alike to be well-prepared.

While it is still widely agreed that face-to-face communication between emergency responders and pipeline operators is the preferred method of contact, BUXUS is a great supplemental app, downloaded from Google Play or Apple, that can be used 24/7 to obtain pipeline information. This mobile application, paid for by pipeline operators and provided for free to emergency responders, provides critical information regardless of Wi-Fi or cell phone coverage.

Once downloaded, BUXUS provides emergency responders with the following information on their mobile devices:

- Information on commodities transported by operator and pipeline (for those that subscribe to BUXUS)
- Emergency contact information by pipeline and operator
- Hazards posed by the commodity type
- Emergency response actions to be taken/avoided
- Interactive maps
- Portal to request specific information or resources from an operator

Its ease of functionality has led to BUXUS being supported by the National Volunteer Fire Council (NVFC) and International Association of Fire Chiefs (IAFC). To register for BUXUS, search for and download the app on Google Play or Apple, and answer a few brief questions confirming agency information and capabilities. The brief questionnaire allows pipeline operators in your area to better evaluate collaborative plans and resources for emergency response. Upon completion of these brief steps, emergency responders will have pipeline safety information literally at their fingertips.

For more information or questions related to BUXUS, please go to www.buxus.io. ■

BUXUS

For more information on BUXUS or to register, go to www.buxus.io

NOTE

To be added to *The Responder* distribution list, please email publicawarenesscoord@kindermorgan.com

Kinder Morgan Social Media

Facebook:
<https://www.facebook.com/KinderMorganInc>

Twitter:
<https://twitter.com/KinderMorgan>