



KINDER MORGAN

THE RESPONDER

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ISSUE 1

PIPELINE INFORMATION FOR EMERGENCY RESPONDERS IN KINDER MORGAN COMMUNITIES

Pipeline Emergency Preparedness & Training: A Case Study- Sissonville, West Virginia Pipeline Rupture

The following is an account of an actual incident, and the party involved has not been named. The intent of this article is to present this incident as a learning opportunity and not to place blame.



Credit National Transportation Safety Board

On December 11, 2012 at 12:41 p.m. a 20-inch diameter interstate natural gas transmission pipeline ruptured in Sissonville, West Virginia. A 20 foot section of the pipe was ejected from the ground, landing over 40 feet away and resulting in a large fire that destroyed three homes, severely damaged several others, and shut-down Interstate 77. During operation, the maximum allowable operating pressure (MAOP) of the pipeline was 1,000 pounds per square inch (psi), and the actual operating pressure at the time of the rupture was 929 psi. The high pressure natural gas escaping from this section was instantly ignited with fire damage extending 1,100 feet along the pipeline right-of-way. Fortunately, this incident did not result in any fatalities or serious injuries.

(continued on next page 2)

Best Practices from Emergency Response Peers

"The goal of SOEM (Stafford Office of Emergency Management) are on-going exercises to improve best practices and procedures...evaluation of hazards and threats to our community are fluid and must remain so to ensure we are doing the most we can to keep our community safe."

- Stafford Office of Emergency Management, Stafford, Texas

"Pima County Office of Emergency Management participates in annual tabletop exercises with Kinder Morgan and request Kinder Morgan's assistance in staffing the EOC when needed."

- Pima County Office of Emergency Management

"We are currently working with Kinder Morgan to set up facility tours for law enforcement in areas of sub stations to better prepare those emergency responders."

- Lt. Sarah Lund, Tennessee Highway Patrol Homeland Security

(continued from page 1)

At 12:41 p.m. the Metro Emergency Operations Center (EOC) received the first 911 call reporting a fire in Sissonville, triggering the Sissonville Volunteer Fire Department (VFD) Station 26 and the Malden Fire Department Station 3, to be dispatched to the scene. An emergency medical services medic was the first to arrive on scene at 12:49, followed by a fire lieutenant who immediately assumed incident command. On his way to the scene with a tanker, the Sissonville Fire Chief spoke with other responders to ensure that enough resources were being dispatched, and upon his arrival, incident command was transferred. At 1:06 p.m. Metro 911 notified Appalachian Power of the incident and requested they shut down service to the area, followed by a call requesting the pipeline operator to shut down operations in the area.

The incident commander was notified that a nearby resident was trapped in her home, and a fire engine company was deployed to the scene. Resulting thermal damage forced the shut-down of I-77, a major traffic artery in the area, for 19 hours until the road could be repaired. After gas flow was cut off, firefighters worked to suppress house fires in the vicinity of the rupture, and fire operations concluded at 10:00 p.m. In total, 76 million cubic feet of gas escaped and the operator spent \$2.9 million repairing the pipeline and \$5.5 million in system upgrades.

In the days following the incident the National Transportation Safety Board (NTSB) conducted an investigation, and found that the ruptured segment of pipeline was placed into service in 1967. The probable cause of the rupture was cited as external corrosion of the pipe wall due to ineffective cathodic protection and deteriorated coating. It was also discovered that particular section of pipe had not been inspected or tested since 1988. Further contributing, was the operator's delayed recognition of the rupture due to an inadequate configuration of the alerts of the supervisory control and data acquisition system (SCADA), as well as the lack of automatic shutoff valves (ASV) or remote control valves (RSV), taking over an hour to manually shut down the system and isolate the rupture.

In the aftermath of this incident the Sissonville VFD took additional measures to ensure they are adequately prepared to respond to future pipeline incidents. The department held a pipeline training seminar for its emergency response personnel, and fellow mutual aid departments in Kanawha County. The session is aimed at providing critical information on natural gas pipelines and other hazardous materials. Topics included identifying a hazardous materials incident, personal protection, calling appropriate trained personnel to the scene, responding in a defensive fashion, response tactics, and concluded with several tabletop drill scenarios. The Sissonville VFD plans on holding this training on an annual basis and offering it to all emergency responders in the county and surrounding areas.

Reviewing lessons learned from actual incidents offers a unique training opportunity for emergency responders and pipeline personnel alike. The more we learn from previous incidents, the better we are prepared to respond in the future. ■

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!



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Call before you dig.**

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Pipeline Emergency Response Tactics: How to Detect a Natural Gas Leak

Although pipeline leaks are very rare, being able to recognize a potential leak is an important part of living and working around pipelines. Understanding the properties of natural gas is an important piece of this. In its original state, natural gas is odorless, colorless, tasteless, and it is also non-toxic, meaning it will not harm you if inhaled in small concentrations. The Natural gas explosive range varies from 4% to 17% by volume in air, depending upon the composition of the gas. It has a very high ignition temperature making accidental combustion unlikely. It is lighter than air, so if released into the atmosphere it typically dissipates fairly quickly.

Using your senses, you can detect a potential natural gas leak:

LISTEN - a persistent hissing, roaring or whistling noise is one of the most noticeable signs of a leak.

LOOK - bubbling in standing water or ponds, an unexplained pool of liquid, or discolored vegetation are key signs of a natural gas leak along a pipeline system. Other signs may include a mist, fog or fire.

SMELL - when a leak occurs near a populated area or on a distribution pipeline system, you may notice a pungent odor such as sulfur (sometimes described as a "rotten egg" smell). It is important not to rely on smell alone, as some transmission lines are not odorized.

If a natural gas leak is suspected contact the pipeline operator as quickly as possible and when approaching the scene do so from an upwind direction. Remember to move a safe distance away from the scene before calling the pipeline company as cell phones, pagers, two-way radios, lights, and motor vehicles can serve as ignition sources. The Incident Command System (ICS) should quickly be placed into use, and actions taken to protect people, property and the environment in the immediate area such as establishing isolation zones, evacuating people (if needed), designating a safe location for bystanders and the media.

For more information on recognizing a pipeline leak, please go to: http://www.kindermorgan.com/pages/public_awareness/government/recognizingpipelineleak.aspx

If you would like additional information on Incident Response Tactics, please visit: http://www.kindermorgan.com/pages/public_awareness/government/IncidentResponseTactics.aspx ■

Links to Kinder Morgan Safety Brochures

To view Kinder Morgan's Pipeline Safety brochures with information on pipeline emergency response information, operations, and emergency contact numbers go to: http://www.kindermorgan.com/public_awareness/AdditionalInformation/KMSafetyBrochures.aspx

Wiser for Android 3.1.1 for iOS 7 released!

As of 9/18/2014, version 3.1.1 of WISER for iOS is available. This new release provides full support for iOS 7 and above with a new look and feel to match the latest iOS releases. Click [here](#) to see what's new.



Overview of Pipeline Systems: Tanker Truck Transportation of Oil and Refined Products

Transportation of oil and refined products occurs by pipeline, rail, ships, and tanker trucks. While pipelines are often thought of as a primary means of oil and refined products transportation, tanker trucks carry their fair share of product as well. In 2011, in excess of 95 million barrels of domestic crude oil were shipped by tanker truck to various refineries across the USA.

A variety of tanker truck trailers are used for transportation of products and are classified according to the physical characteristics of the products transported. The DOT 406 –Non-Pressurized Liquid Tank Trailer is the most prevalent used in hazardous liquids transportation. This type of trailer typically transports gasoline, jet fuel, and ethanol. The MC 331 –High-Pressure Tank Trailer is commonly used to transport butane and other types of compressed gas liquids, and finally the MC 338 Cryogenic Liquids Tank Trailer is employed to transport nitrogen and liquefied natural gas.

While all of these tank trailers have unique design and operations characteristics, they do share common marking systems. Each trailer transporting hazardous materials is required to have a placard identifying the hazard class and identification number associated with the material being transported. Emergency responders can use the U.S. Department of Transportation's Emergency Response Guidebook (ERG) to identify the product and recommendations for initially handling spills or releases.

While specifications and design of tanker trailers differ, here are some fairly common initial response recommendations to an incident involving tankers:

- Isolate the area
- Conduct a thorough scene-size up
- Notify the tanker truck operator
- Determine the product being transported by observing the placard and researching the identification number in the U.S. DOT Emergency Response Guidebook
- Identify the properties and the quantity of the product involved
- Determine if the product is leaking from the tank
- Based on guidance from the ERG, determine if evacuations are required and if so, implement accordingly
- Observe the tanker for stress points or factors that could lead to a breach
- Assess for environmental exposures such as nearby water bodies or changes in topography
- Assess the need for resources such as foam, spill response/HAZMAT teams, etc.

While incidents involving tanker trucks are not a common occurrence, they can occur. Emergency responders should become familiar with the types of tanker trucks and products transported through their jurisdictions. Further, tabletop or full scale response exercises involving tanker truck incidents can be a useful tool in enhancing hazard and risk assessment, as well as preparedness planning. ■

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Forward this issue to other responders in your department and in your community. Encourage them to subscribe to *The Responder* by e-mailing their name, title, agency name and agency address to publicawarenesscoord@kindermorgan.com.

ARCHIVED ISSUES

Read more articles from past issues of "The Responder" online at www.kindermorgan.com/public_awareness/The_Responder/archive.cfm

Note

You can find out who operates pipelines in your area by accessing the National Pipeline Mapping System at <https://www.npms.phmsa.dot.gov/default.aspx>

FYI

If you would like to request additional information or subscribe to "The Responder", please fill out the form found [here](#).

Keeping Pipelines Safe/Practices & Protocols: Pipeline Integrity Management in High Consequence Areas

The Pipeline Safety Act of 2002, enacted by Congress, mandated a new regulation called the Gas Pipeline Integrity Management Rule. A precursor to this regulation was promulgated in 2000, mandating pipeline integrity regulations for pipelines transporting hazardous liquids. Pipeline Integrity Management was a landmark regulation for the pipeline industry. The regulations require pipeline operators to evaluate the impact of a pipeline release to a local area. Using this information the operator identifies “High Consequence Areas” (HCAs) along the pipeline route. Natural Gas pipeline HCAs include areas where 20 or more houses or an identified site falls within the potential impact area. Identified sites include buildings with 20 or more people, areas of congregation, or a limited mobility facility. These may include schools, hospitals, prisons, and day cares. Hazardous liquid pipelines HCAs include high populated areas, other populated areas, commercially navigable waterways, and areas unusually sensitive to environmental damage.

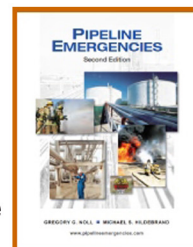


After the identification of HCAs, the pipeline operators are mandated to develop specific plans to assess the condition of the pipeline in these areas. Pipeline operators have at their disposal very sophisticated technology to inspect the pipeline internally and externally to identify any conditions that could compromise the integrity of the pipeline. Internal inspections are often conducted using an intelligent inspection tool, commonly referred to in the pipeline industry as a “smart pig”. Smart pigs are inserted into the pipeline and are transported along the line usually by product flow. The device has the capability to identify anomalies such as dents or other conditions that can result in a reduction of pipe wall thickness. If anomalies are discovered, they are further investigated, and repaired if needed.

Emergency responders play an important role in assisting pipeline operators with ensuring the integrity of their systems. Since third party pipeline damage continues to be a leading cause of serious pipeline incidents, emergency responders can play an integral role by helping to communicate the need for excavators to call 811 before digging near pipelines. The Natural Gas Integrity Management Regulations require consultation with emergency officials to help identify any areas of congregation or limited mobility so that HCA’s can be established and in turn, assessed. If you know of locations in your community that are near Kinder Morgan natural gas pipelines that meet the identified site criteria please submit the location information to Kinder Morgan online. Detailed identified site definitions and the online submission form can be found on http://www.kindermorgan.com/pages/public_awareness/government/submitHCAinfo.aspx. ■

FYI

Did you know that the National Association of State Fire Marshals (NASFM) and the Pipeline &



Hazardous Materials Safety Administration (PHMSA) have partnered to develop, and provide training to responders? “Pipeline Emergencies” is a detailed, comprehensive program designed to increase responder awareness of pipelines and how to effectively respond to incidents. Check the training out at

www.pipelineemergencies.com

FYI

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