Pipeline Emergency Preparedness & Training: Case Study of Manhattan, NY Gas-fueled Building Explosion and Fire

On the morning of March 12, 2014, two five-story buildings located on the West side of Park Avenue in Manhattan, New York were destroyed by a gas-fueled explosion and subsequent fire. The tragedy resulted in the deaths of eight people, injuring 50 others and displacing over 100 families from their homes. As a result of the incident, the Metro-North railroad suspended service for over seven hours due to debris on the track.

About 25 minutes prior to the explosion, the gas pipeline company received a call from a resident of an adjacent building reporting he smelled gas inside and outside of his residence. The company’s emergency response center representative dispatched local personnel to the scene for an investigation. Thirteen minutes after the initial notification, the fire department was notified but the dispatcher only mentioned the presence of an odor but not the possibility of a leak. Company personnel arrived on-scene shortly after the explosion.

The New York City Fire Department categorized the incident as a five-alarm fire with over 250 firefighters reporting to contain the situation. Emergency crews responded within two minutes after the initial 911 call was made, and within two hours, the New York City Community Emergency Response Team (CERT) was dispatched to the scene. CERT volunteers quickly established a Resident Service Center at a nearby school that remained open for 12 days to assist

NEW - 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 www.shoulder2shoulder.tv

Photo Courtesy of Associated Press/ Jeremy Sailing

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displaced residents with shelter options and to offer language translation services.

The National Transportation Safety Board (NTSB) found that the primary cause of the incident was a defective plastic fusion joint improperly installed by a pipeline company contractor in 2011. Contributing to the incident was the failure of residents and passersby to notify the gas pipeline company, fire department or 911 after smelling the signature “rotten egg” smell of natural gas the day before the incident. The company previously provided leak detection, emergency response and contact information to residents in the area, but according to the NTSB report, the information provided was not deemed clear or frequent enough. Had residents read or understood the materials they were provided, the pipeline company may have been notified of a possible problem when the smell was first noticed. The pipeline operator would have likely found the gas leak and taken action to correct the problem—ultimately preventing the explosion. For this reason, pipeline public awareness programs and educational outreach efforts with residents are important aspects of safe operations.

The Department of Transportation (DOT) found that further contributing was the failure of the New York City Department of Environmental Protection to repair a breached sewer line identified in 2006. This line allowed groundwater and soil to flow into the sewer, resulting in a loss of support for the gas main, causing the line to sag and become overstressed over time.

Additionally, if the pipeline company had notified the local fire department when the initial call was made from the resident reporting gas odor, first responders could have been on-scene 15 minutes prior to the explosion and worked to evacuate the five-story buildings. As a result of the incident, the NTSB recommended to the pipeline company that they “provide clear written guidance to the Gas Emergency Response Center staff on the conditions for promptly notifying the New York City Fire Department, and provide additional staff training.”

In the wake of this explosion, New York City Mayor Bill de Blasio called for the city’s fire department to have a much greater role in responding to potential gas leaks, and requested that all calls submitted through New York’s 311 system trigger the 911 dispatch of fire department personnel. The average response time of New York City’s Fire Department to potential leaks is around 8 minutes, while the pipeline company reports that their average personnel response time is 20 minutes. The role emergency response agencies play in identifying and responding to pipeline leaks is evolving, and first responders should be aware of unique response

WISER

The Wireless Information System for Emergency Responders (WISER) is offered as a standalone application on Microsoft Windows PCs, Apple iPhone and iPod Touch, Google Android devices and Blackberry devices.

Best Practices from Emergency Responder Peers

“Our city and county are very proactive in tabletop and even full scale activities with our pipeline operators in the county. We enjoy the yearly program you put on every year.” – John Waldo, EMC City of Huntsville, Texas

“We have yearly KPA meetings/trainings when this is brought to our town.” – Gilbert Valerio, Finney County Emergency Management

“We attend all pipeline safety seminars that are given to first responders.” – Chief Roy Williams, Delhi Police Department, Delhi, Louisiana
tactics for particular CO₂, hazardous liquids, and natural gas products, in the event they are called to respond to a pipeline incident.

Educating and informing the public about pipeline safety, including how to recognize a pipeline leak and what to do when a leak is suspected are critical components of each pipeline company’s public awareness program. To request more information from Kinder Morgan on public awareness program or pipeline safety, please go to: http://PA-InfoRequest.kindermorgan.com

**Pipeline Emergency Response Tactics: What Would You Do? Responding to a Hazardous Liquids Pipeline Incident**

Emergency call volume has been heavy for the entire shift. To make matters worse, strong storms are predicted later in the evening bringing the risk of additional traffic accidents, lightning strike related fires, and wind damage to structures.

It is 4:00 p.m. on a Wednesday afternoon. The 911 dispatch center receives a call from a Pro Diggers Construction Company supervisor reporting that one of his excavators hit a pipeline in the vicinity of Sunset Drive and Commerce Boulevard, just down the road from the Blossom Creek Mall. The supervisor adds that some type of liquid is gushing out of the pipeline “like a geyser”! He said a nearby pipeline marker sign indicates the pipeline is transporting “Petroleum Liquids”. Law enforcement and fire units are immediately dispatched to the scene.

Upon arrival, the Incident Commander from the fire department establishes a command post. The supervisor from Pro Diggers Construction Company informs responders that they are attempting to build an earthen dike to stop the flow of the material from the pipeline which is now headed toward a storm drain leading to Blossom Creek. Pipeline operator personnel arrive on the scene and report that the pipeline was transporting jet fuel (A-1) at the time it was damaged.

Despite initial response efforts, the jet fuel product has entered Blossom Creek. The 911 dispatch center begins receiving calls from area residents and Blossom Creek Mall personnel reporting a heavy odor of kerosene in the area. Pipeline operations personnel quickly isolate the leak by closing mainline valves, but a large volume of product estimated to be in excess of 500 barrels, leaks into the creek. Rain is beginning to fall and the county is now under a Severe Thunderstorm Warning and Flash Flood Watch.
News media personnel from WKIX Action 10 News have arrived on scene and are requesting information about the incident and response efforts. In addition, the 911 dispatch center is being flooded with calls from area residents reporting the odor and inquiring about the need to evacuate.

Questions to consider:

- What are your response priorities?
- What resources are needed?
- What safety concerns exist?
- How are the inquiries from the news media and public addressed?
- What hazardous materials response/clean-up capabilities exist in your jurisdiction to respond to this type of incident?

Overview of Pipeline Systems: Pipeline Markers

Pipelines, as well as other utility lines, are frequently buried and often times cannot be easily identified. For this reason, pipeline markers are placed aboveground in specific intervals along pipeline rights-of-way to indicate that there is an underground line in the area.

Pipeline markers can appear in the form of signs, placards or stakes in the ground and are generally yellow with black lettering but can also be red, orange, or white. Markers are placed at intervals along the pipeline route, at road and railroad crossings, at all above ground pipeline facilities, and waterway crossings. They contain the pipeline operator’s name, 24-hour emergency contact information and the product transported. In the event of an emergency, pipeline markers are a quick way for emergency response personnel to identify the operator and use the phone number provided to make emergency notifications.

While pipeline markers are a good indicator that pipelines are in the area, they do not represent exactly where, or how far below the surface they can be found. In addition to identifying a pipeline for emergency purposes, markers also assist with alerting individuals to the approximate pipeline location to prevent unauthorized activities such as digging and building near the pipeline.

If you are approaching the scene of a pipeline incident and are unsure of the operator, locating a nearby pipeline marker can be a
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 before you dig!*

**NOTE**
To view Kinder Morgan Safety Videos, please click here

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quick and effective way of identifying and notifying the pipeline operator of an emergency situation.

**Keeping Pipelines Safe/ Practices & Protocols: The Role Emergency Responders Play in Pressure Testing and Pipeline Maintenance Activities**

Pipeline operators are continually engaged in a wide variety of maintenance activities to ensure the well-being of their pipelines. As our partners in safety, emergency responders can assist us in these critical efforts.

Frequently, operators assess the integrity of the pipelines through hydrostatic testing. Hydrostatic testing is achieved by filling sections of the pipeline with water after it has been taken out of service, raising the water pressure to test its pressure-holding capability and verifying the integrity of the pipeline. In some cases, this involves a controlled blow down of natural gas from the pipeline. Pipeline operators notify emergency responders prior to a blow down in order to assist with public inquiries.

In addition to supporting hydrostatic testing operations, public sector emergency responders can play an important role in helping pipeline operators identify potential High Consequence Areas along the pipeline right-of-ways. High Consequence Areas (HCAs) include places of limited mobility such as hospitals, nursing homes, schools, day cares, and prisons. The presence of these facilities requires pipeline operators to conduct specific integrity inspections to further ensure public safety in these locations. Given their knowledge of the jurisdiction, emergency responders are uniquely qualified to assist in this endeavor. If you know of locations in your community that are near our pipelines and fit the description above, please submit site information online at http://SubmitHCAinfo.kindermorgan.com

As our partners, emergency responders are a key asset in helping to ensure the safety of pipelines that provide critical energy resources to the communities in which we live and work! ☑