



Pipeline Emergency Preparedness & Training: Tabletop Drills

Industry research shows that fire, police and other response agencies that regularly conduct pipeline emergency drills and practice exercises are significantly more likely to say that they are prepared to respond to emergencies than agencies that don't.

Tabletop drills are a quick, effective and low-cost way to practice strategic and tactical decision-making, communication and execution of pipeline emergency response procedures. Drills supplement written, class-based and online training programs and can be included in regular department training meetings.

Listed below are some tips and resources for conducting an effective tabletop drill:

Determine a Drill Objective and Create a Realistic Scenario

Is the objective to review your agency's existing Standard Operating Procedures (SOPs)? Is it to identify and work through potential communication challenges between multiple response agencies? Is the goal to insure that needed equipment is in place and personnel are familiar and trained to use the equipment?

Once you've determined the goal of the practice exercise, create a realistic scenario that allows you to assign appropriate roles, discuss specific topics and practice protocols. Scenarios can be limited to pipeline emergencies or can incorporate other elements. Sample scenarios are available on Kinder Morgan's Web site at www.kindermorgan.com/public_awareness/AdditionalInformation/TrainingMeetings.cfm.

Invite Local Pipeline Operators to Participate

Invite local pipeline company representatives to participate in the scenario. Operators can role-play as the pipeline operator contact and will be a resource for technical information or questions during and after the drill.

Review Existing Procedures and Assign Specific Roles

Review department protocols and SOPs prior to the drill. Provide participants with a copy of the scenario. Incorporate visual aids, equipment and gear when possible. Assign appropriate roles for the exercise including someone to oversee and lead the drill. The objectives, the scope of the scenario and the size of your response team will impact the roles you assign.

(continued on page 2)

Medical Care at the Scene of a Pipeline Emergency

Medical care at the scene of a pipeline emergency will vary depending on the product or products involved and the size and scope of the emergency. When arriving at the scene, first responders are advised to move people to a safe place, identify anyone in need of medical care and notify the Incident Commander.

The following are things to consider when identifying and responding to medical needs at the scene of a pipeline emergency:

- Assure that injured individuals are moved to a safe area.
- Notify the Incident Commander regarding injuries and request medical assistance from Emergency Medical Technicians and paramedics as needed.
- If injured individuals are bleeding or are not breathing, follow agency protocol for providing CPR and first aid at the scene.
- Identify the pipeline product or products involved and refer to the first aid guidance and product-specific hazards listed in Kinder Morgan's Material Safety Data Sheets (MSDS) and the *Emergency Response Guidebook* published by the

(continued on page 2)

(continued from page 1)

Take Detailed Notes During the Drill

Ask participants to read the scenario aloud and encourage each team member to react as completely as possible to explain how he/she would respond. The drill leader is encouraged to take detailed notes throughout the exercise and to insert additional information into the scenario as needed to guide the discussion and response actions.

Identify Takeaways and Gaps

Following the exercise, the tabletop drill leader should encourage participants to engage in discussion about what he/she learned and to voice questions or issues that came up during the exercise. Allow the necessary time for participants to communicate openly regarding their questions and concerns. Based on the discussion and observed response, recommend procedural changes, if needed, and test these changes during a future tabletop exercise or distribute in written training materials.

Kinder Morgan offers free tabletop drill resources including sample scenarios and a leader's guide to help agencies conduct effective drills. Download tabletop drill resources at www.kindermorgan.com/public_awareness/AdditionalInformation/TrainingMeetings.cfm. ■

Pipelines 101: An Overview of the Liquids Pipeline System

More than 200,000 miles of liquids pipelines safely transport propane, crude oil, gasoline, jet fuel, ethanol and other energy products across the United States every day. The products flowing through liquids pipelines are used to manufacture medicines, plastics and foods and to fuel cars, trucks and airplanes.

Crude oil products originate in the United States from one of three places: wells on land, offshore wells and foreign wells. Pipelines transport crude products from the origination source to storage tanks or to refineries and chemical plants that process them to create refined liquids products including gasoline, heating fuel, diesel fuel, jet fuel and oil feed stocks.

Depending upon the product and its final use, it is transported by pipeline from the refinery or chemical plant to manufacturing facilities, storage facilities or distribution terminals. Some products, such as heating oil and gasoline, are then transported from a distribution terminal to homes and gas stations in tanker trucks.

In the United States, Kinder Morgan operates more than 10,500 miles of pipeline carrying crude oil, carbon dioxide, highly volatile liquids and refined liquids products. Kinder Morgan's crude and products lines include: CalNev (Calif., Nev.), Central Florida (Fla.), Kinder Morgan Cochin (Ill., Ind., Iowa, Mich., Minn., N.D., Ohio), Cortez (Texas, N.M., Colo.), Cypress (La., Texas), Plantation (La., Ms., Ala., Ga., Tn., S.C., N.C., Va., Washington D.C.), Platte (Wyo., Neb., Kan., Miss., Ill.), Trans Mountain (Wash.), Wink (Texas).

Because pipelines run horizontally, they need an occasional boost to keep the product moving. This job is done by a series of aboveground facilities called pumping, or booster, stations that push products through the line. Pumping stations are typically located at regular intervals every 20 to 100 miles along the pipeline depending on the size and pressure of the line.

In addition to pumping stations, valves are located at intervals along the pipeline system. Valves are used to restrict the flow of the product or to provide access to a

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(continued from page 1)

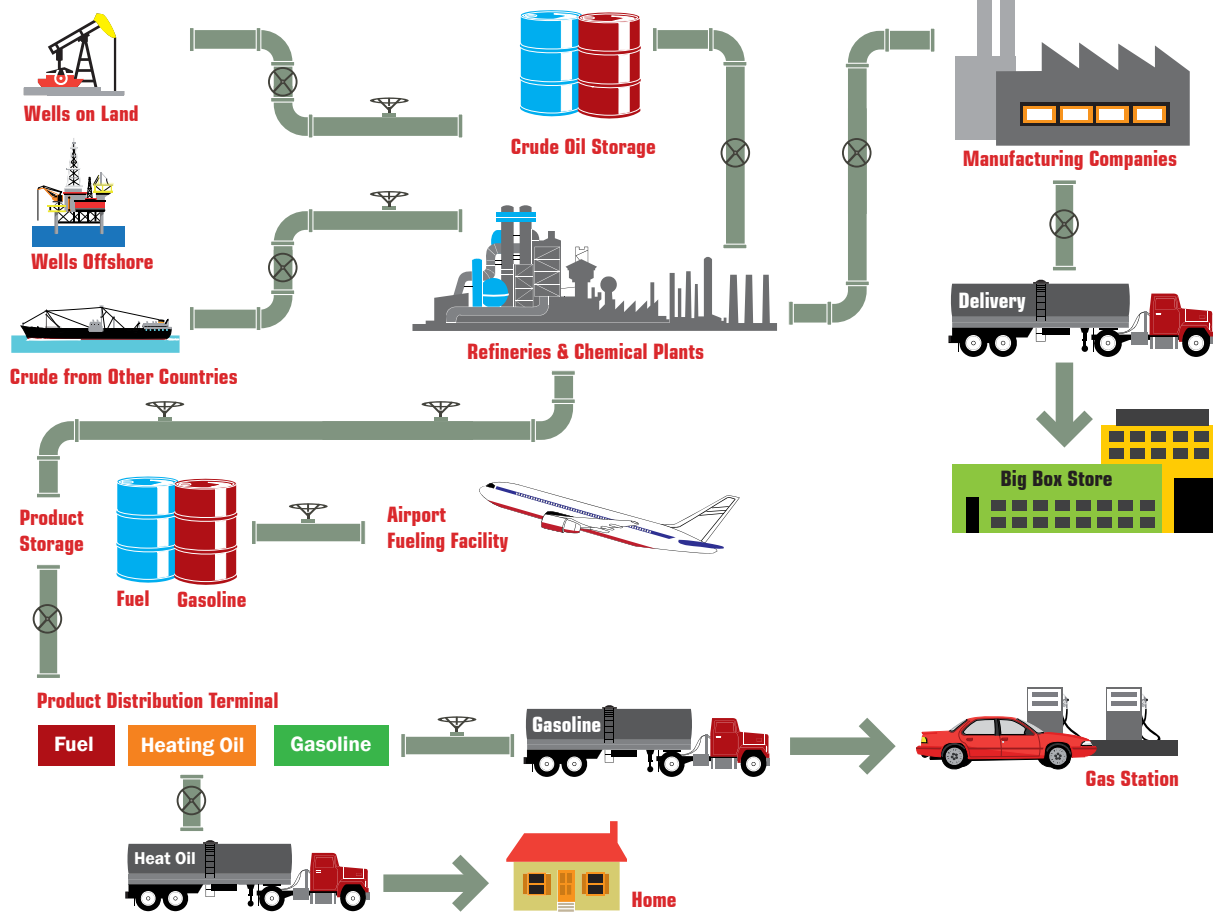
Department of Transportation's Pipeline and Hazardous Material Safety Administration.

- Identify medical risks specific to the current pipeline emergency. For example, natural gas escaping from a pipeline will dissipate, but natural gas escaping within a confined space can be an asphyxiate.
- Determine if injured individuals have burns and provide first aid as appropriate. Cryogenic burns are a risk if the product is transported at very cold temperatures. Thermal burns are a risk if there is a fire. To treat burns, do not remove clothing in the burn area. Try to cool a thermal burn without using gels or ointments. Treat for shock and request Emergency Medical Assistance.
- Determine if injured individuals have had eye or skin contact with the pipeline product and provide first aid as appropriate.
- Determine if injured individuals have inhaled vapors or fumes from the pipeline product and remove them from the area. Provide first aid as appropriate.
- Determine if injured individuals have ingested the pipeline product and provide first aid as appropriate.
- Gather information from injured individuals including pre-existing conditions.
- Consult with medical teams on the scene or in route to determine if injured individuals need to be transferred to the hospital for additional medical care.

Emergency Medical Technicians (EMTs), paramedics and other trained medical professionals arriving on the scene will typically check with the incident commander for information on confirmed medical issues and the

(continued on page 3)

Liquids Pipeline Operations



(continued from page 2)

section of the line for cleaning or maintenance. If a pipeline emergency occurs, a local pipeline representative will be responsible for operating valves as needed. Emergency responders should not try to operate a valve.

Liquids lines, like other pipelines, are monitored around-the-clock using sensors that transmit data to the control center. Data is monitored continuously to ensure safe operations.

Multiple products can flow through a common liquids transmission pipeline. Therefore, it is important that emergency responders understand the hazards associated with products flowing through lines in their jurisdiction. To learn more about the products Kinder Morgan transports and product-specific hazards, download Kinder Morgan's Hazard Chart at www.kindermorgan.com/public_awareness/common_files/KM_HAZARDS_CHART.pdf and product-specific Material Safety Data Sheets at www.kindermorgan.com/public_awareness/AdditionalInformation/msds/default.cfm.

(continued on page 4)

(continued from page 2)

location of anyone who is injured or sick. If additional care is necessary, EMT/paramedics will transfer patients to emergency hospital care.

Download a copy of Kinder Morgan's MSDS and hazards chart at www.kindermorgan.com/public_awareness/Government/PotentialHazards.cfm or a copy of the ERG at <http://phmsa.dot.gov/hazmat/library/erg>. ■

(continued on page 4)

(continued from page 3)

For more information about Kinder Morgan's liquid pipelines in your jurisdiction, contact your local Kinder Morgan representative or visit <http://PA-InfoRequest.kindermorgan.com>. You can also download a copy of Kinder Morgan's brochure for emergency responders in communities with crude oil and refined products pipelines at www.kindermorgan.com/public_awareness/AdditionalInformation/KMSafetyBrochures.cfm. ■

Keeping Pipelines Safe: Control Centers Operations

Like all pipeline operators, Kinder Morgan monitors pipeline operations around-the-clock from multiple control centers. Inside these control centers, Pipeline Controllers assess and analyze information about each pipeline segment using the Supervisory Control and Data Acquisition (SCADA) system. The SCADA system aggregates and displays real-time field data that Controllers use to monitor pressure, flow, volume, temperature and other characteristics of the products transported by the pipeline.

Field data is collected using SCADA system field sensors, including flow meters, pressure transmitters and temperature transmitters, and pipeline components, such as valves, pumps and control units. Remote Terminal Units (RTUs) located at compressor stations, pumping stations and along the pipeline collect the field data and transfer it to the SCADA system.

The SCADA system conducts equipment status scans as frequently as every five seconds. The system analyzes the data and displays it in a graphic form at the control center for Controllers to assess. Controllers are trained to recognize and quickly react to abnormal operating conditions that could indicate a problem. In addition, based on SCADA's analysis, a Controller may receive a cautionary notification and will investigate what, if any, adjustments are needed to maintain safe and efficient pipeline operations.

If you would like to know more about Kinder Morgan's control centers for pipelines in your jurisdiction, contact your local Kinder Morgan representative or visit <http://PA-InfoRequest.kindermorgan.com>. ■

Pipeline Safety Brochure for Emergency Responders Online

Download a copy of Kinder Morgan's safety brochure for emergency responders at www.kindermorgan.com/public_awareness/AdditionalInformation/KMSafetyBrochures.cfm. The brochure includes pipeline emergency response information and details about Kinder Morgan's operations including emergency contact numbers. ■

ARCHIVED ISSUES

Read more articles from past issues of "The Responder" online at www.kindermorgan.com/public_awareness/The_Responder/2009-03/archived_issues.cfm.

(continued from page 3)

Best Practices from Your Emergency Response Peers

"We do a tabletop with all agencies in the county to go over any new or important changes."

Stanton County EMGT, Stanton, Neb.

"We attend training offered by pipeline operators and discuss pipeline emergency response procedures in CE training."

Victoria County Fire Marshal's Office, Victoria County, Texas

"Our department includes individuals from a variety of occupations in the oil and gas industry as well as those with backgrounds in law enforcement, construction and excavation."

Glenrock Fire Dept., Glenrock, Wyo.

"[We conduct] annual pipeline training and at least one exercise per year that includes tabletops, partial or full functional drills."

Beaver County E.M./LEPC, Beaver County, Okla.

"We attend local pipeline operator-sponsored training meetings, discuss matters at LEPC meetings and discuss issues with local KM employees."

County Emergency Management and Clay County LEPC, Edgar, Neb.

"We have basic NIMS training and participate in Emergency Management exercises."

Grand Island Police Dept., Grand Island, Neb. ■

"The Responder" is part of Kinder Morgan's Public Awareness Program for emergency responders. More information is available at www.kindermorgan.com/public_awareness.