

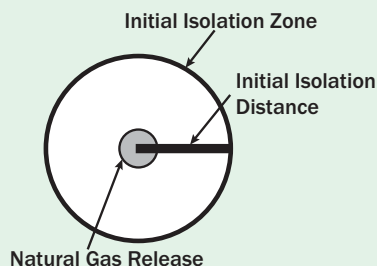
THE RESPONDER

Natural Gas Pipeline Information for Emergency Responders in Kinder Morgan Communities

Emergency Response Tactics: Securing an Area & Identifying Potential Ignition Sources

Emergency Responders arriving on the scene of a potential natural gas pipeline incident focus initially on securing the areas and contacting the operator. Here are some helpful hints for establishing safe zones and identifying and eliminating potential ignition sources:

- Locate pipeline operator personnel on the scene. If the pipeline operator's representative is not present when you arrive, notify the operators as soon as possible from a safe distance upwind from the suspected pipeline leak or damage. Emergency contact numbers are listed on pipeline markers and should be included in local dispatch emergency contact number lists.
- Isolate the surrounding area. Direct all people away from the leak or damage in a cross wind direction.
- Consult with pipeline operator personnel on the scene to determine the appropriate protective action zone, an area in which people may be at risk of harmful exposure. Factors that influence the protective action zone include pipe size, leak size, wind direction and time of day. Clear people from the protective action zone when necessary.
- Identify and eliminate all possible ignition sources including: pilot lights, matches, cigarette lighters, highway flares and sparks from tools, doorbells, cell phones, pagers, flashlights, heating systems, garage door openers, electric motors, switches and vehicle engines. Remember, anything that can create a spark may cause a fire when exposed to natural gas at certain concentrations.
- Never try to shut off a transmission pipeline valve. Wait for assistance from the pipeline operator's emergency response team.



For more information about establishing safe zones or identifying possible ignition sources, contact your local Kinder Morgan representative or submit an on-line request at http://www.kindermorgan.com/public_awareness/AdditionalInformation/RequestAdditionalInformation.cfm.

Kinder Morgan Launches Web Site for Government & Safety Officials

Kinder Morgan recently launched a new Web site designed to provide pipeline and emergency response information for government and safety officials.

The new site allows Emergency Responders to:

- Download Material Safety Data Sheets for natural gas and other Kinder Morgan products
- Link to maps available through the National Pipeline Mapping System
- Learn about the hazards associated with a pipeline leak and how to identify and prevent leaks in your community
- Request contact information for a local Kinder Morgan field representative
- Submit potential High Consequence Area (HCA) locations in your community
- Download emergency response reference material
- Report encroachment or suspicious activity near the pipeline right-of-way
- Request information regarding Kinder Morgan's Pipeline Integrity Management and Emergency Response Plan

Visit Kinder Morgan's new site at <http://www.kindermorgan.com/publicawareness/Government.cfm>

New ER Guidebook Includes Pipeline Emergency Reference Material

The updated Emergency Response Guidebook, published in May by the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA), now includes pipeline emergency reference information.

Page 25 of the new guidebook provides emergency responders with information regarding natural gas pipeline leak identification and initial response tactics. Natural gas and other products transported by pipelines are also included in guidebook charts, detailing properties and precautions.

The free guidebook, published every four years, is designed to aid first responders arriving at the scene of a highway, pipeline or other transportation incident involving hazardous materials. First responders are encouraged to keep a copy of the guidebook in their vehicle for reference.

The 2008 Emergency Response Guidebook can be downloaded from the PHMSA Web site at http://hazmat.dot.gov/pubs/erg/gui_debook.htm. Electronic copies are available in .pdf or Windows Mobile Pocket PC format. Printed copies can be ordered by contacting your state PHMSA coordinator at http://hazmat.dot.gov/pubs/erg/st_atecoord.htm.

Isolate & Eliminate

Info for dispatch & training managers

Pipelines 101: Natural Gas Properties & Behavior

Natural gas is one of the safest energy sources, but outside of the protective environment provided by a pipeline, it can be flammable or become an asphyxiate. Understanding the chemical properties of natural gas and how it behaves enables emergency responders to confidently react to a potential pipeline incident, identify potential hazards and protect life, property and the environment.

Before it can be used as a fuel, natural gas (CH₄) is processed to remove impurities. Processed natural gas is known as dry gas and is approximately 94 percent methane, 4 percent ethane and 2 percent other gases including butane, carbon dioxide, nitrogen and isopentane.

- **Natural gas is colorless, odorless and tasteless in its natural state.**

When responding to a potential natural gas leak from a transmission pipeline, don't rely on your sense of smell to identify the leak. Transmission lines typically do not include an odorant. Instead, look and listen for signs of a leak or use a combustible gas indicator (CGI).

- **Natural gas is approximately one-third as light as air and has a vapor density of 0.6.**

If released in an open space, natural gas will rise rapidly and dissipate. If released in an enclosed area, gas will collect in high area such as the ceiling. Air currents can impact the movement of natural gas both in open and enclosed areas. Identify wind direction when establishing safe zones and eliminating potential ignition sources.

- **Natural gas has a boiling point of -259° Fahrenheit (F), and its vapor pressure at 60° F is 1,200 psi.**

Natural gas has an extremely low boiling point, the temperature at which it changes from a liquid to a gas, and is typically transported through pipelines as a gas. Its vapor pressure means that it can be safely transported at high-pressure levels. Transmission pipeline companies typically transport natural gas at pressure that ranges from several hundred psi to over 1,000 psi.

- **Natural gas can displace oxygen in an enclosed space and can cause asphyxiation.**

- **Natural gas has a flammable, or explosive, range of 4-15 percent concentration.**

Natural gas can be a fuel source for combustion when combined with air in the proper proportion and an ignition source. If concentrations are below 4 percent, the mixture of natural gas and air is too lean to burn. If it is above 15 percent, the mixture is too rich to burn. When natural gas concentrations are within the flammable range, take precautions to eliminate ignition sources and reduce concentration levels if possible to prevent fire.

- **Natural gas has an ignition temperature of 1,200° F.**

Anything that can create a spark may cause a fire when exposed to natural gas at certain concentrations. Possible ignition sources include: pilot lights, matches, cigarette lighters, highway flares as well as sparks from tools, doorbells, cell phones, pagers, flashlights, heating systems, garage door openers, electric motors, switches and vehicle engines.

For more information about natural gas properties and hazards, download the natural gas Material Safety Data Sheet from Kinder Morgan's Web site at http://www.kindermorgan.com/public_awareness/AdditionalInformation/msds.

Hazmat Fusion Center Offers Free Resources for Emergency Responders

The National Hazmat Fusion Center, jointly developed by the International Fire Chiefs Association and the U.S. Department of Transportation's Pipeline Hazardous Materials Safety Administration (PHMSA), offers access to free training materials and data resources for emergency officials responding to a pipeline or other transportation incident involving hazardous materials.



Free
Training

The National Hazmat Fusion Center collects, analyzes and disseminates hazardous material incident data. Regional incident survey teams collect information on serious incidents, and local Hazmat teams are encouraged to submit incident data and details regarding their location, capabilities and equipment.

The National Hazmat Fusion Center is currently conducting an on-line survey to collect data regarding local Hazmat teams and emergency responder Hazmat needs. To participate in the survey, visit <http://www.zoomerang.com/Survey/survey-intro.zgi?p=WEB2282WULHRZN>. For more information on the National Hazmat Fusion Center contact hazmatfusion@iafc.org or visit the International Fire Chiefs Association's Web site: <http://www.iafc.org>