



## Pipeline Emergency Preparedness & Training: Response to a Terminal Incident



Terminals are strategically located to receive, store, and re-distribute products including those classified as hazardous liquids. While emergency incidents involving terminals are rare, they can occur.

Terminal facilities can vary in their layout, therefore coordinated pre-planning emergency response between facility personnel and local emergency responders is essential to a safe and effective response.

Storage vessels located at terminals vary widely in size, shape, and function based on the product stored. Above-ground storage tanks are differentiated by the roof type (fixed coned roof, floating roof) and orientation (vertical storage tank, horizontal storage tank) which is dictated by the product characteristics. In addition to storage tanks, terminals contain low pressure and high pressure piping as well as loading/off-loading docks for tank trucks, rail cars, or ships.

Various local, state and federal regulations mandate safety systems and processes at terminal operations locations. For example, spill/leak detection and fire detection systems are installed within the terminal and are regularly tested and inspected. Terminal operations personnel receive regular training in spill response and emergency operations and conduct periodic drills and exercises to validate procedures, training, and coordinated response with local, municipal emergency responders.

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## Best Practices

“As a small community, we rely on mutual aid assistance from surrounding VFD in the event of a large fire or pipeline rupture. The information provided to our agency, from a company such as yours, helps save lives and property.”

“As an emergency manager for the county, I pass on The Responder to first responders throughout my county.”

“We attend annual training programs sponsored in our county by pipeline operators and always try to encourage our VFD to participate, not only in that event, but to take the initiative to dedicate some training time to discuss and train on pipeline emergency response.”

## Potential Hazards Chart

Please click [here](#) to view our Potential Hazards Chart.

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When dispatched to a reported emergency incident at a terminal, it is important to:

- Establish communications as quickly as possible to ascertain the nature of the incident.
- Coordinate with terminal personnel prior to entering the facility or engaging in any offensive operations such as firefighting, cooling water application, or use of firefighting foam.
- Ensure Incident Command Structure (ICS) is utilized, as required by FEMA, for all Hazardous Materials responses.
- Size-up the scene.
- Isolate the area and execute evacuations, as required.
- Tactical priorities should include determination of wind direction, pathways for released product, and any exposed water bodies.
- Be mindful of the impact of firefighting run-off on the local environment.
- Utilize the Safety Data Sheet (SDS) to determine required response equipment such as the PPE required to respond to the release, proper firefighting response measures, impact of the product if released (flammable, pollutant, carcinogen, etc.), etc.

Contact your local terminal operator to better prepare for an emergency, participate in emergency response pre-planning, request a facility tour or to participate in a response exercise. Regular pre-planning review between terminals personnel and first responders is essential to account for processes changes or terminal facilities alterations. To contact a Kinder Morgan terminal operator call 800-276-9927 or fill out the online request form found at <http://PA-inforequest.kindermorgan.com>.

## Pipeline Emergency Response Tactics: Effectively Handling a Hazardous Liquids Spill

Hazardous liquids are commonly and safely transported in large quantities by pipeline, rail, truck, and ocean-going vessels. Despite the low risk of a hazardous liquids spill, prudence and proper pre-planning dictate that transporters and emergency response organizations prepare in the event a spill incident does occur.

A “hazardous liquid” is defined as petroleum, petroleum products, anhydrous ammonia, or ethanol. This includes unleaded gasoline, jet fuel, and heating oil. Propane, butane, and carbon dioxide that are transported in a liquid state, are also considered hazardous liquids.

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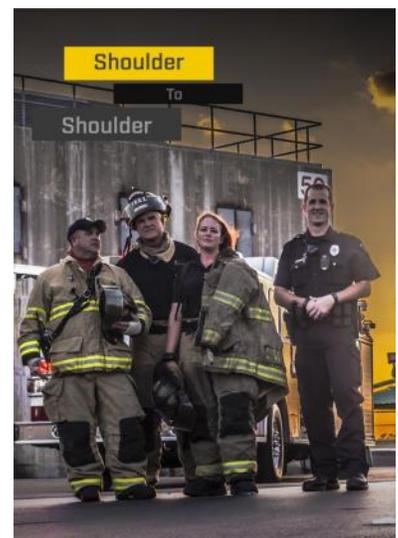
## Suggest an Article for *The Responder*!

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!

## 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](http://www.shoulder2shoulder.tv)



[www.shoulder2shoulder.tv](http://www.shoulder2shoulder.tv)

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When requested to respond to a reported release of a hazardous liquid, the initial priority is to conduct a scene size-up and identify the transporter and product. Physical properties for hazardous liquids vary greatly, so it is extremely important to identify the product. Wind direction, topography, and water body impacts are also very important initial considerations when conducting size-up.



The U.S. Department of Transportation's Emergency Response Guidebook (**ERG**) is a key tool to assist in management of a hazardous liquids incident in the early stages. The ERG provides physical properties, response recommendations, and recommended evacuation distances for a multitude of products, including those classified as hazardous liquids. The ERG is available in booklet format, or as a smart phone app for iPhone or Android.

Consult the safety data sheets (SDS) for more detailed product specific information. The SDS will provide information regarding the health hazards and appropriate personal protective equipment required when in proximity to the spilled product. The manufacturer and/or shipper of the product is required to make SDSs available to responders upon request.

The Hazardous Waste Operations and Emergency Response (HAZWOPER) requirements found in OSHA 1910.120 dictate the required training for personnel engaged in emergency response operations involving hazardous liquids. It is important for responders to operate within the pre-established response levels: Awareness, Operations, Technician, and Specialist/Incident Commander. Excluding hazardous materials (HAZMAT) teams, most responders are trained and equipped to the Awareness or Operations level which requires defensive actions without direct contact with the hazardous liquid.

Assuming that most responders will be functioning at an Awareness or Operations level, tactical priorities should center on isolation of the area, defensive containment, and coordination with Kinder Morgan related to remote isolation of the leak. As with response to any hazardous liquids incident, use of the Incident Command system (ICS) is required and prudent.

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## WISER

WISER 5.1 Update Release Includes:

- \*CHEMM 2.0 guidance and reference materials
- \*New Acute Exposure Guideline Levels for airborne chemicals (AEGH) data from the EPA
- \*Data updates based on the last Hazardous Substances Data Bank (HSDB) content
- \*Protective distance "point into the wind" and more!

A set of WISER tutorial videos can be viewed [here](#) and videos can also be found in the training section of the [NLN YouTube Channel](#).



## NPMS Launches iPhone app for PIMMA

The National Pipeline Mapping System has launched an iPhone app for PIMMA. It can be accessed by searching for "pipeline information" on the App store. You will need your PIMMA username and password to use the PIMMA iPhone app. To access the National Pipeline Mapping System online and locate transmission pipelines in your area, please go to <https://www.npms.phmsa.dot.gov/>

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## Overview of Pipeline Systems: Liquefied Natural Gas Operations



Natural gas, as the name implies, occurs naturally in a gaseous form. To safely and efficiently transport this cleaner-burning fuel to those who need it, the gas can be liquefied through a cooling process known as liquefaction.

When cooled to its liquid form, Liquefied Natural Gas (LNG) is a cryogenic product with a temperature of -260°F. The expansion ratio of LNG is 600 to 1, so you can store significantly more product versus storage in its original form.

LNG is produced through a multi-step process whereby the natural gas is refrigerated using similar cryogenic products until it converts to a liquid state. Once converted, the LNG must be stored in insulated, low pressure containers to maintain it at the proper temperature.

Converting natural gas to a liquid is frequently conducted for future use (peak shaving) and for transportation. In peak shaving operations, LNG is stored until needed (typically in high use periods during winter season) at which point, it is processed through a vaporizer, re-odorized, warmed and returned to its original gaseous state to the natural gas pipeline system. In transportation applications, LNG is transferred to specialized product specific tankers or tank trucks for transportation to end users. LNG is becoming more prevalent as a vehicle fuel as well. Some bus systems and long-haul trucking companies have selected LNG as their fleet fuel of choice. Through LNG technology and the advent of natural gas fracking, the United States has become an exporter of LNG, providing this clean burning fuel to other countries.

From an emergency response perspective, LNG transportation has historically been very safe. LNG facilities undergo rigorous, and frequent safety inspections by regulatory agencies and are constructed with numerous safety systems including leak detection, emergency shut-down systems, fire detection, and vapor control/suppression.

Emergency responders who have a Kinder Morgan LNG facility

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### Did you know...

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**Call 811 before you dig!**



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

### 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://PA-inforequest.kindermorgan.com>

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within their response jurisdiction should coordinate with the facility operator to discuss emergency response pre-planning, conducting joint response exercises, and emergency response capabilities. Because LNG is not odorized, use of combustible gas indicators (CGIs) is essential when responding to a suspected leak of LNG. While incidents involving the storage or transportation of LNG are extremely rare, it is imperative that first responders understand the properties of LNG and conduct thorough emergency planning.

## Keeping Pipelines Safe/ Practices & Protocols: Right-of-Way Aerial and Ground Patrols

Right-of-way patrols are an important component of pipeline safety. Patrols identify encroachments and unauthorized activity near the pipeline. Because of this, State and Federal pipeline safety regulations require pipeline rights-of-way to be inspected. Pipeline operators conduct patrols on a regular basis, depending on risks identified by the operator and as prescribed by the regulations.

With over 2.4 million miles of pipeline right-of-way, aerial patrol is the most efficient form of patrolling. They are typically conducted via small, manned airplane or helicopter. During aerial patrols, pilots are looking for any ground disturbance, sign of excavation, signs of a leak, or heavy equipment along the pipeline right-of-way. Patrols also monitor environmentally sensitive areas, such as streams and rivers for visible signs of land erosion.

While aerial patrol is the most efficient method for examining pipeline rights-of-way, it also requires that all of the right-of-way be visible from the air. To accomplish this, pipeline operators routinely trim trees and shrubs, and keep these areas clear of any debris and high grass. Not only does this keep the right-of-way visible, but it also allows for quick access to the area by operations personnel or first responders in the event of an emergency.

If an aerial patrol finds that an area has been disturbed, or it appears as if an unsafe activity has occurred in the area, local operations personnel will typically conduct a ground patrol to take a closer look.



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### NOTE

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### First Responder Online Pipeline Training

To access the API-AOPL Emergency Response Team's free online training, click <https://nasfm-training.org/>

### NOTE

To read past issues of *The Responder*, please go to the archived issues at [http://www.kindermorgan.com/pages/public\\_awareness/The\\_Responder/archive.aspx](http://www.kindermorgan.com/pages/public_awareness/The_Responder/archive.aspx)

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Ground patrols may also be performed where the canopy over the right-of-way cannot be cleared, such as in environmentally protected areas.

Unauthorized encroachment upon any pipeline right-of-way is dangerous. We are all partners in pipeline safety, and we ask that emergency responders please report any potential encroachments or visible risks to any Kinder Morgan right-of-way in their area. To report an encroachment or concern in your area call 800-276-9927 or fill out the online request form found at <http://PA-inforequest.kindermorgan.com>. ■

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