



THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

June 23, 2008

The Honorable Daniel K. Inouye
Chairman
Committee on Commerce, Science, and Transportation
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

Section 19 (c) of the Pipeline Safety Improvement Act of 2002 (Pub.L. 107-355) requires the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) to report to Congress each year on any pipeline safety recommendations made by the National Transportation Safety Board (NTSB) during the prior year and to provide a copy of the response for each such recommendation. This letter and enclosures are submitted in fulfillment of this requirement.

The NTSB issued four safety recommendations to PHMSA in 2007. The NTSB safety recommendation P-07-01 (enclosure 1) emerged from the December 13, 2005, natural gas explosion in Bergenfield, New Jersey. This recommendation is classified as an open, acceptable response. Three safety recommendations, P-07-07, P-07-08 and P-07-09 (enclosure 2), emerged from the October 27, 2004, hazardous liquid pipeline rupture that occurred near Kingman, Kansas. The PHMSA is awaiting a response from NTSB and classification of these three recommendations.

An identical letter has been sent to the Vice Chairman of the Senate Committee on Commerce, Science, and Transportation and to the Chairmen and Ranking Members of the House Committees on Energy and Commerce and Transportation and Infrastructure.

Sincerely yours,

A handwritten signature in blue ink, reading "Mary E. Peters", is positioned below the typed name.

Mary E. Peters

Enclosures



THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

June 23, 2008

The Honorable Ted Stevens
Vice Chairman
Committee on Commerce, Science, and Transportation
United States Senate
Washington, DC 20510

Dear Senator Stevens:

Section 19 (c) of the Pipeline Safety Improvement Act of 2002 (Pub.L. 107-355) requires the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) to report to Congress each year on any pipeline safety recommendations made by the National Transportation Safety Board (NTSB) during the prior year and to provide a copy of the response for each such recommendation. This letter and enclosures are submitted in fulfillment of this requirement.

The NTSB issued four safety recommendations to PHMSA in 2007. NTSB safety recommendation P-07-01 (enclosure 1) emerged from the December 13, 2005, natural gas explosion in Bergenfield, New Jersey. This recommendation is classified as an open, acceptable response. Three safety recommendations, P-07-07, P-07-08 and P-07-09 (enclosure 2), emerged from the October 27, 2004, hazardous liquid pipeline rupture that occurred near Kingman, Kansas. PHMSA is awaiting a response from NTSB and classification of these three recommendations. Copies of the responses to NTSB's recommendations are enclosed.

An identical letter has been sent to the Chairman of the Senate Committee on Commerce, Science, and Transportation and to the Chairmen and Ranking Members of the House Committees on Energy and Commerce and Transportation and Infrastructure.

Sincerely yours,

A handwritten signature in blue ink, reading "Mary E. Peters", is positioned below the "Sincerely yours," text.

Mary E. Peters

Enclosures



THE SECRETARY OF TRANSPORTATION

WASHINGTON, D.C. 20590

June 23, 2008

The Honorable John Dingell
Chairman
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

Section 19 (c) of the Pipeline Safety Improvement Act of 2002 (Pub.L. 107-355) requires the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) to report to Congress each year on any pipeline safety recommendations made by the National Transportation Safety Board (NTSB) during the prior year and to provide a copy of the response for each such recommendation. This letter and enclosures are submitted in fulfillment of this requirement.

The NTSB issued four safety recommendations to PHMSA in 2007. The NTSB safety recommendation P-07-01 (enclosure 1) emerged from the December 13, 2005, natural gas explosion in Bergenfield, New Jersey. This recommendation is classified as an open, acceptable response. Three safety recommendations, P-07-07, P-07-08 and P-07-09 (enclosure 2), emerged from the October 27, 2004, hazardous liquid pipeline rupture that occurred near Kingman, Kansas. The PHMSA is awaiting a response from NTSB and classification of these three recommendations.

An identical letter has been sent to the Ranking Member of the House Committee on Energy and Commerce, the Chairman and Vice Chairman of the Senate Committee on Commerce, Science, and Transportation and the Chairman and Ranking Member of House Committee on Transportation and Infrastructure.

Sincerely yours,

A handwritten signature in blue ink, reading "Mary E. Peters", is positioned above the typed name.

Mary E. Peters

Enclosures



THE SECRETARY OF TRANSPORTATION

WASHINGTON, D.C. 20590

June 23, 2008

The Honorable Joe Barton
Ranking Member
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

Dear Congressman Barton:

Section 19 (c) of the Pipeline Safety Improvement Act of 2002 (Pub.L. 107-355) requires the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) to report to Congress each year on any pipeline safety recommendations made by the National Transportation Safety Board (NTSB) during the prior year and to provide a copy of the response for each such recommendation. This letter and enclosures are submitted in fulfillment of this requirement.

The NTSB issued four safety recommendations to PHMSA in 2007. The NTSB safety recommendation P-07-01 (enclosure 1) emerged from the December 13, 2005, natural gas explosion in Bergenfield, New Jersey. This recommendation is classified as an open, acceptable response. Three safety recommendations, P-07-07, P-07-08 and P-07-09 (enclosure 2), emerged from the October 27, 2004, hazardous liquid pipeline rupture that occurred near Kingman, Kansas. The PHMSA is awaiting a response from NTSB and classification of these three recommendations.

An identical letter has been sent to the Chairman of the House Committee on Energy and Commerce, the Chairman and Vice Chairman of the Senate Committee on Commerce, Science, and Transportation and the Chairman and Ranking Member of the House Committee on Transportation and Infrastructure.

Sincerely yours,

A handwritten signature in blue ink that reads "Mary E. Peters".

Mary E. Peters

Enclosures



THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

June 23, 2008

The Honorable James L. Oberstar
Chairman
Committee on Transportation and Infrastructure
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

Section 19 (c) of the Pipeline Safety Improvement Act of 2002 (Pub.L. 107-355) requires the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) to report to Congress each year on any pipeline safety recommendations made by the National Transportation Safety Board (NTSB) during the prior year and to provide a copy of the response for each such recommendation. This letter and enclosures are submitted in fulfillment of this requirement.

The NTSB issued four safety recommendations to PHMSA in 2007. The NTSB safety recommendation P-07-01 (enclosure 1) emerged from the December 13, 2005, natural gas explosion in Bergenfield, New Jersey. This recommendation is classified as an open, acceptable response. Three safety recommendations, P-07-07, P-07-08 and P-07-09 (enclosure 2), emerged from the October 27, 2004, hazardous liquid pipeline rupture that occurred near Kingman, Kansas. The PHMSA is awaiting a response from NTSB and classification of these three recommendations.

An identical letter has been sent to the Ranking Member of the House Committee on Transportation and Infrastructure, the Chairman and Vice Chairman of the Senate Committee on Commerce, Science, and Transportation and the Chairman and Ranking Member of the House Committee on Energy and Commerce.

Sincerely yours,

A handwritten signature in blue ink, reading "Mary E. Peters", is positioned above the typed name.

Mary E. Peters

Enclosures



THE SECRETARY OF TRANSPORTATION

WASHINGTON, D.C. 20590

June 23, 2008

The Honorable John L. Mica
Ranking Member
Committee on Transportation and Infrastructure
U.S. House of Representatives
Washington, DC 20515

Dear Congressman Mica:

Section 19 (c) of the Pipeline Safety Improvement Act of 2002 (Pub.L. 107-355) requires the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) to report to Congress each year on any pipeline safety recommendations made by the National Transportation Safety Board (NTSB) during the prior year and to provide a copy of the response for each such recommendation. This letter and enclosures are submitted in fulfillment of this requirement.

The NTSB issued four safety recommendations to PHMSA in 2007. The NTSB safety recommendation P-07-01 (enclosure 1) emerged from the December 13, 2005, natural gas explosion in Bergenfield, New Jersey. This recommendation is classified as an open, acceptable response. Three safety recommendations, P-07-07, P-07-08 and P-07-09 (enclosure 2), emerged from the October 27, 2004, hazardous liquid pipeline rupture that occurred near Kingman, Kansas. The PHMSA is awaiting a response from NTSB and classification of these three recommendations.

An identical letter has been sent to the Chairman of the House Committee on Transportation and Infrastructure, the Chairman and Vice Chairman of the Senate Committee on Commerce, Science, and Transportation and the Chairman and Ranking Member of the House Committee on Energy and Commerce.

Sincerely yours,

A handwritten signature in blue ink, reading "Mary E. Peters", is positioned below the "Sincerely yours," text.

Mary E. Peters

Enclosures



U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Ave. S.E.
Washington, DC 20590

JUN 29 2007

The Honorable Mark V. Rosenker
Chairman
National Transportation Safety Board
490 L'Enfant Plaza East, S.W.
Washington, DC 20594

Dear Chairman Rosenker:

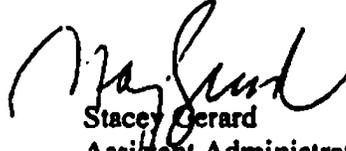
This is an interim response to the National Transportation Safety Board (NTSB) Safety Recommendation emerging from the December 13, 2005 natural gas explosion in Bergenfield, New Jersey. The NTSB recommended the Pipeline and Hazardous Materials Safety Administration (PHMSA) provide a summary of the lessons learned from the accident to recipients of emergency planning and response grants (NTSB Safety Recommendation P-07-1).

On December 13, 2005, a Public Service Electric and Gas Company (PSEG) natural gas service line separated at a fitting. Natural gas from the service line migrated into an apartment building, resulting in an explosion and fire that killed three people and injured four others. Our pipeline safety staff in Trenton, New Jersey responded to the incident and worked with NTSB in its investigation. The NTSB investigation determined the probable cause of the incident as the failure of the American Tank Service Company to adequately protect the natural gas service line from shifting soil during excavation, which resulted in damage to the service line and the release and migration of natural gas into the apartment building. Furthermore, NTSB determined that PSEG's excavation oversight was ineffective and that the company failed to promptly stop the flow of natural gas after the service line was damaged. Last, the Bergenfield Fire Department failed to evacuate the apartment building despite the strong evidence of a natural gas leak and the potential for gas to migrate into the building.

PHMSA takes NTSB's recommendation very seriously and is working diligently to address it. We are working with the National Association of State Fire Marshals (NASFM) to assemble those facts pertinent to response and recovery and to determine if it is appropriate for NASFM to issue an Advisory Bulletin to the first responder community. We will review NASFM's and DOT's joint *Pipeline Emergencies* training program to identify and implement any necessary updates in the response curriculum. We also are working with the New Jersey Board of Public Utilities to extract the lessons learned from this incident. After completing these efforts, PHMSA intends to pass along any useful information and advice, both to regulated entities and recipients of emergency planning and response grants.

I will update you on the status of these initiatives in fall 2007. Meanwhile, if you have any questions or comments, please feel free to contact me at (202) 366-4433.

Sincerely,

A handwritten signature in black ink, appearing to read "Stacey Gerard". The signature is fluid and cursive, with a large initial "S" and "G".

Stacey Gerard
Assistant Administrator/Chief Safety Officer



**National Association of State Fire Marshals
Advisory Bulletin based on December 13, 2005
Bergenfield, New Jersey
Natural Gas Pipeline Leak and
Apartment Building Explosion**

Safety Advisory:

The National Transportation Safety Board (NTSB) has issued a report on the natural gas explosion that occurred on December 13, 2005 in Bergenfield, New Jersey. The National Association of State Fire Marshals (NASFM) is issuing the following advisory bulletin based upon the findings in the NTSB report:

- **All emergency responders, career and volunteer firefighters, should receive initial training or recurrent training on natural gas safety and incident response. NASFM and the US Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) have developed and are providing free *Pipeline Emergencies* training materials that can satisfy the needs for this training. *More information on the Pipeline Emergencies training program is provided at the end of this advisory bulletin and can be found at www.pipelineemergencies.com***
- **Emergency response agencies should establish and implement written operating procedures for responding to natural gas emergencies. This should include flammable gas measurement procedures, incident management and coordination with utility companies.**
- **Fire service and other emergency responders should establish and implement procedures for emergency responders to rapidly assess situations involving natural gas leaks and to determine whether prompt evacuations are warranted.**

Background:

The National Association of State Fire Marshals (NASFM) is involved in a cooperative effort with federal regulators and pipeline operators in the interest of improving pipeline safety. An additional goal of the NASFM program is to provide training to those who may

respond in the event of a pipeline emergency. As part of this process NASFM becomes aware, from time to time, of specific situations that arise during incidents that we believe should be shared with emergency responders to better prepare them in preplanning and emergency management. This and subsequent bulletins will provide information of importance to fire marshals, potential incident commanders, fire service instructors, fire chiefs and other emergency response personnel.

The Incident:

On December 13, 2005, at 9:26 a.m., an apartment building exploded in Bergenfield, New Jersey, after natural gas migrated into the building from a damaged pipeline. Investigators found a break in an underground 1 1/4-inch steel natural gas distribution service line that was operating at 11 1/2 pounds per square inch, gauge. The break occurred at an underground threaded tee connection downstream from where excavators were removing an oil tank that was buried under the asphalt parking lot adjacent to the building. The break occurred, under the parking lot, about 7 feet 4 inches from the building's wall. Three residents of the apartment building were killed. Four residents and a tank removal worker were injured and transported to hospitals. The property damage consisted of the apartment building, which was a complete loss. According to Bergen County tax records, the assessed value of the apartment building was \$863,300.

The Cause:

The National Transportation Safety Board determines that the probable cause of the natural gas explosion and fire was the failure of the American Tank Service Company to adequately protect the natural gas service line from shifting soil during excavation, which resulted in damage to the service line and the release and migration of natural gas into the apartment building. Contributing to the accident was the failure of the Public Service Electric and Gas Company (PSE&G) to conduct effective oversight of the excavation activities adjacent to the gas service line and to be prepared to promptly shut off the flow of natural gas after the service line was damaged. Contributing to the casualties in the accident was the failure of the Bergenfield Fire Department to evacuate the apartment building despite the strong evidence of a natural gas leak and the potential for gas to migrate into the building.

Emergency Response:

Prior to the explosion, the tank removal company had been on the scene since 8:30 am the day before the event where they had been excavating the tank. On the day of the accident the crew returned at 8:30 am to continue work on the excavation. A local business owner observed the operation of the tank crew and noticed water flowing down the road; he approached the excavation and smelled natural gas. At 8:49 am, he called 911 and reported a gas leak to the Bergenfield Police Department. His call was the only call the Bergenfield Police Department received.

According to the Bergenfield Police Department dispatch logs, at 8:52 a.m., the Bergenfield Fire Department's chief, a fire official (career fire employee who conducts site inspections and fire investigations), and an engine company responded to an initial notification of a gas leak. Two Bergenfield Police Department crews were also dispatched.

After arriving on scene about 8:54 a.m., the fire chief asked the police dispatchers to notify the PSE&G. At 8:58 a.m., police dispatchers notified the PSE&G of the incident. The fire chief told Safety Board investigators that he had not observed any signs of a leak at the trench (that is, smelling gas, hearing a "hissing" sound, or seeing bubbling of water in the trench). No one from the Bergenfield Fire Department checked the apartment building for the presence of natural gas. The fire department did not attempt to evacuate the building before the explosion.

About 9:22 a.m., a PSE&G service technician arrived on scene. The technician attempted to close the curb valve to shut off the gas, but he was unable to apply enough force to close it. The service technician, using a portable gas detector, detected a positive gas reading just inside the boiler room doorway of the apartment building. He started moving away from the building as it exploded at 9:26 a.m.

The police and fire departments, American Tank, and the PSE&G started rescue actions. The fire department started firefighting operations. About 10:00 a.m., a PSE&G street crew was able to shut off the gas to the service line by closing the curb valve.

According to the fire chief, the Bergenfield Fire department did not have written procedures for natural gas. The fire department relied heavily on the assistance of the utility company (PSE&G) in deciding whether to evacuate a structure.

As a result of this emergency, PSE&G has obtained permission from the NJ Board of Public to distribute a PSE&G produced video for firefighters and first responders in the State of New Jersey.

NASFM Advisory:

To: Emergency responders and potential incident commanders

Subject: Response to a natural gas pipeline rupture near occupied structures

As a result of this event the NTSB identified several safety recommendations that could have mitigated the consequences of the explosion. All recommendations are in the NTSB report cited at the end of this document. NASFM has identified the safety issues as a result of the specific NTSB recommendations identified for the emergency response in Bergenfield NJ. NASFM believes these issues are imperative for emergency responder safety. The *Pipeline Emergencies* training program provides guidance for many of the safety issues identified by NTSB. The *Pipeline Emergencies* program is available at no charge to any first responder. For more information on the training, please visit: www.pipelineemergencies.com. NASFM is providing this advisory bulletin as a summary of the events and lessons learned from the Bergenfield, NJ event.

Safety Advisory

- 1) All emergency responders, career and volunteer firefighters should receive recurrent training on natural gas safety and incident response.
- 2) Emergency response agencies should establish and implement written operating procedures for responding to natural gas emergencies.

3) National fire service organizations, including International Association of Fire Chiefs, NASFM, notify their members of the circumstances surrounding the December 13, 2005 accident in Bergenfield, New Jersey and urge them to establish and implement procedures for emergency responders to rapidly assess situations involving natural gas leaks and to determine whether prompt evacuations are warranted.

Pipeline Emergencies

NASFM and PHMSA collaborated with the emergency response community and industry experts to develop the *Pipeline Emergencies* training program.

The *Pipeline Emergencies* training program offers a comprehensive, integrated emergency response training program designed to teach emergency responders how to safely respond and effectively manage pipeline incidents for both natural gas and liquids. The program includes a textbook, DVD and facilitator's guide with interactive pipeline training scenarios. The training materials are free to the emergency response community and can be obtained by contacting the NASFM at www.pipelineemergencies.com.

Specific areas that address all aspects of the recommendations from the NTSB can be found in:

Chapter 3 provides an operational overview of the pipeline transmission & distribution systems, pipeline construction, and methods of identifying pipelines.

Chapter 5 is dedicated to natural gas pipelines, the chemical and physical properties, other hazards, transmission and distribution systems, service equipment and controls.

Chapter 6 discusses emergency response procedures, action plans, emergency scene strategies, tactics and the eight steps for managing a natural gas emergency.

Chapter 7 is Tactical Response Guidelines for Pipeline Emergencies. It begins with a discussion of hazard and risk assessment. It discusses safety issues and provides 10

tactical scenarios designed to discuss strategic and tactical operations at pipeline emergencies.

Scenario 1 and 2 identify many of the tactical recommendations identified as training and procedural elements by the NTSB report.

Scenario 1 - Odor of gas in a residential area

It is a response by police and fire to an unknown source of a natural gas in the neighborhood. Identifying the location, tactical considerations like Securing the area isolating the area and denying entry, evacuation of effected area and developing an action plan

Scenario 2 - Release as a result of a punctured 2-inch distribution line in a commercial area.

In this scenario the fire department responds and established the following tactical operations, evacuation, isolate and deny entry to the area, prevent ignition and notify the gas company. The first engine followed the standard operating procedures

- Establishing command in a safe area;
- Control access to the area;
- Establish hazard control zones by using combustible gas indicators;
- Controlling ignition sources;
- Evacuation; and
- interfacing with the utility company upon their arrival.

For More Information:

The entire NTSB report can be accessed at:

http://www.nts.gov/Publicin/P_Acc.htm

U.S. DOT's Pipeline and Hazardous Materials Safety Administration (PHMSA) has issued an Advisory Bulletin to pipeline operators addressing emergency planning.

The Advisory Bulletin is available at:

http://primis.phmsa.dot.gov/comm/PHMSA_Advisory_Bulletin_2005-05-23.pdf

For more information on NASEM's Pipeline Emergencies programs please visit:

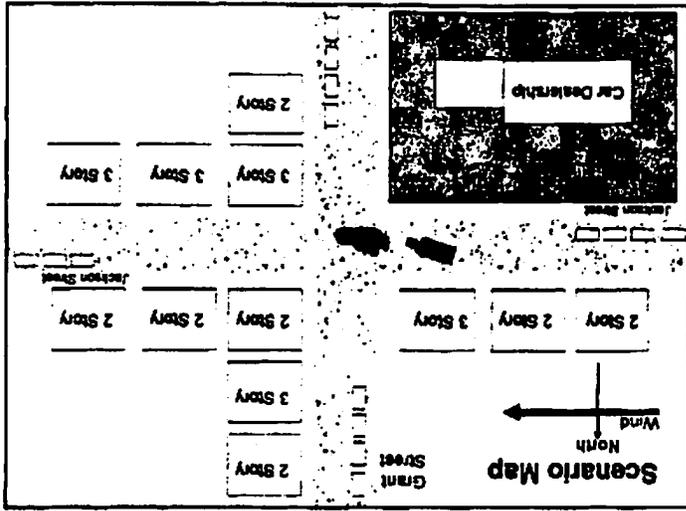
Pipeline Training

<http://www.pipelineemergencies.com>

Or call 877-627-3605

High Consequence Areas and Liquefied Natural Gas:

<http://www.safepipelines.org>



On a weekday morning around 10:00 am, the community emergency dispatch center receives a call from several bystanders on their cell phones. They are standing at the intersection of Jackson and Grant streets and smell the odor of natural gas. The dispatch center receives another call from a construction worker at the same intersection. While excavating a water line, he punctured an adjacent gas pipeline. The dispatcher sends a full structure response for the call, consisting of two engines, a ladder company and a chief officer.

Background



Photo Courtesy of Rick Vanski

SCENARIO - Natural Gas Distribution Emergency
 PUNCTURE OF A WATER AND GAS PIPELINE IN A RESIDENTIAL NEIGHBORHOOD MADE UP OF MULTI-FAMILY TWO AND THREE STORY APARTMENTS.

The construction company has evacuated the area and they are trying to stop traffic in both directions. Many of the stopped vehicles are still occupied with the engines running. A crowd of bystanders has gathered before the chief and the first engine arrive on the scene. Upon arrival, the chief officer observes water and gas expelling from the excavation.

Some questions for consideration?

- **What are your initial operations?**
 - Where would you position the apparatus and personnel in this emergency?
 - What do you consider the safe perimeter area?
 - Will the wind affect the response?
 - What are the clues to the presence and size of the natural gas leak. Are there any visible indicators?
 - Where will the gas accumulate?
- **Strategic and tactical considerations**
 - What would your incident action plan include?
 - What strategic goals would you establish?
 - What tactics would you take to accomplish goals?
 - How and when do you interface with the operator of the natural gas pipeline?

INCIDENT ACTION PLAN

The initial tactical actions are to (1) isolate and deny entry to the area of the release. (2) begin public protection actions (3) gather more information for risk assessment (3) contact the local utility company for assistance.

Summary of Actions

The Incident Commander (IC) adopts a strategic mode and sets initial strategic objectives in accordance with established procedures. In natural gas emergencies, gas company employees may be on scene before the fire department (FD) or police in response to a gas odor call. The IC should immediately establish contact with the gas company to enlist their experience and resources to respond to the gas pipeline rupture. Initially, the mode appropriate for a natural gas leak is defensive, since most pipeline ruptures require tactical actions such as evacuation, air monitoring, and exposure protection.

The IC establishes a command post upwind of the rupture and coordinates all the players in this event. The IC establishes a security perimeter and determines if bystanders and occupied vehicles are safe. Based on the severity of the rupture and the congested nature of the incident site, the IC determines further evacuation is necessary. The IC requests additional FD and police units to assist with evacuation and site management. The IC requires the additional units to travel a path to the incident that avoids areas where gas may be accumulating.

The IC evacuates all buildings on at the intersection of Grant and Jackson. The down wind buildings along Grant and all stopped vehicles were also evacuated. All stopped vehicles were turned off to minimize potential ignition sources. All bystanders are moved back two blocks.

After completing these public protective actions, the IC attempts to quantify the hazard posed by the pipeline rupture. If gas company first responders are on the scene, they may have already collected data relevant to quantifying the hazard. If no data has been collected, first responders need to wear full protective clothing and SCBA before entering potentially hazardous areas. The responders use a calibrated "four gas" (CGI, Oxygen, H₂S/Hydrogen Sulfide and Carbon Monoxide) direct reading combustible gas indicator to determine if the area surrounding the excavation is dangerous or explosive. When flammable gas concentrations over 10% of the lower explosive limit are detected, the building or area is evacuated.

The IC also considers additional means to minimize the possibility of ignition. The IC contacts the local electric company to plan for the deactivation of the electric system in the vicinity of the pipeline rupture. The water company must also be represented in the incident command post to coordinate response to the water line leak.

By this point, the FD will likely have been joined by gas company first responders. Four-gas readings can be confirmed by the gas pipeline company and the responders can maintain their defensive positions while the gas company stops the flow of gas to the leak.

Once the gas company has eliminated the leak and all structures are confirmed to be free of gas, the incident scene should remain undisturbed until the site conditions are documented by an investigating agency.

Comments and Observations

Natural gas is odorless and colorless, so odorants like tertiary butyl mercaptan is added to provide the odor commonly called "gas". However, even if there is no odor present or there is an odor, and responders are worried that a dangerous concentration is present, they must use a direct reading instrument like a combustible gas indicator (CGI) or a gas company flame ionization detector (FID) to determine the flammability hazards. Most CGIs and flammable gas detectors are set to alarm at 10% of the LEL of the gas upon which the sensor is calibrated (approximately 4000 ppm). In the natural gas industry, virtually all CGIs and flammable gas sensors are calibrated on methane. The local responders should work with their utility company to determine an appropriate concentration of the LEL for action criteria based on readings.

Natural gas may follow disturbed soil and enter into basements and below grade areas around the pipe or other venues.

The flammability range of natural gas is 4% to 15% in air by volume. Controlling ignition sources is a priority. Some examples you may not have thought about are:

- Doorbells
- Flashlights
- Telephones

- Burglar Alarms
- Heating Systems
- Vehicles and Trucks
- Pagers
- Light Switches
- And Garage Door Openers

Natural gas released inside buildings presents one of the most common flammable hazards to emergency responders. Buildings full of natural gas should only be approached when needed with extreme caution and with a minimum number of personnel.

Full turnout gear must be worn at all times until the atmosphere is established to be safe. This includes SCBA, hood, and gloves. Remember - protective clothing is your last line of defense. Avoid entering atmospheres when flammable gas is present. Emergency responders have been seriously burned and injured in scenarios just like this because they didn't use their protective clothing and equipment.

STREET SMART TIPS FOR GAS EMERGENCIES

- **NATURAL GAS IS EXTREMELY FLAMMABLE.**
- With any leak, always anticipate and expect that ignition will occur
- Natural gas released inside buildings presents one of the greatest flammable hazards to emergency responders. Buildings full of natural gas should only be approached when needed with extreme caution and with a minimum number of personnel.
- **CAUTION: Natural Gas / Methane (UN1971) is lighter than air and will rise.**
- **DO NOT** close main valves or any other large transmission or distribution valves. This can lead to serious problems elsewhere in the natural gas pipeline system. FD should not close any valve upstream of the meter or service line curb valve.
- Upon ignition, vapors will burn back to the source of gas.
- Vapors may cause dizziness or asphyxiation.
- Establish an effective and safe perimeter
- Position apparatus out of danger zone (avoid front of building and over manhole covers and sewers)
- Secure the scene and deny entry
- Evacuate the public to a safe distance
- Contact and coordinate with the gas operator, electric company, and other utilities that may become involved in the incident

- Wear positive pressure self-contained breathing apparatus (SCBA) as well as full structural firefighter protective clothing. Structural firefighters' protective clothing will only provide limited thermal protection
- Monitor the atmosphere, using multiple monitors where possible.
- Monitor for gas traveling away from source toward exposures
- Control ignition sources (smoking, open flames, internal combustion engines and motors)
- Do not operate electric devices such as switches, etc. Sparks could cause ignition.
- If you can do so without danger, stop or control of the gas release at the appliance, or service meter valve.
- If safely possible, ventilate the area, keeping in mind that during this process, if the flammable atmosphere is above the UEL, the gas may pass back through the flammable range of 4% to 15% gas to air.
- Use protective hose streams to approach if necessary.
- Closed valves must remain closed until opened by gas utility personnel

For More Information:

U.S. DOT's Pipeline and Hazardous Materials Safety Administration (PHMSA) has issued an Advisory Bulletin to pipeline operators addressing emergency planning and coordinating with utility owners. The Advisory Bulletin is available at: http://primis.phmsa.dot.gov/comm/publications/Fire_Service_Bulletin_Glenpool_FINAL_2006-07-27.pdf

For more information on NASFM's Pipeline Emergencies programs please visit: Pipeline Training <http://www.pipelineemergencies.com> Or call 877-627-3605

References:

Hildebrand and Noll, Pipeline Emergencies, Red Hat Publishing, Chester, MD 2004- Developed for DOT Pipeline Hazardous Materials Safety Administration (PHMSA) and the National Association of State Fire Marshalls (NASFM)

Noll, Hildebrand and Yvorra, Hazardous Materials - Managing the Incident 3rd Edition, Red Hat Publishing, Chester, MD 2006

Michael Callan, Responding to Utility Emergencies Red Hat Publishing, Chester, MD 2004

DOT Hazardous Materials Emergency Response Guide Book 2004 Edition-US DOT
Hazardous Materials Transportation Bureau 20509



U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety
Administration

1200 New Jersey Avenue, SE
Washington, D.C. 20590

OCT 23 2007

The Honorable Mark V. Rosenker
Chairman
National Transportation Safety Board
490 L'Enfant Plaza East, S.W.
Washington, DC 20594

Dear Chairman Rosenker:

This is in response to the National Transportation Safety Board (NTSB) Safety recommendations emerging from the October 27, 2004 hazardous liquid pipeline rupture that occurred near Kingman, Kansas. The NTSB issued three safety recommendations to the Pipeline and Hazardous Materials Safety Administration (PHMSA).

The NTSB recommended that PHMSA modify 49 CFR § 195.52 of the hazardous liquid regulations to require pipeline operators to have a procedure to calculate and provide a reasonable initial estimate of released product in the telephonic report to the National Response Center (NRC) (NTSB Safety Recommendation P-07-07). It also recommended that the regulations require pipeline operators to provide an additional telephonic report to the NRC if significant new information becomes available during the emergency response (NTSB Safety Recommendation P-07-08). The NTSB also recommended that PHMSA require operators to revise their pipeline risk assessment plans whenever they have failed to consider one or more risk factors that could affect pipeline integrity (NTSB Safety Recommendation P-07-09).

PHMSA takes the NTSB's recommendations seriously, and we are working diligently to address them. Regarding NTSB Safety Recommendations P-07-07 and P-07-08, PHMSA is examining possible solutions to obtain more accurate and timely information. PHMSA regulations now require operators to notify PHMSA in writing about significant changes in accidents they have reported. PHMSA is exploring the feasibility of having operators provide both initial and updated estimates of released product in telephonic reports to the NRC. This approach would require us to first modify our contract and funding arrangements with the NRC. Another approach PHMSA is considering would be to require submission of updated information on the estimated amount of released product through PHMSA's telephonic notification management system, which builds on the initial telephonic reports to the NRC. PHMSA is still considering the logistical and regulatory challenges of these approaches and looking for other solutions to address NTSB's recommendations. PHMSA anticipates providing a more detailed response in the near future.

Regarding NTSB Safety Recommendation P-07-09, PHMSA reviewed its current regulations to ensure that they are adequate. The Federal pipeline safety regulations require operators to develop a comprehensive risk analysis process and consider all relevant risk factors (49 CFR § 195.452(e)). During our integrity management inspections for hazardous liquid operators, we found that 37 percent of the operators failed to adequately develop a comprehensive risk analysis, and where appropriate, we have addressed deficiencies through enforcement actions. PHMSA also reviewed its inspection protocols for adequacy, and found that they contain explicit risk analysis criteria. Based on the NTSB recommendation, however, PHMSA is considering modifying the language in its enforcement actions to explicitly require the operator to ensure that it addresses all risk factors.

We will update you on the status of these initiatives this fall. Meanwhile, if you have any questions or comments, please feel free to contact me at (202) 366-4433.

Sincerely,

A handwritten signature in black ink, appearing to read "Stacey Gerard". The signature is written in a cursive, flowing style.

Stacey L. Gerard
Assistant Administrator/Chief Safety Officer