

Emergency Response Plans (©2006 Philip Sher)

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Emergency Response Planning
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What is an Emergency?

- Federal Regulations
- Other.

49 CFR 192.615(a)

(3) Prompt and effective response to a notice of each type of **emergency, including** the following:

- (i) **Gas detected inside or near a building.**
- (ii) **Fire located near or directly involving a pipeline facility.**
- (iii) **Explosion occurring near or directly involving a pipeline facility.**
- (iv) **Natural disaster.**

Natural Disaster???

Only those which could affect gas facilities

Floods and tornadoes affecting gas facilities

- Propane tank foundations
- Regulator pits
- Basement flooding
- Water entering gas main
- Uprooted trees.
- Valve sites

Hurricanes with winds and pressures beyond LNG tank design criteria

Lightning strikes

Snow covering regulator reliefs

Ice from storm breaking meter piping,

Earthquakes (in earthquake-prone zones)

Other Emergencies

- Overpressure
- Underpressure
- Outages
- Threatened or damaged pipe
- ?????.

Emergency Response

- Critical importance in gas operations
- Often a major cause of failure to safely exit a potentially hazardous situation

§192.615 Emergency Plans

(a) Each operator shall establish written procedures to minimize the hazard resulting from a gas pipeline emergency. At a **minimum**, the procedures must provide for the following:

(1) **Receiving, identifying, and classifying notices** of events which require immediate response by the operator.

Receiving, identifying, and classifying notices

- 24 hours a day
- 365 days a year
- well advertised telephone number
- special, unlisted numbers for fire, police, local officials, State PUC.
- adequate number of incoming lines
- adequate number of people to answer telephones
- backup power supply for telephone center and computers.
- Training of personnel receiving calls
 - » knowledge of gas leakage
 - » knowledge of gas company operations
 - training of response personnel
 - tools carried by response personnel
- Customer information and system maps.
- Obtain as much relevant information as possible from the caller
 - » nature and extent of event
 - odor - how strong???
 - hissing sound???
 - inside, outside, both???
 - small area, large area???
 - » type of customer (res., ind., mastermeter)
 - » other information needed to classify call
 - priority & proper response
- Company personnel to whom the information should be directed
 - » Normal hours/off-hours
 - » Service, street, both, other???

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(2) Establishing and maintaining adequate means of communication with appropriate fire, police, and other public officials.

Adequate Communications Equipment

- radio with the right frequency(ies)
- cellular telephones
- computer
- fax

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(3) **Prompt and effective response to a notice** of each type of emergency

Prompt and effective response to a notice

- The right person
Service technician, street, both, other???
- The right tools and equipment
Residential, industrial, mastermeter
- The right training
Residential, industrial, mastermeter

- Promptness.
Prompt and effective response to a notice
- Level of response
HELP!!!
Notification, as appropriate, to fire, police, local officials, State PUC, US DOT

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(4) The **availability** of personnel, equipment, tools, and materials, as needed **at the scene of an emergency.**

Availability at the scene of an emergency

- Pipe, fittings and valves
 - » Pretested (???) pipe
 - » Clamps
- Records
 - » Maps of mains, valve locations and regulator stations
 - » Service record cards
 - » Maps or other records to identify sections of the system that will be affected by the operation of each valve, regulator or shutdown device
 - » Provision should be made for positive identification of valves
- Documentation
 - » Paper and pen (not pencil)
 - » Camera, video camera
 - » Tape recorder
 - » Surveying equipment (as needed)
- Equipment
 - » Trucks loaded with proper equipment
 - » Backhoe
 - » Gassed and ready to go

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(5) Actions directed toward **protecting people first** and then property.

(6) **Emergency shutdown** and **pressure reduction** in any section of the operator's pipeline system necessary to **minimize hazards to life or property.**

(7) **Making safe** any actual or potential hazard to life or property.

(8) **Notifying** appropriate fire, police and other public officials of gas pipeline emergencies and **coordinating** with them both **planned** responses and **actual** responses **during an emergency.**

Planning Mutual Assistance

Plan ahead for mutual assistance

During emergencies

Coordinate planned response

Coordinate actual response

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(9) **Safely** restoring any service outage.

(10) Beginning action under **§192.617**, if applicable, as soon after the end of the emergency as possible.

192.615 Emergency plans.

(b) Each operator shall--

(1) **Furnish** its **supervisors** who are responsible for emergency action a copy of that portion of the latest edition of the **emergency procedures** established under paragraph (a) of this section as necessary for compliance with those procedures.

Copies of Emergency Plan

Required - copy of sections to supervisors

but

Written instructions to all employees

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(2) **Train** the appropriate **operating personnel** to assure that they are knowledgeable of the emergency procedures and **verify that the training is effective.**

Training

Method of verification of training

- Oral
- Written
- Simulation

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(3) **Review employee activities** to determine whether the procedures were effectively followed in each emergency.

(c) Each operator shall establish and maintain liaison with appropriate fire, police, and other public officials to:

- (1) **Learn the responsibility and resources** of each government organization that may respond to a gas pipeline emergency;
- (2) Acquaint the officials with the **operator's ability** in responding to a gas pipeline emergency;
- (3) **Identify the types** of gas pipeline emergencies of which the operator **notifies the officials**; and
- (4) **Plan** how the operator and officials can engage in **mutual assistance** to minimize hazards to life and property.

Information to be Conveyed

Tailor the information to the particular audience

Basic information to those who only need limited information – Police, Mayor, selectman, city manager, Medical

More detailed information to those who need more - Fire department, Emergency management office

General

- 1 Who the company is
- 2 Nature of the operations and type of facilities
- 3 Where facilities are located
- 4 Where operating centers are located
- 5 Where company emergency response personnel are located
- 6 Routine telephone numbers
- 7 Emergency telephone numbers and direct tie red phones (and who will answer)

Properties of natural gas

Lighter than air
Importance of this property

Range of combustibility
Significance of this range

Odorless
Odorant added
Non-toxic
Asphyxiant

Types of emergencies

- Nature of emergencies
- Gas odor complaints
- Gas leaks
- Gas fires
- Gas explosions

Scope of emergencies

- Localized or widespread
- Minor or major
- Injuries or deaths

Types of emergencies
How to recognize emergencies
Types of emergencies you will report
Need to notify gas company

Information to be Conveyed

Need and obligation for access to company facilities
Often the only entity that can safely terminate the incident
Federal & state requirements for safety
On-site
Impact on other locations

Need and obligation for access to company facilities
Federal & state requirements to provide service
Federal & state regulators role in emergencies

Company resources and capabilities
Knowledge and Experience
Gas company = “the experts”

Personnel
Equipment

Assistance required from officials

- Crowd control
- Traffic control
- Evacuations

- Fire fighting
- Water curtains
- Temporary shelter

Measuring Training

What did they know before the training?

Pre-test

- Subjective
- Your impression
- Objective
- Written test
- Oral test
- Simulation

What did they learn from the training?

Immediate Post-Test

- Subjective
- Your impression
- Objective
- Written test
- Oral test
- Simulation

Did they retain the training?

Test at a later date

- Subjective
- Your impression
- Objective
- Written test
- Oral test
- Simulation
- Improving Training

Feedback

- What techniques can be used to improve training?
- More frequent training
- Training more directly related to their functions
- Different style of training
- Different materials
- More interactions
- Team concept

Certificate of Training

- Issuing certificates for successful completion of training can reward trainees, and also can be used as 'advertising' for your program when trainees hang them on their walls.

Further Training

- Need to reinforce training previously given
- Need to reach additional members of departments
- Need to address turn-over in departments

Need to update training

- Revised regulations
- Revised procedures
- Training Records

Need to document training provided to outside agencies

Need to monitor training records to ensure training is:

- effective
- continuing
- reaching all targeted person
- producing the requisite level of competence

Information to be Acquired by Gas Operator

- Responsibilities and resources of
- Fire department(s)
- Police department(s)
- Emergency management office(s)
- Others

Simulation exercises on paper

- Likely incidents
- Unusual incidents

Simulation exercises in the field

- Advanced notice simulations
- limited scope
- extended scope
- Surprise simulations
- limited scope
- extended scope

Real World Incidents

- How well did it work in the real world?
 - What went right?
 - What changes need to be made?
 - Was it cooperative or confrontational?
 - What changes need to be made?
 - Was it like a slap stick comedy??
 - What changes need to be made?
 - Was it a total disaster?
 - What changes need to be made?
 - Conduct Post Incident Reviews
- Post-incident reviews can:
- Identify areas where the response activities need improvement.
 - Help determine better ways to deal with incidents in the future.
 - Identify training needs that must be addressed.
 - Clarify needs and missions of the parties.
- Post-incident reviews can:
- Produce long-term positive results from a less-than-perfect situation.
 - Sensitize all participants to the needs of others.
 - Identify improvements needed in the Company program for coordinating response with local officials.
- Post-incident reviews can:
- Identify improvements that may need to be instituted on a Company-wide basis.
 - Prevent serious consequences the **NEXT** time.

Lessons Learned - Gas Co.

1 Leak survey adjacent buildings

- 2 Smell gas but CGI read 0
- 3 Don't hit your own line
- 4 Have accurate valve locations
- 5 Know # customers affected by valves
- 6 Need for adequate hoe ram
- 7 Vehicles fueled
- 8 Tools & equipment loaded in trucks
- 9 Failure to check in with fire dept.
- 10 Failure to keep fire dept. up to date

Lessons Learned - Fire Dpt.

- 1 Gas out of control -- inside meter set
- 2 Gas out of control -- fire fighters inside
- 3 Fire truck parked on "bubbling" water
- 4 Flooded trench -- gas leak
- 5 100% gas reading below ground
- 6 Destruction of evidence
- 7 Unnecessary evacuations
- 8 Failure to min. exposure of fire fighter
- 9 Failure to call gas company
- 10 Failure to call gas company early

Lessons Learned - Police

- 1 Unnecessary evacuations
- 2 Unnecessary road closings

Lessons Learned - ALL

1. Accident may create **traffic jams** interfering with gas company response
2. Communications may be monitored
3. Fire department can be helpful in independently verifying documentation
4. Need for alternate fuel (portable pipeline, compressed gas, or propane) for critical and other customers
5. Give accurate information to the media
6. Cooperate with the media on the scene
7. Utilize the media to communicate to the public and customers.

§192.616 Public education

- (a) Each pipeline operator must develop and implement a **written continuing public education program** that follows the guidance provided in the American Petroleum Institute's (API) Recommended Practice (RP) **1162** (IBR, see § 192.7).
- (b) The operator's program **must** follow the **general program recommendations** of API RP 1162 and assess the unique attributes and characteristics of the operator's pipeline and facilities.
- (c) The operator must follow the general program recommendations, **including baseline and supplemental requirements** of API RP 1162, **unless** the operator provides **justification** in its program or procedural manual as to why compliance with all or certain provisions of the recommended practice is **not practicable and not necessary for safety**.
- (d) The operator's program must specifically include provisions to **educate the public, appropriate government organizations, and persons engaged in excavation** related activities on:

- (1) Use of a one-call notification system prior to excavation and other damage prevention activities;
- (2) **Possible hazards associated with unintended releases** from a gas pipeline facility;
- (3) Physical indications that such a release may have occurred;
- (4) **Steps that should be taken for public safety in the event of a gas pipeline release;**
and
- (5) Procedures for **reporting** such an event.
- (e) The program must include activities to advise affected municipalities, school districts, businesses, and residents of pipeline facility locations.
- (f) The program and the media used must be **as comprehensive as necessary** to reach all areas in which the operator transports gas.
- (g) The program must be conducted in English and in **other languages** commonly understood by a significant number and concentration of the non-English speaking population in the operator's area.
- (h) Operators in existence on June 20, 2005, must have completed their written programs no later than **June 20, 2006**.
- (h) ... As an exception, operators of **small propane distribution systems** having less than 25 customers and **master meter operators** having less than 25 customers must have completed development and documentation of their programs no later than **June 20, 2007**.
[exception currently in process of being revised]
- (h) ... **Upon request, operators must submit their completed programs** to PHMSA or, in the case of an intrastate pipeline facility operator, the appropriate State agency.
- (i) The operator's program documentation and **evaluation results must be available for periodic review** by appropriate regulatory agencies.

ADB-06-02

PHMSA issued advisory bulletin June 16, 2006

All gas operators to **file** their Public Awareness Plan with OPS via PHMSA website between August 8 and October 8, 2006

Exceptions – file with the State

CT IL MT VA

DC MD SD WY

NPRM

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September 29, 2006

Comment closing date November 28, 2006.

Proposed rule

§192.616 Public education

- (a) **Except for an operator of a master meter or petroleum gas system covered under paragraph (j) of this section,** each pipeline operator must develop and implement a written continuing public education program that follows the guidance provided in the American Petroleum Institute's (API) Recommended Practice (RP) 1162 (IBR, see § 192.7).
- (h) ... As an exception, operators of **small propane distribution systems** having less than 25 customers and **master meter operators** having less than 25 customers must have completed development and documentation of their programs no later than **June 20, 2007**.
- (h) ... The operator of a master meter or petroleum gas system covered under paragraph (j) of this section must complete development of its written procedure by March 31, 2007.

(i) **Unless** the operator **transports gas as a primary activity**, the operator of a master meter or petroleum gas system is **not required to develop a public awareness program as prescribed in paragraphs (a) through (g) of this section.**

(j) ... **Instead** the operator must develop and implement a written procedure to **provide its customers public awareness messages twice annually.**

(j) ... If the master meter or petroleum gas system is located on property the operator does not control, the operator must provide similar messages twice annually **to persons controlling the property.** The public awareness message must include:

- (1) **A description of the purpose and reliability of the pipeline;**
- (2) An overview of the **hazards of the pipeline and prevention measures used;**
- (3) Information about damage prevention;
- (4) How to **recognize and respond to a leak;** and
- (5) How to **get additional information.**

Avian H5N1 Virus

Highly Pathogenic (causing or capable of causing disease)

It is especially virulent (marked by a rapid, severe, and destructive course, able to overcome bodily defensive mechanisms)

It is being spread by migratory birds

Highly Pathogenic (causing or capable of causing disease)

It can be transmitted from birds to mammals and in some limited circumstances to humans, and

Like other influenza viruses, it continues to evolve.

What Is an Influenza Pandemic?

A pandemic is a global disease outbreak.

An influenza pandemic occurs when a new influenza A virus emerges for which there is little or no immunity in the human population, begins to cause serious illness and then spreads easily person-to-person worldwide.

Pandemic Death Toll Since 1900

Year	United States	Worldwide
1918-1919	675,000	50,000,000
1957-1958	70,000	1-2,000,000
1968-1969	34,000	700,000

Pandemic Death Toll Since 1900

United States Deaths	1918-9	1957-8	1968-9

Pandemic Death Toll Since 1900

Worldwide Deaths	1918-9	1957-8	1968-9

Business Pandemic Influenza Planning Checklist

1.1 Plan for the impact of a pandemic on your business:

Identify **essential employees** and other critical inputs (e.g. raw materials, suppliers, sub-contractor services/products, and logistics) required to maintain business operations by location and function during a pandemic.

Business Pandemic Influenza Planning Checklist

1.1 Plan for the impact of a pandemic on your business:

Train and prepare ancillary workforce (e.g. contractors, employees in other job titles/descriptions, retirees).

Business Pandemic Influenza Planning Checklist

1.2 Plan for the impact of a pandemic on your employees and customers:

Identify **employees and key customers with special needs**, and incorporate the requirements of such persons into your preparedness plan.

Business Pandemic Influenza Planning Checklist

1.3 Establish policies to be implemented during a pandemic:

Establish policies for **restricting travel to affected geographic areas** (consider both domestic and international sites), evacuating employees working in or near an affected area when an outbreak begins, and guidance for employees returning from affected areas (refer to CDC travel recommendations).

Business Pandemic Influenza Planning Checklist

1.4 Allocate resources to protect your employees and customers during a pandemic:

1.5 Communicate to and educate your employees:

Business Pandemic Influenza Planning Checklist

1.6 Coordinate with external organizations and help your community:

Collaborate with federal, state, and local public health agencies and/or emergency responders to participate in their planning processes, share your pandemic plans, and understand their capabilities and plans.

Business Pandemic Influenza Planning Checklist

<http://www.pandemicflu.gov/plan/businesschecklist.html>

Flu Pandemic

Will it occur?

Will it be severe?

Will it have significant impact on the US? New England?

Will it significantly impact the gas business?

Flu Pandemic

Plans in effect by health agencies

National level

Each State health department

Various activities underway to monitor situation and plan for occurrences

Flu Pandemic

<http://www.cdc.gov/flu/avian/>