



**Abnormal Operating Conditions
Emergency Plans and
Public Awareness Plans for
Natural Gas Systems**

Contact Information

John West

Transportation Specialist

U.S. Department of Transportation

PHMSA Office of Training and Qualifications

Office (405) 954-7220

Main (405) 954-7219

Email John.West@dot.gov



**Pipeline and
Hazardous Materials
Safety Administration**

192.603 General Provisions

- Pipelines must be operated in accordance with this subpart.
- Each operator shall keep records necessary to administer the procedures established under 192.605.
- The Administrator of PHMSA or the State Agency that has a current certification under the pipeline safety laws, (49 U.S.C. 60101 et seq.) may require the operator to amend its plans and procedures as necessary to provide a reasonable level of safety.

192.605 Procedural Manual for Operations, Maintenance, and Emergencies

- Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response. For transmission lines, the manual must also include procedures for handling abnormal operations.
- For transmission lines, the manual required by paragraph (a) of this section must include procedures to provide safety when operating design limits have been exceeded.
- Surveillance, emergency response, and accident investigation procedures, required by 192.613(a), 192.615, and 192.617 must be included in the manual.

192.605 (c) Abnormal Operations

What is an abnormal operating condition?

- An abnormal condition is a non-emergency condition on a gas transmission facility that occurs when the operating design limits have been exceeded due to a pressure, flow rate, or temperature change outside the limits of normal conditions.
- When an abnormal condition occurs, it does not pose an immediate threat to life or property, but could if not promptly corrected.

192.605 (c) Abnormal Operations

- For transmission lines, the manual required by paragraph (a) of this section must include procedures for the following to provide safety when operating design limits have been exceeded:
 - Responding to, investigating, and correcting the cause of:
 - Unintended closure of valves or shutdowns;
 - Increase or decrease in pressure or flow rate outside normal operating limits.
 - Loss of communications.
 - Operation of any safety device.
 - Any other foreseeable malfunction of a component, deviation from normal operation, or personnel error which may result in a hazard to persons or property.

192.605 (c) Abnormal Operations

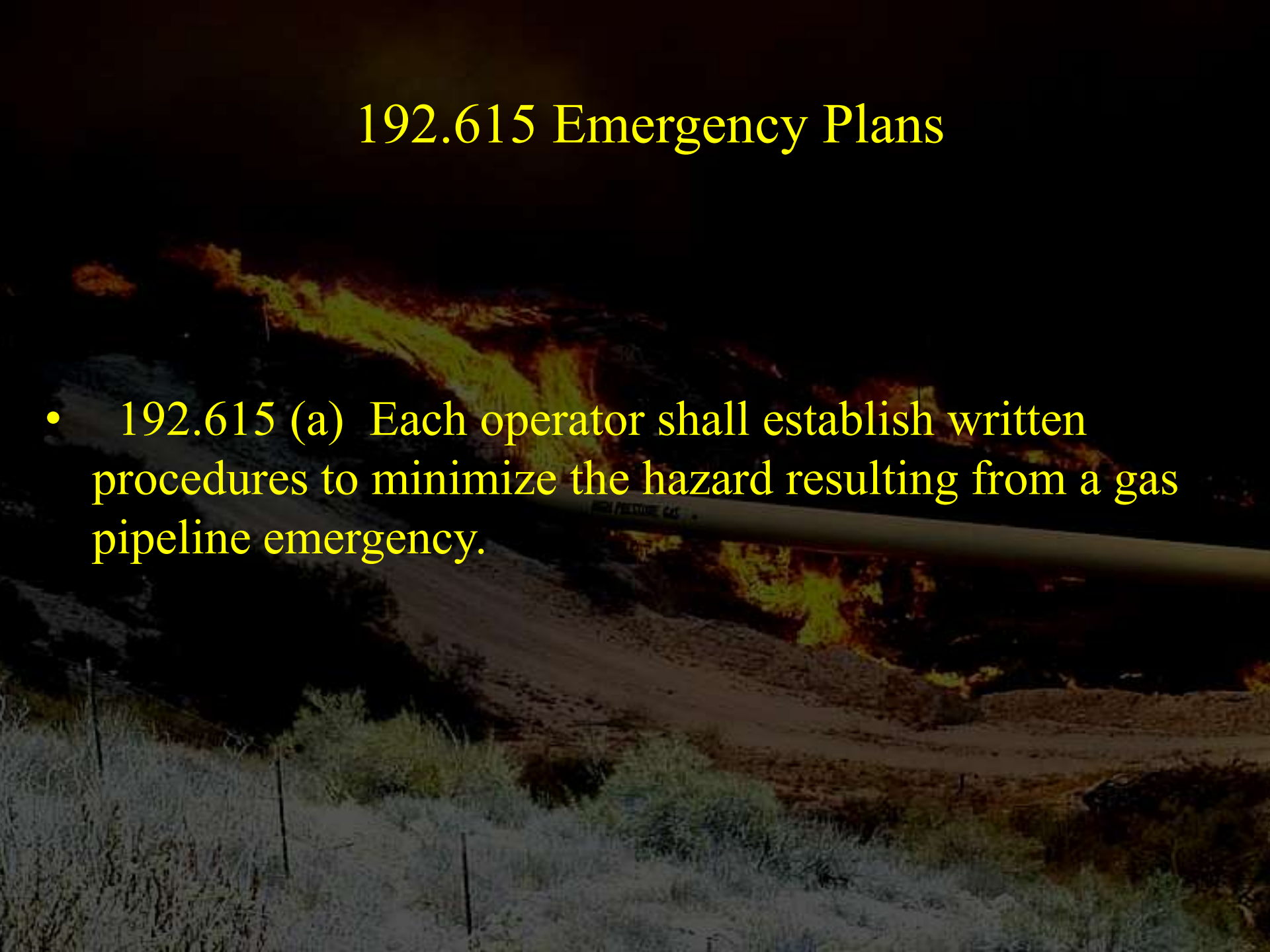
- Checking variations from normal operation after abnormal operation has ended at sufficient critical locations in the system to determine continued integrity and safe operation.
- Notifying responsible personnel when notice of an abnormal operation is received.

192.605 (c) Abnormal Operations

- Periodically review the response of personnel to determine the effectiveness of the procedures controlling abnormal operation and taking corrective action where deficiencies are found.
- The requirements of this paragraph do not apply to natural gas distribution operators that are operating transmission lines in connections with their distribution system.

192.615 Emergency Plans

- 192.615 (a) Each operator shall establish written procedures to minimize the hazard resulting from a gas pipeline emergency.





192.615 (a)(1) Emergency Plans

- Procedures for receiving, identifying, and classifying, notices of events which require an immediate response
 - Receiving Notices:
 - Do you have a 24 hour telephone number?
 - Is the telephone number toll free or collect call?
 - Is there a live person at the call number 24 hours a day, does it reach the company during the day and police or an answering service at night?
 - Has the number changed due to sales or mergers, have your markers been updated with the new number?

192.615 (a)(1) Emergency Plans

- Procedures for receiving, identifying, and classifying, notices of events which require an immediate response
 - Identifying Notices:
 - Do you have a list of questions to ask callers to help identify the type of emergency event?
 - Do your procedures ask for contact information from the person calling in an event? (Name, address, phone or contact number)
 - Have those who receive calls on the emergency number received training to determine the type of event, is it an emergency event, are people in danger, is it on your system?

192.615 (a)(1) Emergency Plans

- Procedures for receiving, identifying, and classifying, notices of events which require an immediate response
 - Instructions for Callers:
 - Do your procedures provide safety instructions for someone reporting a natural gas pipeline event?
 - Do the instructions provide information for the safety of people first?

192.615 (a)(1) Emergency Plans

- Procedures for receiving, identifying, and classifying, notices of events which require an immediate response
 - Classifying Notices:
 - How do you classify events?
 - Priority 1 = Immediate response
 - Priority 2 = Send next available person
 - Priority 3 = Send someone within 2 hours

192.615 (a)(2) Emergency Plans

- Establishing and maintaining adequate means of communication with appropriate fire, police, and other public officials.
 - Do You:
 - Maintain a current list of emergency contact numbers, and update the list at regular intervals?
 - Have additional telephone trunk lines, switchboard facilities, and personnel, in case of telephone line damage and to handle increased call volume.
 - Have a separate radio system or other form of communication in case of telephone system failure?
 - Have a back-up power supply for the operations center in case of power failure?

Communications Issues



192.615 (a)(3) Emergency Plans

- Prompt and effective response to a notice of each type of emergency, including the following:
 - Gas detected inside or near a building.
 - Fire located near or directly involving a pipeline facility.
 - Explosion occurring near or directly involving a pipeline facility.
 - Natural disaster.



192.615 (a)(4) Emergency Plans

- The availability of personnel, equipment, tools, and materials, as needed at the scene of an emergency.
 - Responsibility for overall coordination of personnel and execution of the emergency response plan.
(who's in charge?)
 - Current personnel contact lists, numbers, and responsibilities.
 - Lists of equipment, tools, and materials, needed to respond to possible types of emergencies.
 - Current contractor contact list, capabilities, and equipment, available to respond to an emergency.

192.615 (a)(5) Emergency Plans

- Actions directed toward protecting people first and then property.
- What the first person on the scene might do:
 - Determine the scope of the emergency.
 - Evacuate and prevent access to premises that are or may be affected.
 - Prevent accidental ignition.
 - Report to the appropriate supervisor on the situation, and request further instructions or assistance if needed.

192.615 (a)(6) Emergency Plans

- Emergency shutdown and pressure reduction in any section of the operator's pipeline system necessary to minimize hazards to life or property.
 - Plans to shut down or reduce pressure should consider:
 - Access to and operability of valves.
 - Positive identification of critical valves and other permanent facilities required for shutdown.
 - Provisions for confirming that the shutdown or pressure reduction was effective.

192.615 (a)(7) Emergency Plans

- Making safe any actual or potential hazard to life or property.
 - Eliminating potential sources of ignition.
 - Determining the full extent of the hazardous area, including the discovery of gas migration and secondary damage.
 - Monitoring for a change in the extent of the hazardous area.

192.615 (a)(8) Emergency Plans

- 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.
 - Contacting and Coordinating with fire, police, and other public officials, the actions to be taken.
 - Maintaining ongoing communication with fire, police, and other public officials, as events unfold to ensure that information pertinent to emergency response is shared in a timely manner.
 - Notifying response personnel when the emergency has been made safe.

192.615 (a)(9) Emergency Plans

- Safely restoring any service outage.
 - Re-survey of the area involved in an incident to locate any additional damages.
 - List of personnel and job tasks required to restore service.
 - List of contractors or other companies that have agreed to provide equipment and personnel to assist with repair and service restoration.
 - Purging and re-pressuring of pipeline facilities.
 - Monitoring of facilities after service is restored.

192.615 (a)(10) Emergency Plans

- Beginning action under 192.617, if applicable, as soon after the end of the emergency as possible.

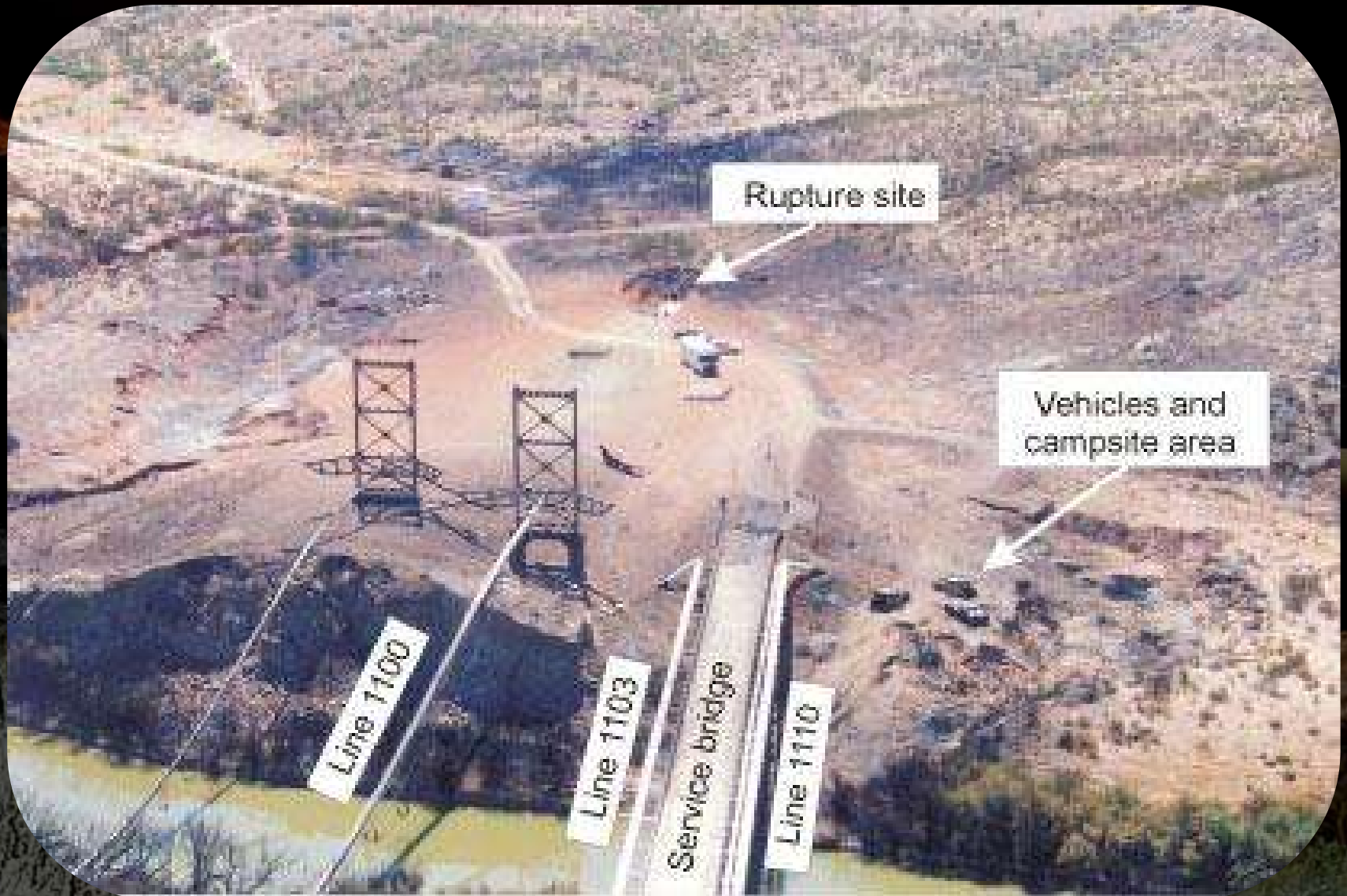
(Incident Investigation)

- Instructions for initiating investigation of failures in accordance with 192.617.
- Keeping a log of significant events and of actions taken.
- Preservation of failed facilities or equipment for analysis.
- Obtaining and submitting information required by jurisdictional regulatory bodies.

192.617 Investigation of failures



192.617 Investigation of failures

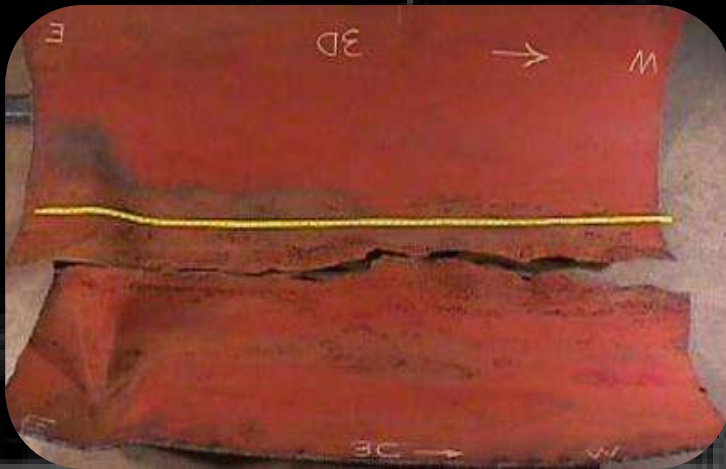


192.617 Investigation of failures



192.615 Emergency Plans

- 192.617 Investigation of failures.
 - Each operator shall establish procedures for analyzing accidents and failures, including the selection of samples of the failed facility or equipment for laboratory examination, where appropriate, for the purpose of determining the causes of the failure and minimizing the possibility of a recurrence.



Rupture site

Service bridge

192.615 (b) Emergency Plans

- Each operator shall:
 - 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.
 - Train the appropriate operating personnel to assure that they are knowledgeable of the emergency procedures and verify that the training is effective.
 - Review employee activities to determine whether the procedures were effectively followed in each emergency.

192.615 (c) Emergency Plans

- Each operator shall establish and maintain liaison with appropriate fire, police, and other public officials to:
 - Learn the responsibility and resources of each government organization that may respond to a gas pipeline emergency.
 - Acquaint the officials with your abilities in responding to a gas pipeline emergency.
 - Identify the types of gas pipeline emergencies which you may notify the officials of.
 - Plan how you and the public officials can engage in mutual assistance to minimize hazards to life or property.

192.616 Public Awareness

- (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 (incorporated by reference, see 192.7).

192.616 Public Awareness

- (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.

192.616 Public Awareness

- (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.

192.616 Public Awareness

- (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.

192.616 Public Awareness

- (h) Operators in existence on June 20, 2005, must have completed their written programs no later than June 20, 2006. 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 June 13, 2008. 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.

192.616 Public Awareness

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

192.616 Public Awareness

- (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.

Information Websites

The background of the slide is a dark, low-contrast photograph of a construction site. In the foreground, the silhouette of an excavator's arm and bucket is visible on the left. To the right, the rear of a truck is partially seen. The overall scene is dimly lit, with some light reflecting off the ground and the machinery.

PHMSA Training and Qualification

<http://www.phmsa.dot.gov/pipeline/tq>

PHMSA Pipeline Safety Regulations

<http://www.phmsa.dot.gov/pipeline/tq/regs>