Public Awareness

Alabama Pipeline Safety Seminar

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Arthur O. Buff, P.E.
CATS Program Manager
PHMSA, Southern Region
Overview

- Pipeline Safety Challenges
- Public Awareness Laws/Regulations
- Public Awareness Programs (PAP)/API 1162
- PAP Compliance
- Common Inspection Issues
SAN BRUNO, CALIFORNIA

Population 41,114, 11 miles south of San Francisco

September 9, 2010, 6:11 pm (PDT) – 30” gas line ruptured

- Crater 72 feet long, 26 feet wide
- 28 ft. section, 3,000 lbs., 100 feet
- 47.6 million ft.\(^3\) of gas released
- 38 homes destroyed, 70 damaged
- 8 fatalities and 58 injuries
- San Bruno FD arrive 6:13 pm
- 900 emergency responders
- DOJ filed criminal charges PG&E
To Protect People and the Environment From the Risks of Hazardous Materials Transportation
San Bruno – What Pipeline?

High pressure gas transmission pipeline in my jurisdiction???
Why Public Awareness

It's the Law!

- Pipeline Safety Improvement Act of 2002 (PSIA)
- Pipeline Inspection Protection Act of 2006 Enforcement (PIVES)
- Pipeline Safety Regulatory Certainty and Job Creation Act 2011 (PSRCJC)
Purpose of Public Awareness

Provide safe, reliable service to customers and ensure the safety of people living and/or working near pipelines. Every employee must be committed to fulfilling public awareness responsibilities.
What are the Benefits of Public Awareness?

- Decreased excavation damage
- Enhanced public safety
- Preservation of the environment
- Improved pipeline system performance
- Improved relationships with affected public
- Less resistance to pipeline activities
Pipeline facility operator *shall* carry out a continuing program to *educate* the public:

- Use of a one-call notification system prior to excavation;
- Other damage prevention activities;
- Possible hazards associated with unintended releases;
- Physical indications that such a release may have occurred;
- The steps that should be taken for public safety in the event of a pipeline release;
- How to report such an event.
Pipeline operators shall review existing public education programs for effectiveness and modify as necessary, no later than 12 months.

Submit completed program to PHMSA (interstate) or State (intrastate).
Pipeline Inspection Protection and Safety Act of 2006 (PIPEDS)

- Authorizes $1 million for public awareness and education grants to promote 811 national excavation damage prevention phone number

- From October 1, 2006 to September 30, 2010.

- Enforcement of 3rd party excavators
Pipeline Safety Regulatory Certainty and Job Creation Act of 2011 (PSRCJC)

- PHMSA shall maintain map of high-consequence areas, in which pipelines are required to meet IMP regulations and update biennially.

- PHMSA shall develop and implement program promoting greater awareness of the National Piping Mapping System to State and local ER’s and other interested parties.

- With 18 months, PHMSA shall issue guidance to pipeline operators on providing system specific information to ER’s where facilities located.

- PHMSA shall consult with operators to determine extent this information is already being provided ER’s.
Public Awareness Applicability

- Interstate and intrastate natural gas and hazardous liquid transmission pipelines
- Natural gas distribution companies
- Gathering pipeline operators
- Master meters and petroleum gas (no written continuing public education program)
§192.616 Public Awareness

- Final Rule Published May 19, 2005
- Effective date of Final Rule June 20, 2005
- Requires operators to follow the guidance of API RP 1162, “Public Awareness Programs”, First Edition, December 2003
  - Defines baseline and supplemental (enhanced) programs
- Modified in 2007 for operators of master meter systems and certain petroleum gas systems
§192.616 Public Awareness Requirements

a) Written continuing public education program that follows the guidance provided in the API RP-1162.

b) **Must** follow general program recommendations of API RP 1162 and assess the unique attributes and characteristics of operator’s pipeline and facilities.

c) **Must** follow general program recommendations, including baseline and supplemental requirements of API RP 1162, unless operator provides written justification why compliance with all or certain provisions of the recommended practice is not practicable and not necessary for safety.
§192.616 Public Awareness Requirements

d) 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 Requirements

e) Program must include activities to advise affected municipalities, school districts, businesses, and residents of pipeline facility locations.

f) Program and the media used must be as comprehensive as necessary to reach all areas in which the operator transports gas.

g) 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.

i) Program documentation and evaluation results must be available for periodic review by appropriate regulatory agencies.
Education and Awareness

- The word **educate** implies a one-way action.
- The word **awareness** implies a two-way action.
  - The recipient not only received the information but perceives, has knowledge of, understands, or is otherwise cognizant of the information being presented.
  - The information is provided, the recipient gives feedback.
- PHMSA considers educate and awareness synonymous
- The current rules now require a pipeline operator to
  1. provide information to stakeholder audiences, and
  2. to measure if and how well the stakeholder audiences grasped the information.

To be compliant with the Federal pipeline safety regulations, an operator must periodically measure its Public Awareness Program's effectiveness and must continuously improve the program based on the results of this evaluation. - **This requires feedback!**
Public Awareness Programs (PAP)

- PAP
- API 1162
- Part 192
- Part 195

To Protect People and the Environment From the Risks of Hazardous Materials Transportation
"May" - means an action is permitted or authorized but not required.

Because "may" provides an option, an operator need not take an action that includes the word "may" and is not required to provide a justification for not taking an action.

"Must" - means an action is mandatory.

Because "must" does not provide an option, an operator is required to take an action that includes the word "must."

"Shall" - has the same meaning as "must" but is not used in the Public Awareness regulations in §192.616, §195.440, or in API RP 1162.

Shall has been gradually replaced by must primarily because of a June 1, 1998, presidential memorandum requiring the use of Plain Language in Federal regulations.
"Should" - means an action is required unless an operator provides justification.

Therefore, an operator is required to provide a justification for not taking an action that includes the word "should." To be valid the justification must:

- be written,
- be based on a sound engineering and/or safety analysis,
- adequately explain why compliance with the action is not practicable for the specific pipeline system,
- adequately explain why compliance with the action is not necessary for safety on that specific pipeline system, and
- provide a level of safety equal to, or greater than, that which would be provided had the operator followed the action.
Multi-system Public Awareness Program (PAP): Multi-System PAPs

Multi-system Public Awareness Program - covers more than one pipeline system.

**IMPORTANT:**
Generic messages do not meet the intent of the PAP regulations because they do not necessarily provide "awareness."
Therefore, PHMSA will not accept generic types of messages. Message content must be pipeline system and product specific.
Must be based on: **Sound** and **Repeatable** Principles

*"Sound"* - means firm and reliable. An operator must have some logical, scientific, and/or other data driven reason for using the process.

*"Repeatable"* - means the operator can duplicate the process over again and, generally speaking, obtain the same results.

Public awareness regulations require an operator to make Continuous Improvements. A process cannot be improved if it cannot be repeated. In essence, there is no starting point for improvements without repeatability.
Purpose:
Assist pipeline operators in their public awareness efforts

Goal:
Raise the quality of pipeline operator’s Public Awareness Programs, establish consistency of programs throughout industry, and provide mechanisms for continuous improvement

Applicability:
- Intra- and interstate hazardous liquid pipelines;
- Intra- and interstate natural gas transmission pipelines;
- Local distribution pipelines; and
- Gathering pipelines
Objectives:

1) **Educate** customers/non-customers who live/work near pipelines to recognize and respond to releases (i.e. gas odors)

2) **Raise awareness** of affected public and key stakeholders of presence of buried pipelines

3) **Prevent** third party damages thru awareness of pipeline locations and 811 number and learn how to respond

4) **Help** emergency response agencies understand proper actions to take in response to a release or an emergency
Program Development:

- Provides recommended elements of a Baseline Program
- Provides considerations to determine when and how to enhance (Supplement) the baseline program

3 principal regulatory compliance elements:

- Emergency Plans 615
- Damage Prevention 614
- Public Awareness 616
Target Audience:

- Affected public (residents and places of congregation along ROW);
- Local and State ER and planning agencies;
- Local public officials
- Excavators/contractors
- One-Call centers
Who are excavators?

- Construction companies
- Blasting companies
- Excavation equipment rental
- Public works officials
- Public street, road, highway depts
- Timber companies
- Fence building companies
- Drain tiling companies
- Landscapers
- Well drillers
- Home builders
- Land developers
- Irrigation companies
- One-call centers
Public Awareness Program (PAP): Messages

Message Content:

- Pipeline Purpose and Reliability
- Hazard Awareness and Prevention Measures
- Leak Recognition and Response
- Emergency Preparedness Communications
- Damage Prevention
- Pipeline Location Information
- Gas Transmission Operators - Overview of IMP and HCA
- Operator Websites
- ROW Encroachment Prevention
- Planned Pipeline Maintenance/Construction Activities
- Security
- Facility Purpose
Message Delivery Methods and/or Media:

- Print Materials (brochures, flyers, bill stuffers, letters, maps)
- Personal Contact (door-to-door, calls, open houses)
- Electronic Communications (videos, CDs, email)
- Mass Media Communications (PSAs, newspapers, advertising)
- Specialty Advertising Materials
- Informational or Educational Items
- Pipeline Markers
- One-Call Center Outreach
- Operator Websites

Public Awareness Program (PAP): Effective Communication
Requirements for communications:

- Message specific for each target audience
- Frequency appropriate for audience
- Message delivered in an effective manner
Digging safely begins when you call before you dig. But that's only the beginning. In fact, it's the first step in an ongoing process that requires a shared responsibility.

Whether you are a rancher or farmer, facility owner or operator, locator, design professional, excavator, or contractor, ensuring the safety of those who work or live in the vicinity of underground facilities and protecting vital services is everyone's responsibility.

Following the Dig Safely process will help to keep your farm, family and community safe when performing deep excavations outside the scope of normal farming activities. A call to your One Call Center is strongly encouraged prior to excavating activities such as tiling, subsiding or terracing projects. Call before you dig.

1. Call before you dig
2. Wait the required time
3. Respect all markings
4. Dig with care

Keep what's above our land safe by understanding what's below.

The Common Ground Alliance (CGA) is a nonprofit organization representing more than 1,000 individuals from 15 stakeholder groups and more than 120 member organizations. CGA is dedicated to promoting shared responsibility in damage prevention, to ensure public safety, environmental protection and the integrity of services through effective damage prevention practices.

For more information visit www.commongroundalliance.com or www.digsafely.com

Call before you dig.
800-DIG-TESS
It took years to make it a farm...It takes one call to keep it safe.
Public Awareness Program (PAP): Effective Communication
Establish Public Awareness Program Administration with Management Support (Steps 1 – 4)

Identify Stakeholder Audiences (Step 5)

Determine the Messages (Step 6)

Establish Frequencies of Messages (Step 7)

Establish the Delivery Methods (Step 8)

Evaluate the Need for Program Enhancement (i.e. Supplemental Activities) (Step 9)

Implement the Program and Track Progress (Step 10)

Evaluate the Program and Implement Continuous Improvement (Steps 11 and 12)

Determine the Need for Program Enhancement (i.e. Supplemental Activities) (Step 9)

Establish Menu Methods (Step 8)

Implement the Program and Track Progress (Step 10)

Evaluate the Program and Implement Continuous Improvement (Steps 11 and 12)

Public Awareness Program Process Guide

1. Define Objectives
2. Obtain Management Commitment
3. Identify Administration
4. Identify Pipeline Assets
5. Identify means of contact for: affected public; ER officials; local public officials; excavators
6. Establish message types each audience
7. Content for each message
8. Document above
9. Select appropriate methods
10. Use alternate methods, as necessary
11. Document methods
12. Establish process for management input/feedback/comments
13. Review criteria for supplemental activities
14. Solicit input pipeline personnel (O&M, etc.)
15. Apply new info to program
16. Document supplemental info
17. Develop resources and budget
18. Identify, assign, task employees
19. Identify external resources
20. Update periodically
21. Collect feedback
22. Establish evaluation process
23. Determine input data sources (surveys, reply cards, feedback, etc.)
24. Assess and document results
25. Determine changes based on results
26. Document changes
27. Determine future funding
28. Implement changes
PAP Program Evaluation: Purpose & Scope

Primary Purposes:

- Assess whether current program is effective in achieving the objectives of the PAP
- Provide information on Implementing improvements based on PAP evaluation (findings)

Secondary Purposes:

- Demonstrate status and validity of program

Why do we need to evaluate our PAP?
Tracking performance:

- Whether the program is being implemented as planned (the process)

- Whether the program is effective (program effectiveness)
The operator should complete an annual review of PAP:

- Has the PAP been written to address the objectives, elements, and baseline schedule?
- Has the public awareness program been implemented and documented according to the written program?
Conduct periodic effectiveness evaluations *(no more than 4 years)*:

- Is information reaching the intended stakeholder audiences?
- Do the recipient audiences understand the messages delivered?
- Are the recipients motivated to respond appropriately in alignment with the information provided?
- Is the implementation of the public awareness plan impacting bottom line results (reducing incidents, third party hits, etc.)?
Measure 1 – Outreach: Percentage of Each Intended Audience Reached With Desired Messages

- Track percentage of individuals or entities reached within an intended audience (households, excavators, local government, first responders, etc.)

- Estimate the percentage of the stake holders actually reached within the target geographical region along the pipeline

- Measure will help to evaluate delivery methods
Measure 2 - Understandability of the Content of the Message

- Assesses the percentage of the intended stakeholder audience that understood and retained the key information in the message received
- Evaluate the effectiveness of the delivery media style and content
- Will help to assess the effectiveness of the delivery methods used
Measure 2 - Understandability of the Content of the Message: Pretest materials

- Operators should pretest their public awareness materials for their appeal and messages for their clarity, understandability and retain-ability before they are widely used.

- Pretest may be performed using a small representative audience or focus group (Sample surveys are in Appendix E).
Measure 2 - Understandability of the Content of the Message: Survey target stakeholder audiences:

- Assess understandability by surveying the target stakeholder audience in the course of face-to-face contacts, telephone or written surveys

- Factors to consider when designing surveys include:
  - Appropriate sample size to draw general conclusions
  - Questions to gauge understandability of messages and knowledge of survey respondent
  - Retention of messages
  - Comparison of most effective means of delivery
PAP Program Evaluation: Measuring Program Effectiveness

Measure 3 – Desired behavior of the stakeholder audience:

- Measure of whether appropriate prevention behaviors have been learned and whether appropriate response or mitigation measures would or have taken place.

Baseline Evaluation:

- The survey conducted to assess Measure 2 (understandability of the content of the message) should be designed to include questions that ask respondents to report on actual behaviors following incidents.
PAP Program Evaluation:  
Measuring Program Effectiveness

Measure 3 – Desired behavior of the stakeholder audience:

Supplemental evaluation:

• Assessments of actual incidents should recognize that each response would require unique on–scene planning and response to specifics of each emergency

• Measuring the appropriateness of public stakeholder responses could include tracking whether an actual incident that affected residents was correctly identified and whether reported and personal safety actions undertaken were consistent with public awareness communications
Measure 3 – Desired behavior of the stakeholder audience:

Supplemental evaluation:

- Operators may also want to assess whether their public awareness program has successfully driven other behaviors:
  - Whether excavators are following through on all safe excavation practices, in addition to calling One Call.
  - The number of notifications received from the One Call Center (was there an increase after distribution of public awareness materials).
  - An assessment of first responder behaviors, response to pipeline related calls and post incident assessments, were their actions consistent with the key messages in the public awareness communications.
Measure 4 – Achieving bottom line results:

- The change in the number and consequences of third party incidents is one measure of bottom line results.
- As a baseline an operator should track the number of incidents and consequences caused by third party excavators.
- The tracking of leaks caused by third party excavation should be compared to statistics of pipelines in the same sector.
- Data regarding third party excavation damages should be evaluated over a relatively long period of time to determine any trends applicable to the operators public awareness program.
- One other measure an operator may consider is the affected public’s perception of the safety of pipelines.
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<tr>
<th>Evaluation Approaches</th>
<th>Evaluation Techniques</th>
<th>Recommended Frequency</th>
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<tbody>
<tr>
<td>Self Assessment of Implementation</td>
<td>Internal review</td>
<td>Annually</td>
</tr>
<tr>
<td>Evaluation of effectiveness of program implementation:</td>
<td>Survey operator-designed and conducted survey</td>
<td>No more than four years apart.</td>
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<tr>
<td>Outreach</td>
<td></td>
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<td>Level of knowledge</td>
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<td>Changes in behavior</td>
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<td>Bottom-line results</td>
<td></td>
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<tr>
<td>Implement changes to the PAP</td>
<td>Responsible person as designated in written PAP</td>
<td>As required by findings within 12 months of evaluation</td>
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Public Awareness Program (PAP): Documentation and Recordkeeping

Put it in Writing!
Document, Document,
and
Document some more!
Public Awareness Program (PAP): 
*Supplemental Enhancements*

- **Consider following factors:**
  - Potential hazards
  - High Consequence areas
  - Population density
  - Land development activity
  - Land farming activity
  - Third-party damage incidents
  - Environmental considerations
  - Pipeline history in an area
  - Specific local situations
  - Regulatory requirements
  - Previous PAP evaluations
  - Other relevant needs
Compliance means meeting all the regulations in §192.616 not just following API RP-1162.

Despite preliminary review - PAP can be, and will be, inspected.

Program Evaluations will be inspected.

PHMSA/State Agencies pay close attention to:

- Message content, delivery methods, frequency, buffer zones, metrics and other PAP elements as they relate to the specific pipeline and facilities.

- Supplemental Enhancements when conditions along the pipeline suggest a more intensive effort is needed:
  - High Consequence Areas
  - Land Development Activity
  - Third-party Damage Incidents
  - Pipeline History
Public Awareness Program (PAP): *Points to Remember*

- Plans were reviewed for deviations from API RP-1162 - they were not "approved"
- Operators no longer submit Public Awareness Plans for Review
- PHMSA/PSC will review PAPs as stand alone or combined with inspection activities
Public Awareness Program (PAP): Inspection Issues

➢ Generic off the shelf brochures – does not address unique attributes of pipeline

➢ API 1162 requires a pretest of public awareness materials upon design or major redesign of materials – many operators can’t demonstrate this was done

➢ API 1162 requires annual implementation audit/inspection – no documentation to show this was done

➢ Effectiveness evaluations poorly done and lack detail – survey is data collection tool, not an evaluation
Public Awareness Programs

PHMSA, the pipeline industry and other stakeholders continue working to improve the outreach and effective awareness programs.

Federal pipeline safety regulations require pipeline operators to conduct continuing public awareness programs to provide pipeline safety information to four stakeholder audiences, including:

- affected public,
- emergency officials,
- local public officials, and
- excavators.

Regulatory Requirements

Federal pipeline safety regulations (49 CFR 192.615 and 49 CFR 195.440) require pipeline operators to develop and implement public awareness programs that follow the guidance provided by the American Petroleum Institute (API) "Public Awareness Programs for Pipeline Operators" (incorporated by reference in federal regulations). More...

API Recommended Practice 1162

API RP 1162 is an industry consensus standard that provides guidance and recommendations to pipeline operators for enhanced public awareness programs. It addresses various elements of such programs, including the intended audience, communicated, frequencies and methodologies for communicating the information, and evaluation of the programs for...
"You should get to know your players, Burt. He tested 98% in protective instincts. I said you could thank me later -- it's later, Burt."
Arthur O. Buff, P.E.
CATS Program Manager
PHMSA – Office of Pipeline Safety
Southern Region
arthur.buff@dot.gov
404-832-1155